2024 ANNUAL ENVIRONMENTAL MONITORING REPORT Hansville Landfill, Kitsap County, Washington Prepared for: Kitsap County Public Works - Solid Waste

Project No. AS160423-05 • February 28, 2025 FINAL





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Acronyms

Aspect	Aspect Consulting, a Geosyntec Company
bgs	below ground surface
CAP	Cleanup Action Plan
СМР	Compliance Monitoring Plan
COCs	contaminants of concern
County	Kitsap County
Ecology	Washington State Department of Ecology
FS	Feasibility Study
KCSL	Kitsap County Sanitary Landfill
KPHD	Kitsap Public Health District
LCL	lower confidence limit
mg/L	milligrams per liter
µg/L	micrograms per liter
MSW	municipal solid waste
MTCA	Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
ppm	parts per million
RASR	Remedial Action Status Report
RI	Remedial Investigation
scfm	standard cubic feet per minute
SEM	surface emissions monitoring
Site	Hansville Landfill Site
SHA	Site Hazard Assessment
UCL	upper confidence limit
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WMW	Waste Management of Washington

1 Introduction

This combined fourth quarter 2024 and 2024 annual monitoring report documents site activities conducted at and environmental monitoring results for the Hansville Landfill Site (Site; or the Landfill). This report was prepared by Aspect Consulting, a Geosyntec company, (Aspect) on behalf of Kitsap County (County) Public Works Solid Waste Division and Waste Management of Washington (WMW). Cleanup activities at the Site have been conducted under the Washington State Model Toxics Control Act (MTCA). Ongoing environmental monitoring at the Site supports the remedy of natural attenuation of groundwater with enhanced monitoring and institutional controls that were established with the final Cleanup Action Plan (CAP) provided with the Amended Consent Decree No. 95-2-03005-1 (August 5, 2011). The data sets presented in this report were collected in accordance with the Ecology-approved Compliance Monitoring Plan (CMP; SCS Engineers, 2011; SCS Engineers, 2012), except where otherwise noted.

During 2024, conditions monitored at the Site were consistent with historical trends and continued to show improvements in protection of human health and the environment. This report is organized to include topics listed in the CMP (SCS Engineers, 2011).

- Section 2 summarizes Site background, including general Site information, regulatory framework, surrounding land use, hydrogeologic conditions, the environmental monitoring network, and cleanup criteria.
- Section 3 describes Site activities during the fourth quarter 2024 and provides a summary of previous Site activities in 2024.
- Section 4 describes landfill gas collection activities and monitoring results during the fourth quarter 2024. The landfill gas collection system was safely operated to improve groundwater protection. Supporting figures and data tables are presented in Appendix A.
- Section 5 describes groundwater and surface water conditions observed during the fourth quarter 2024, including statistical analysis of trends in groundwater concentrations for 2024 and an assessment of natural attenuation processes. Supporting figures and data tables are presented in Appendix B, statistical analyses are included in Appendix C, and Appendix D presents laboratory reports and data review.
- Section 6 summarizes landfill inspection reports prepared by the Kitsap Public Health District (KPHD). Copies of the inspection reports are included in Appendix E.
- Section 7 lists reference sources used in this report.

2 Site Background

Details on Site background were provided in the Remedial Investigation (RI) report (Parametrix, 2006), and the Feasibility Study (FS) report (Parametrix, 2009). This section summarizes Site background to provide context for ongoing Site activities and compliance monitoring.

2.1 Site Location and Description

The closed Hansville Landfill is located on an approximately 73-acre parcel within the northeast quarter of Section 9, Township 27 North, Range 2 East of the Willamette Meridian, in Kitsap County, Washington. The Landfill is approximately 5 miles south of the unincorporated community of Hansville on the northernmost reach of the Kitsap Peninsula, and is situated on the upper portions of several sloping drainages with perennial creeks that ultimately discharge into Port Gamble Bay. The topography ranges between approximately 310 and 390 feet elevation North American Vertical Datum of 1988 (NAVD88). A Site location map is provided on Figure B-1, showing property boundaries and other Site features.

The Site includes the Landfill, the Landfill property (Property), and a portion of land owned by the Port Gamble S'Klallam Tribe. The Landfill was active between 1962 and 1989, and consists of three separate disposal areas, or cells. These include the following:

- A 13-acre municipal solid waste disposal cell (main municipal solid waste [MSW] cell) situated within the central portion of the Property.
- A 4-acre demolition disposal cell situated on the northeast corner of the property, which accepted construction, demolition, and land-clearing wastes.
- A 0.33-acre septage lagoon located immediately southwest of the demolition disposal area, which accepted residential septic tank waste until 1982. A second septage disposal area was reportedly located near the northeast corner of the demolition disposal area.

2.1.1 Engineering Controls

The engineering controls at the Landfill include engineered cover systems and an active landfill gas collection system. The engineered cover systems incorporate a geomembrane, vegetated surface, and integrated surface water control to prevent erosion. The layout of the landfill gas collection system is shown on Figure A-1, and includes:

- 13 vertical collection wells installed within the main MSW cell.
- Approximately 3,200 feet of horizontal collector trench installed below the engineered cover system at the main MSW cell and the demolition disposal cell with 8 monitoring and control points.
- Laterals and a perimeter header leading to the blower and flare compound.

The 10 perimeter collection wells originally installed outside the western edge of the main MSW cell were decommissioned in 2019 because they were subject to vacuum leaks and did not support landfill gas collection (Aspect, 2020).

2.1.2 Current Property Uses

The County owns the Property and has operated a transfer station east of the Landfill for solid waste transfer and/or recycling operations since 1989. The remaining portions of the Property are largely comprised of a former soil borrow area and wooded land. Prior to development of the landfill, the Property was undeveloped forested land.

2.2 Regulatory Framework

The Hansville Landfill is a former MSW landfill that stopped accepting waste and closed in 1989. The closure met requirements of Chapter 173-304 of the Washington Administrative Code (WAC), and included the following engineering controls:

- Installation of horizontal gas collector trenches in the main MSW cells and the demolition disposal cell to prevent landfill gas migration.
- Installation of an engineered cover system over all three distinct disposal areas to reduce or eliminate precipitation infiltration through refuse.

In 1991, the Bremerton-Kitsap County Health Department required corrective actions to better control landfill gas migration and prevent groundwater impacts. Kitsap County Sanitary Landfill¹ (KCSL) converted the landfill gas collection system from passive to active. KCSL also conducted additional investigations, continued environmental monitoring, and implemented additional improvements at the Site as part of a corrective action program. The active landfill gas collection and flare system has been in operation since 1991.

Also, in 1991, the Washington State Department of Ecology (Ecology) performed a Site Hazard Assessment (SHA) under MTCA, which resulted in an initial ranking of 3. In 1992, this ranking was subsequently changed to a 1 (the highest rank on a scale of 1 to 5) based on changes in the state ranking model.

In October 1995, Ecology signed a consent decree with the County and KCSL to conduct a RI/FS for the Site. The RI/FS reports (Parametrix, 2006; Parametrix, 2009) identified contaminants of concern (COCs) related to the landfill in groundwater and in seepage to surface water. Based on these findings, Site-specific cleanup levels were developed for arsenic, vinyl chloride, and manganese in groundwater, and arsenic and vinyl chloride in surface water. The highest concentrations of these COCs were observed adjacent to the waste disposal areas, with decreasing concentrations at increasing distances to the landfill.

In preparing the 2011 Amended Consent Decree and CAP, Ecology selected the remedy involving natural attenuation of groundwater with enhanced monitoring and institutional controls (including a restrictive covenant for the Landfill Property). A CMP (SCS Engineers, 2011; SCS Engineers, 2012) provides monitoring program details, including

¹ By 1998, WMW assumed control of KCSL through a series of sales, mergers, and acquisitions.

the Sampling and Analysis Plan and the Quality Assurance Plan. Ongoing compliance monitoring under the CAP has been conducted since the fourth quarter 2011.

During the summer of 2016, Ecology initiated the first 5-year review of the Hansville Landfill MTCA remedy as defined under the 2011 Amended Consent Decree. Consistent with Section XXVI of the Amended Consent Decree, a Remedial Action Status Report (RASR; SCS Engineers, 2016) was prepared and submitted to Ecology. In August 2016, Ecology prepared a draft memorandum that included an evaluation of the previous 5 years of groundwater data and comments to the RASR. Based on Ecology's review, the current monitoring program will continue to be implemented through the next 5-year MTCA review cycle. According to Ecology's website the next 5-year review was planned for 2022. To support Ecology's planned 5-year review, Aspect prepared a RASR and submitted an Agency Review Draft on June 28, 2022 (Aspect, 2022a). At the time of this report an update from Ecology on the status of the planned 5-year review has not been received.

2.3 Surrounding Land Use

The Property is bordered to the south and west by lands owned by the Port Gamble S'Klallam Tribe. Tribal lands in the immediate vicinity of the Landfill Property consists of woodland and recreational land. The Point Casino and Hotel is located approximately 1,000 feet from the Landfill. The nearest Tribal residential land use is approximately 2,000 feet from the Landfill.

Surrounding areas to the north and east of the Property are zoned by the County as light industrial use, low-density residential, and rural woodland. The nearest off-property structures include a shop and office approximately 200 feet from the demolition disposal cell.

2.4 Hydrogeology

The regional near-surface geology in the vicinity of the Landfill is dominated by glaciofluvial and glaciolacustrine deposits associated with the Vashon glaciation. The RI (Parametrix, 2006) identifies the following main stratigraphic units at the Site (from ground surface downward):

- Sand This unit was reported in all the investigative borings from the ground surface to depths ranging from 62 to 142 feet below ground surface (bgs) and is also called the upper aquifer. All the monitoring wells are completed in the upper aquifer. The sand deposit consists primarily of poorly graded, fine- and medium-grained sand with trace amounts of silt and gravel. The material is dark yellowish brown to dark gray in color, dense to very dense, and dry to saturated. The RI references the sand unit as the upper aquifer. This unit has been interpreted as outwash associated with the Vashon Drift.
- **Transition Zone** This zone was reported at three boring locations (MW-8, MW-9, and MW-14), occurs at the bottom of the upper aquifer, and is approximately 15 feet thick. It consists of interbedded layers of sand, silty sand, and silt, and does not appear to be extensive.

• Silt – This unit was reported in all borings advanced through the upper aquifer. It occurred at depths ranging from approximately 66 feet bgs (at MW-9) to 163 feet bgs (at MW-14). The silt is dark gray, silty to moderately plastic, very dense, and dry. This unit has been interpreted to be the Kitsap Formation.

Groundwater in the upper aquifer near the Landfill is approximately 50 feet below the bottom extent of refuse. Groundwater flows towards the west-southwest, and discharges into the headwaters of perennial creeks, including Creek A, Creek B, and Middle Creek (see Figure B-1). The dense silts reported for the Kitsap Formation underlying the upper aquifer restrict downward groundwater flow.

2.5 Environmental Monitoring Network

This section summarizes historical development of the Site performance and compliance monitoring network. The following are the conditional points of compliance for the Hansville Site described in the CAP:

- The Upper Aquifer at the Landfill Property boundary
- The Upper Aquifer downgradient of the Landfill Property boundary and upgradient of the creek headwaters on Tribal property
- Groundwater discharge to surface water at the headwaters of Creek A, Creek B, and Middle Creek on Tribal property

2.5.1 Subsurface Gas

Since 1990, the landfill gas collection system and gas probes have been monitored to assess potential landfill gas migration from the Landfill, and landfill gas concentrations within the waste.

All (nine) subsurface gas probes were installed outside the waste in native soils to measure for potential landfill gas migration. In 1990, six subsurface gas probes (GP-1, GP-2S, GP-2I, GP-2D, GP-3, and GP-4) were installed at four on-Property locations to monitor the southern portion of the Landfill. In 1994 and 1996, gas probes GP-5 and GP-6 were installed to monitor the northern portion of the Landfill. In 1996, gas probe GP-7 was installed, to monitor the off-Property area west of the Landfill, adjacent to groundwater monitoring well MW-9.

Per the CAP, landfill gas performance monitoring includes quarterly field measurements at the nine subsurface gas probes and the landfill gas collection system (21 vertical well and horizontal trench monitoring locations, the blower inlet and outlet ports). Subsurface gas compliance monitoring locations are shown on Figures A-1 and B-1.

2.5.2 Groundwater

Groundwater monitoring was initiated at the Site in 1982 with the installation of three monitoring wells (MW-1 through MW-3). Three additional monitoring wells (MW-4 through MW-6) were added to the monitoring program in 1988. Beginning in 1996, 10 monitoring wells were installed as part of a phased RI (Parametrix, 2006):

• Phase I included wells MW-7 through MW-12

• Phase II included wells MW-8D, MW-12I, MW-13S, MW-13D, and MW-14

Based on the RI groundwater monitoring results, the CAP includes the following six points of compliance: MW-5, MW-6, MW-7, MW-12I, MW-13D, and MW-14. See Figure B-1 for the groundwater compliance monitoring locations.

2.5.3 Surface Water

Surface water monitoring commenced in 1991 at two locations on Middle Creek (SW-1 and SW-2). Two additional locations (SW-SB and SW-3) were added in 1992 and 1994, respectively. Seven new surface water sampling locations (SW-4, SW-5, SW-6, SW-7, SW-8, SW-9, SW-10) were established in 1996 during the RI (Parametrix, 2006). Based on the RI surface water monitoring results, the CAP includes the following four points of compliance: SW-1, SW-4, SW-6, and SW-7. See Figure B-1 for the surface water compliance monitoring locations.

2.5.4 Cleanup Criteria

The CAP established the final Site-specific cleanup levels for groundwater and surface water, summarized in the table below.

Chemical	Media	Site Cleanup Level (µg/L)	Origin of Cleanup Level	
Vinyl Chloride		0.025	EPA ¹ Human Health, 2004	
Arsenic	Groundwater	5	Background	
Manganese		2,240	Method B Formula Value	
Vinyl Chloride	Surface Water	0.025	EPA Human Health, 2004	
Arsenic	Surface Water	5	Background	

Table 1. Hansville Landfill Site Cleanup Levels

¹U.S. Environmental Protection Agency

The performance standard for on-Property probes is to operate the landfill gas collection system to maintain methane concentrations below five percent by volume (see WAC 173-304-460).

3 Site Activities

Site activities during 2024 included routine environmental monitoring of landfill gas, groundwater, and surface water. A chronology of on-Site activities performed during the fourth quarter 2024 is provided below. There were no deviations from the CMP (SCS, 2011) during the fourth quarter 2024 environmental monitoring.

- On October 16, 2024, Aspect completed the fourth quarter groundwater and surface water sampling in accordance with the CMP (SCS Engineers, 2011). Details of groundwater and surface water sampling are provided in Section 5.
- On October 8, November 21, and December 26, 2024, Aspect completed the monthly performance monitoring of the blower system, biofilter system, and condensate management system.
- On December 26, 2024, Aspect conducted compliance landfill gas monitoring in accordance with the CMP (SCS Engineers, 2011). Details of landfill gas monitoring are provided in Section 4.

Previously during 2024, Site activities were documented in quarterly reports (Aspect, 2024a; 2024b; and 2024c) and included the following:

- Monthly performance and maintenance checks of the flare compound and condensate recovery systems.
- Quarterly landfill gas compliance monitoring and wellfield tuning and maintenance.
- Quarterly groundwater and surface water performance and compliance monitoring.

4 Landfill Gas Conditions

The following sections provide a discussion of landfill gas monitoring, landfill gas collection system performance, and explosive gas control. The layout of the landfill gas collection system is shown on Figure A-1 (Appendix A).

Since active landfill gas collection started in 1991, the system has historically been operated to control landfill gas migration and to protect groundwater. Since 1992, little to no methane has been observed at gas compliance probes. In 1995, the maximum methane concentration was 38 percent, and the balance gas concentration was 44 percent, indicating that approximately half of the gas collected was from the atmosphere. Until approximately January 2013, landfill gas collection rates decreased steadily due to low methane concentrations and difficulty in sustaining flare operation.

From 2013 through 2022, the landfill gas collection rate was maintained at approximately 70 standard cubic feet per minute (scfm) to improve groundwater protection, and average methane and carbon dioxide concentrations were about 4 percent and 12 percent, respectively. Starting in 2023, to further improve groundwater protection, the second blower was activated to provide a total landfill gas collection rate of approximately 120 scfm. Even under this higher flow rate, methane and carbon dioxide concentrations continued to be observed at around 3 percent and 16 percent, respectively.

4.1 Landfill Gas Monitoring

During the fourth quarter 2024, monitoring at the landfill gas collection system blower compound was performed on October 8, November 21, and December 26, and compliance monitoring of the landfill gas collection system and compliance probes was performed on December 26.

Landfill gas concentrations were measured with a calibrated GEM-5000 multigas meter. Landfill gas monitoring parameters collected for the compliance monitoring event are included in Appendix A, Tables A-1 through A-4, and summarized below:

- Landfill gas composition measurements included methane (CH₄), carbon dioxide (CO₂), oxygen (O₂), and balance gas (Balance) concentrations.
- Collection system pressure measurements included the static pressure measured before and after any valve adjustments or purging, reported as "initial" and "adjusted," respectively. No valve adjustments were made during the December 30 compliance monitoring round.
- 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."

4.2 Landfill Gas System Performance

During the fourth quarter 2024, the flow at the blower inlet was approximately 110 scfm. Methane and carbon dioxide concentrations at the blower inlet were 2.4 and 15.4 percent

by volume, respectively. The oxygen concentration was 3.7 percent by volume. The explosive range for methane in air is approximately 5 to 15 percent by volume, whereas the minimum methane concentration to sustain a flame is approximately 20 percent. Landfill gas measured at the blower inlet has contained less than 20 percent methane since 2012.

During the fourth quarter 2024, methane concentrations measured at individual collection locations ranged between 0.0 and 6.9 percent by volume. The landfill gas concentrations across the wellfield have remained relatively stable since mid-2017. Wellfield optimization will continue to focus on maximizing methane and carbon dioxide collection rates.

Wellhead temperatures at vertical extraction well R-9 increased to above 100 degrees Fahrenheit in June 2023. Wellhead conditions at R-9 were monitored monthly until December 2023, and the maximum temperature observed was 108.4 degrees Fahrenheit in September 2023. In 2024, wellhead conditions at R-9 were monitored quarterly, and the maximum temperature observed was 107.7 degrees Fahrenheit in June 2024. This temperature was below a 110-degree-Fahrenheit threshold that would trigger reducing landfill gas collection from this location.

Condensate Management

On October 8, 2024, the 2,000-gallon condensate system storage tank held approximately 1,650 gallons, and the 2,000-gallon western sump was approximately half-full. The condensate system storage tank and western sump were last emptied in October 2024. On December 26, 2024, the condensate tank held approximately 900 gallons.

Biofilter Bed Treatment Performance

The biofilter bed (biobed) was installed March 8, 2023. Methane concentrations were monitored across the biobed surface and in the breathing zone during Site visits in 2023. The breathing zone conditions were measured using a personal four-gas meter with warning thresholds set to 10 percent of the lower explosive limit, at 19.5 percent oxygen, at 25 parts per million (ppm) carbon monoxide, or at 5 ppm hydrogen sulfide. Concentrations in the breathing zone and the biobed surface were below the alarm threshold and the design criterion, respectively. Surface emissions monitoring (SEM) was conducted on November 21 and December 26, 2024. The highest methane and carbon dioxide readings observed were 0.3 percent and 1.0 percent, respectively. The biobed appears to be effectively reducing greenhouse gas emissions and controlling odor. No supplemental media was added to the biobed in 2024.

4.3 Explosive Gas Control

Methane was not detected at any of the landfill gas compliance monitoring probe locations during the fourth quarter 2024. Locations of on-Property compliance probes GP-1, GP-2S, GP-2M, GP-2D, GP-3, GP-4, GP-5, and GP-6 are shown on Figure A-1, and the location of off-Property compliance probe GP-7 is shown on Figure B-1. Aspect observed an animal bore hole under monitoring probe GP-6. Routine compliance monitoring continues to show that the Site remains in compliance with explosive gas control, per WAC 173-304-460. Carbon dioxide concentrations in the compliance monitoring probes ranged from 0.1 to 4.1 percent by volume, and oxygen concentrations ranged from 16.3 to 21.6 percent by volume.

5 Groundwater and Surface Water Conditions

This section addresses groundwater and surface water conditions based on the monitoring event on October 16, 2024. Samples were collected from six groundwater monitoring wells and from four surface water monitoring locations (see Figure B-1) for laboratory analysis.

5.1 Groundwater and Surface Water Monitoring

During the fourth quarter 2024, Aspect monitored and sampled groundwater and surface water on October 16, 2024.

Field parameter measurements were made with a calibrated YSI multiparameter probe, and a calibrated Hach turbidimeter. Samples were collected in laboratory-supplied bottles and delivered to the laboratory on ice, using standard chain-of-custody methods, for analysis. Field parameters and laboratory results for all sampling events in 2024 are organized in Tables B-2 and B-3 (Appendix B), and listed below:

- Field parameters included dissolved oxygen, pH, oxidation-reduction potential (Redox), specific conductivity, temperature, and turbidity.
- Conventional parameters included alkalinity, ammonia (as N), bicarbonate, carbonate, chloride, nitrate (as N), nitrite (as N), orthophosphate (as P), sulfate, and total organic carbon.
- Dissolved metals included arsenic and manganese.
- Detected volatile organic compounds (VOCs) included total 1,2-dichloroethene, cis-1,2-dichloroethene, and vinyl chloride.

5.2 Groundwater Elevations and Flow

Depth-to-groundwater measurements and calculated water table elevations for the fourth quarter 2024 are presented in Table B-1, and a potentiometric surface map is provided on Figure B-1. Groundwater elevations ranged from 237.7 feet NAVD88 in MW-12I to 265.7 feet NAVD88 in MW-5. Groundwater at the Site flowed generally towards the west-southwest. Groundwater gradients ranged from 0.007 feet/feet in the upgradient areas, to 0.013 feet/feet further downgradient, with the gradient steepening and becoming more southwest oriented as it approaches the groundwater discharge area (Figure B-1). Groundwater elevation and gradient conditions were consistent with those observed during previous monitoring events.

The RI (Parmetrix, 2006) reported information on groundwater flow rates and travel times for flow lines from the disposal areas through MW-12I and MW-13D. Based on this information, groundwater from the Landfill to MW-12I traveled at an annual average velocity of approximately 640 feet per day, and requires approximately 2.5 years to travel from the Landfill to MW-12I. Likewise, groundwater from the Landfill to MW-13D travels at an annual average velocity of 165 feet per day and requires approximately 13 year to travel from the Landfill to MW-13D.

5.3 Water Quality Results

Groundwater quality results from the fourth quarter 2024 are presented in Table B-2, including field parameters, conventional parameters, dissolved metals, and VOCs. During the fourth quarter 2024 monitoring event, field parameters were within the range of observed values during previous monitoring events. Analytical results for groundwater COCs are summarized below (see Appendix B for water quality results tables and figures).

- The dissolved arsenic concentrations in monitoring well MW-14 and MW-13D were 0.0129 milligrams per liter (mg/L) and 0.0051 milligrams per liter (mg/L), respectively, and exceeded the 0.005 mg/L cleanup level. Dissolved arsenic was detected at concentrations below the cleanup level at the other groundwater points of compliance. See Section 5.5 for statistical evaluation of the arsenic concentrations.
- Dissolved manganese concentrations were less than the 2.24 mg/L cleanup level at all groundwater points of compliance.
- The vinyl chloride concentrations at monitoring wells MW-6 and MW-12I were 0.050 micrograms per liter (μ g/L) and 0.12 μ g/L, respectively, and exceeded the 0.025 μ g/L cleanup level. At monitoring well MW-14, the vinyl chloride concentration was detected below the cleanup level, at 0.024 μ g/L. Vinyl chloride was not detected above the laboratory reporting limit of 0.020 μ g/L at other groundwater points of compliance. See Section 5.5 for statistical evaluation of the vinyl chloride concentrations.

Surface water quality results from the fourth quarter 2024 are presented in Table B-3, including field parameters, conventional parameters, dissolved metals, and VOCs. Field parameters and analyte concentrations observed during the fourth quarter 2024 monitoring event were within the range of observed values during other monitoring events in 2024. During the fourth quarter 2024, all analytical results for surface water COCs were either not detected at their respective reporting limits or were detected at concentrations below the Site cleanup levels.

- Dissolved arsenic was detected at concentrations below the Site cleanup level of 0.005 mg/L at all surface water monitoring locations.
- Dissolved manganese was detected at concentrations below the Site cleanup level of 2.24 mg/L at SW-4, SW-6, and SW-7. Dissolved manganese was not detected at SW-1.
- Vinyl chloride has not been detected in surface water samples since the third quarter 2013, and reporting limits have been less than the cleanup level of 0.025 µg/L.

5.4 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, specific conductivity, and temperature), alkalinity/carbonate/bicarbonate, chloride, nitrate/nitrite/ammonia, sulfate, and total organic carbon. During the second quarter sampling event on April 17, 2024, dissolved oxygen was not measured at two locations (MW-12I and MW-13D) due to sensor malfunction.

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. Optimizing landfill gas collection may reduce these impacts.

5.5 Statistical Evaluation

The groundwater quality data were evaluated following the description provided in the CAP (Appendix D). Time-series graphs show arsenic and vinyl chloride concentrations since 2007. Trend analysis and projected average concentrations are based on data collected since 2007, following Ecology guidance from the first 5-year review. See Appendix C for time-series graphs for groundwater quality.

5.5.1 Time-Series Graphs

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. Concentrations are decreasing or stable in all cases except dissolved arsenic concentrations observed at MW-13D, which have gradually increased to slightly above or at cleanup levels.

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. A slow and steady increase in dissolved arsenic concentrations has been observed at MW-13D, where concentrations historically hovered below the cleanup level and exceeded the cleanup level for the first time in the second quarter 2020 (Figure C-1). Dissolved arsenic concentrations at MW-14 were above Site cleanup levels, but have been decreasing since 2007.

Figure C-2 shows vinyl chloride concentrations in groundwater have been less than the cleanup level of 0.025 μ g/L at MW-5 (background well), MW-7, and MW-13D. Vinyl chloride concentrations at MW-6, MW-12I, and MW-14 continued to trend downward over the long-term. During 2022, 2023, and 2024 the vinyl chloride concentration at MW-12I showed both a decreasing long-term trend and seasonality with relatively higher concentrations during the third and fourth quarters compared to the other quarters. A

similar seasonality has been observed, where maximum annual concentrations were recorded in the dry season of 2020, 2019, 2018, 2015, 2013, 2012, for example.

5.5.2 Statistical Trend Analysis

Based on the results of statistical analysis provided in Table C-1, the dissolved arsenic concentrations in groundwater at MW-14, and vinyl chloride concentrations in groundwater at MW-6, MW-12I, and MW-14, have statistically significant downward trends. These results show continued progress toward achieving cleanup levels.

A statistically significant increasing trend in dissolved arsenic concentrations was observed at monitoring well MW-13D. Dissolved arsenic concentrations exceeded the Site-specific cleanup levels during the first two quarters 2022, but leveled out at the cleanup levels in quarters three and four. In 2023, dissolved arsenic concentrations were below Site-specific cleanup levels during the first three quarters, and increased above the Site-specific cleanup level in the fourth quarter 2023. In 2024, dissolved arsenic concentrations were above Site-specific cleanup levels during the first, third, and fourth quarters. Throughout 2022, 2023, and 2024, the arsenic concentrations remained below Ecology's reported regional natural background value reported by Ecology (Ecology, 2016; Ecology, 2022), as shown on Figure C-3. Statistical trend analysis for dissolved arsenic concentrations in MW-13D has been conducted since 2019 (Aspect, 2020). As previously noted, arsenic concentrations since 2007 likely reflect natural variations or off-Site influences, as opposed to effects from the Site. This conclusion is based on an engineering analysis that identified a lack of other landfill indicators (like vinyl chloride, specific conductance, manganese, etc.) and the substantial lag between landfill activities and arsenic concentration increases. Dissolved arsenic concentrations in MW-13D and other locations continue to be monitored and evaluated.

Statistical analysis of groundwater data was performed in accordance with the CMP (SCS Engineers, 2011). The program Sanitas (ver. 10.0.15) 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.

Table C-1 provides results of statistical trend analysis, including the Mann-Kendall Test and Sen's Slope analysis. In all cases, the trends are 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). In cases where the Sen's Slope is negative, it indicates a decreasing trend, and where the Sen's Slope is positive, it indicates an increasing trend.

5.5.3 Trend Projections

To qualitatively evaluate the convergence of downward trending groundwater exceedances with cleanup levels, exponential attenuation curves are shown on Figure C-3. These curves are projected out 10 years, through the end of 2035. Based on these long-term projections, the findings include:

- Within 10 years, the average vinyl chloride concentrations will meet the cleanup level in MW-6, MW-12I, and MW-14.
- In more than 10 years, the average dissolved arsenic in MW-14 will meet the cleanup level.

Optimizing the landfill gas collection system may reduce the time to meet cleanup levels. This is consistent with elements of the contaminant fate-and-transport model presented in the RI/FS (Parametrix, 2006; Parametrix, 2009). Increasing landfill gas collection reduces the potential for landfill gas (containing carbon dioxide, methane, and VOCs) to come in contact with groundwater, which results in low dissolved oxygen.

- For vinyl chloride, this means reducing the mass transfer from vapor phase to groundwater and increasing the natural attenuation rates.
- For dissolved metals, this means maintaining a higher pH in groundwater and preventing mobilization of naturally occurring arsenic and manganese.

A linear trend was calculated for increasing dissolved arsenic concentrations at MW-13D, as shown on Figure C-3. This projected trend biases future concentrations high because it does not account for the historical oscillation in concentrations. For reference, the graph for MW-13D on Figure C-3 shows the average natural background concentration for the Puget Sound basin, based on Ecology's publication *Natural Background Groundwater Arsenic Concentrations in Washington State* (Ecology, 2016). The mean dissolved-arsenic concentration at MW-13D exceeded the cleanup level but remained below the natural background level during 2024. It is not expected to exceed the natural background concentration in the next 10 years.

5.5.4 Calculation of Statistical Limits

Statistical limit concentrations were evaluated to assess the approach toward cleanup levels consistent with the CAP. Table C-2 shows the calculated annual statistics—including the mean,² 95 percent upper confidence limit (UCL), and 95 percent lower confidence limit (LCL)—for sampling results from 2007 through 2024. Table C-2 was updated this year and shows slight difference from previous annual report C-2 tables to include perceived outliers in the data set going back to 2007. The changes are minute in the overall means, UCLs, and LCLs.

Except for dissolved arsenic at MW-13D, the mean and UCL concentrations have trended downward over time. For dissolved arsenic at MW-14, the UCL has lagged the mean trend by at least 5 years. For vinyl chloride at MW-6, MW-12I, and MW-14, the UCL has lagged the mean trend by 1 to 2 years. This lag will need to be considered when determining compliance with groundwater and surface water cleanup levels under MTCA (per WAC 173-340-720(9) and 173-340-730(7), respectively).

Statistical limit concentrations for dissolved arsenic at MW-13D were added to Table C-2 in the annual 2020 report to account for the observed increasing trend. The LCL concentrations at MW-13D equaled (but did not exceed) the dissolved arsenic cleanup

 $^{^{2}}$ The mean statistic was based on the least-squares regression method for log-transformed data, as shown by the curved trend lines on Figure C-3.

level in 2021, 2022, 2023, and 2024, while the UCL slightly exceeded the cleanup level in 2022, 2023, and 2024. We recommend taking the steps necessary for establishing background dissolved arsenic concentrations at this Site.

6 Annual Inspections

During 2024, the KPHD inspected the Landfill once each quarter. The inspection dates and comments are:

- March 15, 2024: Compliant; cap was mowed and in "good condition," stormwater improvements increased drainage. An exposed pipe end was inspected by Aspect on the top of the landfill and was deemed not to be in use (no evidence of landfill gas venting.
- June 27, 2024: Compliant; cap was mowed and in "good condition," and stormwater improvements maintained drainage efforts.
- September 27, 2024: Compliant; cap in "good condition," and stormwater drainage has maintained improved performance.
- December 13, 2024: Compliant; cap in "good condition," and stormwater improvements have continued to perform well.

A copy of each inspection form and summary letter is included in Appendix E.

7 References

- Aspect Consulting, LLC (Aspect), 2020, Final memorandum re: Hansville Landfill Minor Changes to Landfill Gas Collection, February 21, 2020.
- Aspect Consulting, LLC (Aspect), 2022a, Remedial Action Status Report, Hansville Landfill Site, June 28, 2022.
- Aspect Consulting, (Aspect), 2024a, First Quarter 2024 Environmental Monitoring Report, Hansville Landfill, Kitsap County, WA, May 31, 2024.
- Aspect Consulting, (Aspect), 2024b, Second Quarter 2024 Environmental Monitoring Report, Hansville Landfill, Kitsap County, WA, August 27, 2024.
- Aspect Consulting, (Aspect), 2024c, Third Quarter 2024 Environmental Monitoring Report, Hansville Landfill, Kitsap County, WA, November 27, 2024.
- Parametrix, 2006, Hansville Landfill Public Review Draft Remedial Investigation/Feasibility Study, Remedial Investigation Report, September 22, 2006.
- Parametrix, 2009, Hansville Landfill Remedial Investigation/Feasibility Study, Final Feasibility Study Report, June 15, 2009.
- SCS Engineers (SCS), 2011, Compliance Monitoring Plan with Sampling & Analysis Plan and Quality Assurance Plan – Remedial Action at the Hansville Landfill, September 15, 2011.
- SCS Engineers (SCS), 2012, Addendum to the Hansville Landfill Compliance Monitoring Plan, January 27, 2012.
- SCS Engineers (SCS), 2016, Remedial Action Status Report (RASR), May 2016.
- Washington State Department of Ecology (Ecology), 2011, Cleanup Action Plan Hansville Landfill, Kitsap County, Washington, Ecology Facility Site Identification Number: 2605, June 2011.
- Washington State Department of Ecology (Ecology), 2016, Natural Background Groundwater Arsenic Concentrations in Washington State, Ecology Publication No. 14-09-044, March 2016.
- Washington State Department of Ecology (Ecology), 2022, Natural Background Groundwater Arsenic Concentrations in Washington State, Ecology Publication No. 14-09-044, Draft for Public Comment published July 2021; Revised January 2022.

8 Limitations

Work for this project was performed for the Kitsap County Public Works Division (Client), and this report 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 report does not represent a legal opinion. No other warranty, expressed or implied, is made.

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APPENDIX A

Landfill Gas Data

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

Project No. AS160423, Hansville Landfill, Hansville, Washington

			Methane CH₄	Carbon Dioxide CO ₂	Oxygen O ₂	Balance Bal	System Pressure	Static Pressure	Wellhead Temperature	Flow Rate
Location	Map ID	Date/Time	(% by vol)	(% by vol)	(% by vol)	(% by vol)	("H ₂ O)	("H₂O)	(°F)	(SCFM)
Blower Inlet		3/28/24 8:30	3.1	15	3	78.9	-7.38	-6.37	49.3	116
Blower Outlet		3/28/24 8:35	2.8	14.7	3	79.5	0.12	N/A	76.7	N/A
Extraction Well 001	R-1	3/28/24 13:08	3	15.7	0.1	81.2	-1.66	-0.72	55.3	0.6
Extraction Well 002	R-2	3/28/24 13:19	1.3	13.5	5.9	79.3	-1.71	N/A	73.7	N/A
Extraction Well 003	R-3	3/28/24 13:54	5.2	16.8	0	78	-4.97	-1.89	47.9	4
Extraction Well 004	R-4	3/28/24 14:25	2.8	17.3	1.3	78.6	-6.2	-2.06	65.3	3.5
Extraction Well 005	R-5	3/28/24 14:52	2.6	18.6	0.6	78.2	-4.56	-1.33	72.3	3.3
Extraction Well 006	R-6	3/28/24 15:05	2.4	10	10.7	76.9	-6.26	-2.16	85.4	3.5
Extraction Well 007	R-7	3/28/24 15:10	0	15.3	3.2	81.5	-4.56	-1.41	64.4	3.5
Extraction Well 008	R-8	3/28/24 12:42	3.5	18.4	0	78.1	-3.06	-1.24	58.4	2.7
Extraction Well 009	R-9	3/28/24 12:53	1.2	13	5.6	80.2	-2.78	N/A	104.2	N/A
Extraction Well 010	R-10	3/28/24 13:01	4.5	10.8	5.6	79.1	-1.77	-1.17	60.7	1.6
Extraction Well 011	R-11	3/28/24 13:32	2.4	13.7	0	83.9	-1.8	-1.13	54.7	1.8
Extraction Well 012	R-12	3/28/24 14:00	5.6	8.6	0	85.8	-2.78	-1.55	45.1	1.3
Extraction Well 013	R-13	3/28/24 15:14	2.3	14.8	2.5	80.4	-4.97	N/A	69.2	N/A
Trench Collector TD-1	TD-1	3/28/24 12:33	1.2	19.5	0.1	79.2	-0.08	0	53.8	0
Trench Collector TR-1	TR-1	3/28/24 14:58	0.2	10.7	9.1	80	-4.71	-1.25	68.6	3.3
Trench Collector TR-2	TR-2	3/28/24 12:48	4.2	16.7	0.8	78.3	-1.7	N/A	54.4	N/A
Trench Collector TR-3	TR-3	3/28/24 13:13	3.3	16.2	1.4	79.1	-1.53	N/A	57.7	N/A
Trench Collector TR-4	TR-4	3/28/24 14:34	0.9	18.1	0.4	80.6	-5.09	-1.27	57.2	3.3
Trench Collector TR-5	TR-5	3/28/24 14:11	3.6	15.5	2.8	78.1	-1.42	N/A	48.5	N/A
Trench Collector TR-6	TR-6	3/28/24 14:04	5.3	15.2	1.8	77.7	-1.61	N/A	49.7	N/A
Trench Collector TR-7	TR-7	3/28/24 14:17	7.1	14.4	1.2	77.3	-4.33	-1.46	46.8	3.5
Gas Probe 1	GP-1	3/28/24 9:12	0	1.5	19.4	79.1	0.01	N/A	N/A	N/A
Gas Probe 2 Shallow	GP-2S	3/28/24 9:37	0	0.6	20.7	79.1	-0.01	N/A	N/A	N/A
Gas Probe 2 Middle	GP-2M	3/28/24 9:52	0	1.3	19.3	78.7	0.11	N/A	N/A	N/A
Gas Probe 2 Deep		3/28/24 9:59	0	1.6	18.3	79.4	0.19	N/A	N/A	N/A
Gas Probe 3	GP-3	3/28/24 10:35	0	1.4	20.4	80.1	0.02	N/A	N/A	N/A
Gas Probe 4	GP-4	3/28/24 10:55	0	1.6	20.3	78.2	0.02	N/A	N/A	N/A
Gas Probe 5	GP-5	3/28/24 11:46	0	0.1	21.3	78.1	0	N/A	N/A	N/A
Gas Probe 6	GP-6	3/28/24 12:14	0	4.4	15.2	78.6	-0.03	N/A	N/A	N/A
Gas Probe 7	GP-7	3/28/24 11:10	0	3	18.9	80.4	-0.01	N/A	N/A	N/A

Notes

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

Flow rates measured using orifice plates (where installed).

N/A = indicates parameter not measured.

°F = degrees Fahrenheit

" H_2O = inches water column

Table A-2. Landfill Gas Data, Second Quarter 2024

Project No. AS160423, Hansville Landfill, Hansville, Washington

			Methane CH₄	Carbon Dioxide CO ₂	Oxygen O ₂	Balance Bal	System Pressure	Static Pressure	Wellhead Temperature	Flow Rate
Location	Map ID	Date/Time	(% by vol)	(% by vol)	(% by vol)	(% by vol)	("H ₂ O)	("H ₂ O)	(°F)	(SCFM)
Blower Inlet		6/26/24 8:34	3.2	16.1	2.9	77.8	-7.81	-6.24	63.2	112.1
Blower Outlet		6/26/24 8:40	3.2	16.1	2.8	77.9	0.21	N/A	92.5	N/A
Extraction Well 001	R-1	6/26/24 13:38	4.6	15.8	0.1	79.5	-1.84	-1.08	69.9	0.5
Extraction Well 002	R-2	6/26/24 13:59	1.4	13.5	6	79.1	-2.18	N/A	81.7	N/A
Extraction Well 003	R-3	6/26/24 14:06	5.3	16.9	0	77.8	-6.63	-2.21	68.7	3.7
Extraction Well 004	R-4	6/26/24 14:19	2.9	17.4	1.4	78.3	-6.79	-2.44	75.6	3.3
Extraction Well 005	R-5	6/26/24 15:04	2.9	18.7	0.7	77.7	-4.69	-1.87	79.8	3.6
Extraction Well 006	R-6	6/26/24 15:18	2.4	9.7	9.7	78.2	-4.93	-2.62	93	3.6
Extraction Well 007	R-7	6/26/24 14:57	0	15.3	3.1	81.6	-6.23	-2.04	68.6	3.3
Extraction Well 008	R-8	6/26/24 13:04	3.8	19.1	0.1	77	-4.31	-1.65	68.9	2.4
Extraction Well 009	R-9	6/26/24 13:14	1.2	13.2	5.6	80	-2.16	N/A	107.4	N/A
Extraction Well 010	R-10	6/26/24 13:31	5.1	10.8	5.5	78.6	-2.38	-1.51	70.5	1.5
Extraction Well 011	R-11	6/26/24 13:26	2.6	13.8	0	83.6	-1.84	-1.55	71.3	1.6
Extraction Well 012	R-12	6/26/24 14:36	6.2	8.7	0	85.1	-2.68	-2.07	64	0.7
Extraction Well 013	R-13	6/26/24 14:52	2.6	15	2.3	80.1	-5.34	N/A	74.7	N/A
Trench Collector TD-1	TD-1	6/26/24 12:54	1.3	20.5	0.2	78	-4.84	0.41	68.4	18.1
Trench Collector TR-1	TR-1	6/26/24 15:23	0.2	10.8	10.1	78.9	-5.86	-1.88	77.8	3.3
Trench Collector TR-2	TR-2	6/26/24 13:09	4.5	18.1	1	76.4	-2.09	N/A	62.9	N/A
Trench Collector TR-3	TR-3	6/26/24 13:43	2.9	17.6	1.2	78.3	-1.82	N/A	66.3	N/A
Trench Collector TR-4	TR-4	6/26/24 14:24	1.4	19.6	0	79	-6.55	-1.79	69.1	3.7
Trench Collector TR-5	TR-5	6/26/24 14:46	3.3	16.4	2.9	77.4	-2.18	N/A	69.2	N/A
Trench Collector TR-6	TR-6	6/26/24 14:42	4.5	16.6	2.1	76.8	-2.91	N/A	65.1	N/A
Trench Collector TR-7	TR-7	6/26/24 14:13	5.8	15.9	1.5	76.8	-6.79	-1.89	67.8	3.8
Gas Probe 1	GP-1	6/26/24 9:31	0	1.3	19.6	79.1	-0.03	N/A	N/A	N/A
Gas Probe 2 Shallow	GP-2S	6/26/24 10:14	0	0.1	21.2	79.1	0	N/A	N/A	N/A
Gas Probe 2 Middle	GP-2M	6/26/24 10:19	0	1.2	19	78.7	-0.16	N/A	N/A	N/A
Gas Probe 2 Deep	GP-2D	6/26/24 10:30	0	1.4	18.4	79.8	-0.26	N/A	N/A	N/A
Gas Probe 3	GP-3	6/26/24 10:50	0	1	20.5	80.2	0.02	N/A	N/A	N/A
Gas Probe 4	GP-4	6/26/24 11:12	0	1.5	20	78.5	-0.02	N/A	N/A	N/A
Gas Probe 5	GP-5	6/26/24 12:20	0	0.1	20.9	78.5	-0.03	N/A	N/A	N/A
Gas Probe 6	GP-6	6/26/24 12:36	0	2.8	17.4	79	-0.04	N/A	N/A	N/A
Gas Probe 7	GP-7	6/26/24 11:51	0	3.1	18.2	79.8	-0.09	N/A	N/A	N/A

Notes

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

Flow rates measured using orifice plates (where installed).

N/A = indicates parameter not measured.

"H₂O = inches water column

°F = degrees Fahrenheit

Table A-3. Landfill Gas Data, Third Quarter 2024

Project No. AS160423, Hansville Landfill, Hansville, Washington

			Methane	Carbon Dioxide	Oxygen	Balance	Ourstans Drasses		Wellhead	Flow Data
			CH₄	CO2	O ₂	Bal	System Pressure	Static Pressure	Temperature	Flow Rate
Location	Map ID	Date/Time	(% by vol)	(% by vol)	(% by vol)	(% by vol)	("H ₂ O)	("H ₂ O)	(°F)	(SCFM)
Blower Inlet		9/25/24 15:19	3.5	16.7	3	76.8	-6.29	-6.48	64.8	108.2
Blower Outlet		9/25/24 15:24	3.3	16.6	3	77.1	0.16	N/A	93.7	N/A
Extraction Well 001	R-1	9/30/24 13:05	4	16.1	0.1	79.8	-1.15	-0.15	67	0.5
Extraction Well 002	R-2	9/30/24 13:31	1.2	13.6	6.4	78.8	-1.2	N/A	83.7	N/A
Extraction Well 003	R-3	9/30/24 13:37	5.2	17.7	0	77.1	-3.71	-1.18	71.6	3
Extraction Well 004	R-4	9/30/24 14:43	2.4	17	1.9	78.7	-5.06	-1.26	77.6	3.3
Extraction Well 005	R-5	9/30/24 14:36	2.7	19	0.9	77.4	-5.79	-0.7	85	2.8
Extraction Well 006	R-6	9/30/24 14:30	2.1	9.7	11.7	76.5	-5.17	-1.48	94.1	3.9
Extraction Well 007	R-7	9/30/24 14:15	0	16	2.5	81.5	-3.92	-0.66	71.7	2.9
Extraction Well 008	R-8	9/25/24 15:54	4	19.8	0.1	76.1	-3.14	-1.55	64.5	2.2
Extraction Well 009	R-9	9/25/24 16:08	1.2	13.2	6.5	79.1	-2.06	N/A	106.6	N/A
Extraction Well 010	R-10	9/30/24 12:59	4.8	11.2	5.7	78.3	-1.2	-0.66	70.3	1.4
Extraction Well 011	R-11	9/30/24 13:15	2.4	14.4	0	83.2	-1.17	-0.59	72	1.3
Extraction Well 012	R-12	9/30/24 13:44	5.8	9.9	0	84.3	-1.1	-0.88	68.9	2.2
Extraction Well 013	R-13	9/30/24 13:56	2.6	15.6	2.3	79.5	-4.04	N/A	76.2	N/A
Trench Collector TD-1	TD-1	9/25/24 15:45	1.8	21.9	0.2	76.1	-5.67	0.57	60.2	17.3
Trench Collector TR-1	TR-1	9/30/24 14:20	0.1	10.9	9.4	79.6	-3.93	-0.65	87.7	2.9
Trench Collector TR-2	TR-2	9/25/24 16:02	6.2	19.4	0.8	73.6	-2.08	N/A	64.2	N/A
Trench Collector TR-3	TR-3	9/30/24 13:09	4.3	18.5	1.2	76	-1.01	N/A	71.5	N/A
Trench Collector TR-4	TR-4	9/30/24 14:50	1.4	19.4	0.3	78.9	-5.58	-0.45	76.6	3.7
Trench Collector TR-5	TR-5	9/30/24 13:52	3.1	16.7	3.1	77.1	-0.76	N/A	71.3	N/A
Trench Collector TR-6	TR-6	9/30/24 13:48	5.2	16.7	2	76.1	-0.97	N/A	70.3	N/A
Trench Collector TR-7	TR-7	9/30/24 14:56	6.9	16	1.3	75.8	0	-0.64	0	3.7
Gas Probe 1	GP-1	9/25/24 12:08	0	1.6	19.3	79.1	-0.06	N/A	N/A	N/A
Gas Probe 2 Shallow	GP-2S	9/25/24 12:37	0	0.1	21.2	78.7	-0.02	N/A	N/A	N/A
Gas Probe 2 Middle	GP-2M	9/25/24 12:51	0	1.3	18.7	80	-0.21	N/A	N/A	N/A
Gas Probe 2 Deep	GP-2D		0	1.3	18.4	80.3	-0.28	N/A	N/A	N/A
Gas Probe 3	GP-3	9/25/24 13:20	0	1.3	20.3	78.4	0.01	N/A	N/A	N/A
Gas Probe 4	GP-4	9/25/24 13:45	0	1.7	19.8	78.5	0.03	N/A	N/A	N/A
Gas Probe 5	GP-5	9/25/24 14:26	0	0.1	21.3	78.6	-0.02	N/A	N/A	N/A
Gas Probe 6	GP-6	9/25/24 14:45	0	4	16.1	79.9	-0.01	N/A	N/A	N/A
Gas Probe 7	GP-7	9/25/24 14:02	0	3	18.8	78.2	0.06	N/A	N/A	N/A

Notes

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

Flow rates measured using orifice plates (where installed).

N/A = indicates parameter not measured.

" H_2O = inches water column

°F = degrees Fahrenheit

Table A-4. Landfill Gas Data, Fourth Quarter 2024

Project No. AS160423, Hansville Landfill, Hansville, Washington

			Methane CH4	Carbon Dioxide	Oxygen O2	Balance Bal	System Pressure	Static Pressure	Wellhead Temperature	Flow Rate
Location	Map ID	Date	(% by vol)	(% by vol)	(% by vol)	(% by vol)	("H ₂ O)	("H₂O)	(°F)	(SCFM)
Blower Inlet		12/26/24 15:48	2.4	15.3	3.7	78.6	-8.81	-9.91	46.9	109.9
Blower Outlet		12/26/24 15:55	2.4	15.4	3.7	78.5	0.2	N/A	79.5	N/A
Extraction Well 001	R-1	12/26/24 13:31	5.4	16.3	0	78.3	-4.28	-3.02	57.3	0.5
Extraction Well 002	R-2	12/26/24 13:44	1.1	13.5	7.1	78.3	-3.75	N/A	72.2	N/A
Extraction Well 003	R-3	12/26/24 13:53	5	18.5	0	76.5	-6.19	-3.6	57.8	4.5
Extraction Well 004	R-4	12/26/24 14:49	2.6	17.7	1.6	78.1	-7.78	-3.69	70.3	2.8
Extraction Well 005	R-5	12/26/24 15:14	2.2	19.1	1	77.7	-6.33	-3.17	81	3.2
Extraction Well 006	R-6	12/26/24 15:25	2	9.3	11.8	76.9	-7.79	-3.95	90	3.4
Extraction Well 007	R-7	12/26/24 15:02	0	14.8	4.2	81	-6.17	-3.69	67.8	2.9
Extraction Well 008	R-8	12/26/24 12:47	4	19.7	0	76.3	-6.05	-3.82	58.9	1.7
Extraction Well 009	R-9	12/26/24 13:02	1	12.3	7.1	79.6	-5.53	N/A	101.5	N/A
Extraction Well 010	R-10	12/26/24 13:26	6	11.2	5.8	77	-3.77	-3.47	60.8	1
Extraction Well 011	R-11	12/26/24 13:40	2.5	14.7	0	82.8	-3.73	-3.58	55.4	0.9
Extraction Well 012	R-12	12/26/24 14:30	6.9	9.5	0	83.6	-4.8	-3.78	54.9	1.2
Extraction Well 013	R-13	12/26/24 14:57	2.4	15.1	2.7	79.8	-6.8	N/A	72.9	N/A
Trench Collector TD-1	TD-1	12/26/24 12:29	2.1	20.9	0.2	76.8	-8.72	-0.54	53.4	18
Trench Collector TR-1	TR-1	12/26/24 15:32	0.4	11.4	9.6	78.6	-6.3	-3.08	73.9	3.1
Trench Collector TR-2	TR-2	12/26/24 12:57	3.9	17.3	1.6	77.2	-3.9	N/A	56.6	N/A
Trench Collector TR-3	TR-3	12/26/24 13:35	2.3	16.4	1.7	79.6	-3.7	N/A	60.1	N/A
Trench Collector TR-4	TR-4	12/26/24 14:53	1.1	18.6	0.2	80.1	-7.54	-3.24	62	3.2
Trench Collector TR-5	TR-5	12/26/24 14:34	3.5	17.2	1.6	77.7	-3.41	N/A	59.9	N/A
Trench Collector TR-6	TR-6	12/26/24 14:39	3.9	17.2	1.5	77.4	-3.69	N/A	60.9	N/A
Trench Collector TR-7	TR-7	12/26/24 14:44	5.7	16.5	1	76.8	-6.37	-3.48	54	3.4
Gas Probe 1	GP-1	12/26/24 8:39	0.0	0.9	19.3	79.8	-0.06	N/A	N/A	N/A
Gas Probe 2 Shallow	GP-2S	12/26/24 9:01	0.0	0.1	21.6	79.8	-0.05	N/A	N/A	N/A
Gas Probe 2 Middle	GP-2M	12/26/24 9:16	0.0	1.4	19.1	78.3	-0.79	N/A	N/A	N/A
Gas Probe 2 Deep	GP-2D	12/26/24 9:27	0.0	0.8	20.2	79.5	-1.3	N/A	N/A	N/A
Gas Probe 3	GP-3	12/26/24 9:54	0.0	1.3	20.6	79	-0.25	N/A	N/A	N/A
Gas Probe 4	GP-4	12/26/24 10:26	0.0	1.8	20.3	78.1	-0.37	N/A	N/A	N/A
Gas Probe 5	GP-5	12/26/24 11:42	0.0	0.1	21.5	77.9	0.01	N/A	N/A	N/A
Gas Probe 6	GP-6	12/26/24 11:58	0.0	4.1	16.3	78.4	-0.58	N/A	N/A	N/A
Gas Probe 7	GP-7	12/26/24 10:43	0.0	3.3	18.7	79.6	-0.14	N/A	N/A	N/A

Notes

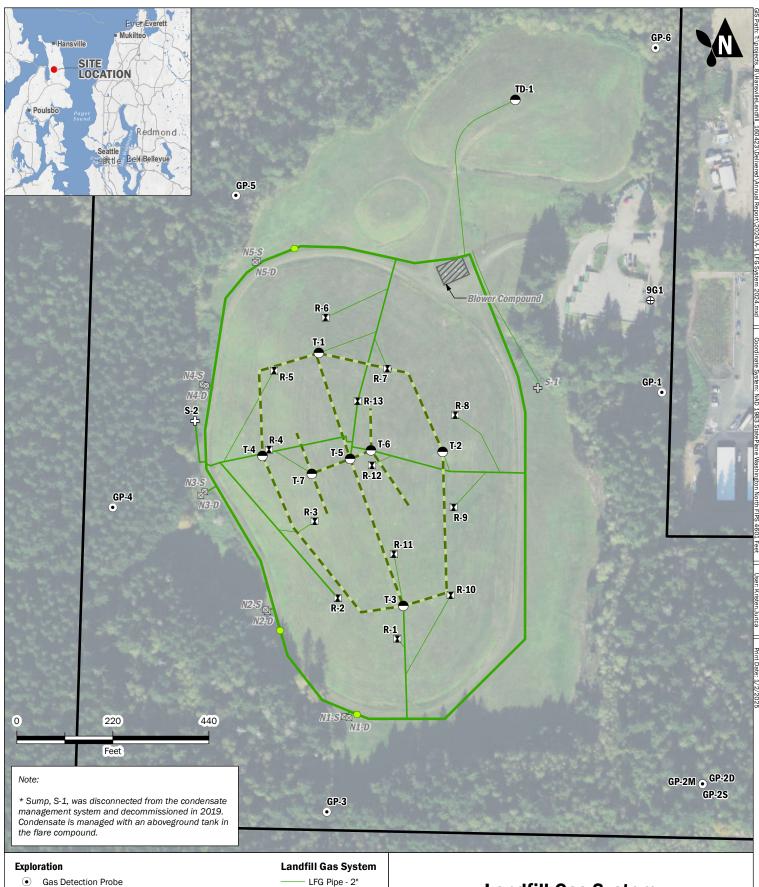
System pressure represents the vacuum available at the wellhead. Static pressure represents the equilibrium downhole pressure.

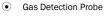
Flow rates measured using orifice plates (where installed).

N/A = indicates parameter not measured.

" H_2O = inches water column

°F = degrees Fahrenheit





- 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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LFG Pipe - 4"

LFG Pipe - 6"

LFG Valve

Landfill Boundary

Trench

Landfill Gas System

2024 Annual Environmental Monitoring Report

Hansville Landfill

Kitsap County, Washington

JAN-2025

PROJECT NO

160423

Aspect

CONSULTING

JSJ / CMT / KMJ

REVISED BY

---/---

FIGURE NO.

A-1

APPENDIX B

Water Quality Results

Table B-1. Water Level Elevations

Project No. AS160423, Hansville Landfill, Hansville, Washington

	Ground Elevation	Top of Casing Elevation		Elevation VD88)	Depth to Water	Water Level Elevation
Well	(ft NAVD88)	(ft NAVD88)	Тор	Bottom	(ft)	(ft NAVD88)
MW-5	363.7	366.9	244	234	100.41	266.5
MW-6	332.0	332.7	260	245	74.52	258.2
MW-7	344.3	346.0	259	244	85.28	260.7
MW-12I	245.6	248.1	217	207	9.95	238.2
MW-13D	258.1	260.4	205	195	11.30	249.1
MW-14	338.6	341.1	262	247	82.18	258.9

Notes

Depths to water collected January 17, 2024.

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

	Ground Elevation	Top of Casing Elevation		Elevation VD88)	Depth to Water	Water Level Elevation
Well	(ft NAVD88)	(ft NAVD88)	Тор	Bottom	(ft)	(ft NAVD88)
MW-5	363.7	366.9	244	234	100.50	266.4
MW-6	332.0	332.7	260	245	74.33	258.4
MW-7	344.3	346.0	259	244	85.15	260.9
MW-12I	245.6	248.1	217	207	9.91	238.2
MW-13D	258.1	260.4	205 195		11.20	249.2
MW-14	338.6	341.1	262	247	82.36	258.7

Notes

Depths to water collected April 17, 2024.

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

Table B-1. Water Level Elevations

Project No. AS160423, Hansville Landfill, Hansville, Washington

	Ground Elevation	Top of Casing Elevation		Elevation VD88)	Depth to Water	Water Level Elevation		
Well	(ft NAVD88)	(ft NAVD88)	Top Bottom		(ft)	(ft NAVD88)		
MW-5	363.7	366.9	244	234	100.92	266.0		
MW-6	332.0	332.7	260	245	74.76	257.9		
MW-7	344.3	346.0	259	244	85.35	260.7		
MW-12I	245.6	248.1	217	207	10.28	237.8		
MW-13D	258.1	260.4	205	195	11.71	248.7		
MW-14	338.6	341.1	262	247	82.87	258.2		

Notes

Depths to water collected July 17, 2024.

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

	Ground Elevation	Top of Casing Elevation		Elevation VD88)	Depth to Water	Water Level Elevation		
Well	(ft NAVD88)	(ft NAVD88)	Top Bottom		(ft)	(ft NAVD88)		
MW-5	363.7	366.9	244	234	101.25	265.7		
MW-6	332.0	332.7	260	245	75.15	257.6		
MW-7	344.3	346.0	259	244	85.70	260.3		
MW-12I	245.6	248.1	217	207	10.39	237.7		
MW-13D	258.1	260.4	205	195	12.49	247.9		
MW-14	338.6	341.1	262	247	83.20	257.9		

Notes

Depths to water collected October 16, 2024.

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

Table B-2. Groundwater Quality Results

Project No. AS160423, Hansville Landfill, Hansville, Washington

		Location	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-12I	MW-12I	MW-12I
			01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024
Parameter	Units	Site Cleanup Level															
Field Parameters	I		.										.				
Temperature	deg C		9	9.19	12.93	11.82	11.34	12.2	15.79	12.85	7.59	9.2	10.5	10.06	9.45	9.91	11.07
Specific Conductivity	uS/cm		122.51	121.04	114.84	163.47	155.79	227.9	138.75	223.69	174.14	264.3	250.4	221.91	190.66	181.73	184.56
Dissolved Oxygen	mg/L		9.8	9.12	9.45	9.45	0.28	0.32	1.24	0.42	1.44	0.93	0.83	0.47	0.15		0.15
pН	pH units		7.14	7.8	7.04	7.18	7.21	7.18	6.97	6.99	6.43	6.21	6.37	6.41	7.12	7.41	7.12
Redox	mV		120.5	196.5	164.5	153.4	73.2	201.7	126.5	138	134	121.5	181.8	146.8	97.3	83.5	117.6
Turbidity	NTU		5.54	0.72	0.4	1.09	2.93	1.39	1.96	0.43	20.5	0.86	0.92	4.66	2.57	1.23	0.58
Conventionals																	
Bicarbonate	mg/L		77	77	75	75	100	100	98	130	130	140	140	140	120	130	130
Carbonate	mg/L		< 10 U														
Alkalinity	mg/L		77	77	75	75	100	100	98	130	130	140	140	140	120	130	130
Ammonia (as N)	mg/L		< 0.03 U	< 0.03 U	< 0.030 U	< 0.030 U	< 0.03 U	< 0.03 U	< 0.030 U	< 0.030 U	0.03	< 0.03 U	< 0.030 U	< 0.030 U	< 0.03 U	< 0.03 U	< 0.030 U
Chloride	mg/L		< 3 U	3.3	3.0	3.4	3.5	4.4	3.7	4.1	< 3 U	< 3 U	< 3.0 U	< 3.0 U	11	9.7	10
Nitrate (as N)	mg/L		3.39	3.13	4.71 J	3.75	0.43	0.329	0.149 J	0.409	0.576	0.557	0.801 J	0.418	< 0.1 U	< 0.1 U	0.104 J
Nitrite (as N)	mg/L		< 0.1 U														
Orthophosphate	mg/L		0.037	0.039	0.032	0.039	0.033	0.035	0.03	0.034	0.06	0.052	0.042	0.054	0.045	0.048	0.044
Sulfate	mg/L		7.5	8	7.5	8.1	16	17	15	15	5.2	6.1	6.0	5.7	11	11	12
Total Organic Carbon	mg/L		< 1 U	< 1 U	< 1.0 U	< 1.0 U	< 1 U	< 1 U	< 1.0 U	< 1.0 U	1.6	1.5	1.7	1.4	2.2	1.9	2.2
Dissolved Metals																	
Arsenic	µg/L	5	1.75	1.69	1.74	1.69	1.92	1.95	1.76	1.59	1.49	1.37	1.29	1.22	2.24	2.57	1.99
Manganese	µg/L	2240	< 1 U	<1U	< 1.0 U	< 1.0 U	200	190	150	190	2.2	1.2	1.0	< 1.0 U	68	67	63
Volatile Organic Compo	ounds (VO	Cs)															
1,2-Dichloroethene	µg/L		< 2 U				< 2 U				< 2 U				< 2 U		
cis-1,2-Dichloroethene	µg/L		< 1 U				<1U				<1U				<1U		
Vinyl Chloride	μg/L	0.025	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U	0.053	0.045	0.039	0.050	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U	0.062	0.041	0.063

Notes

Bold text = Analyte was detected

Shaded Cell = Result exceeded Site Cleanup level

U = Not detected at or above the Reporting Limit shown

J = Result value estimated

(--) = not analyzed

mg/L = milligram per liter

mV = millivolts

µS/cm = microSiemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

µg/L = microgram per liter

Table B-2. Groundwater Quality Results

Project No. AS160423, Hansville Landfill, Hansville, Washington

		Location	MW-12I	MW-13D	MW-13D	MW-13D	MW-13D	MW-14	MW-14	MW-14	MW-14
		Date	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024
		Site Cleanup									
Parameter	Units	Level									
Field Parameters											
Temperature	deg C		10.02	9.75	10.44	14.66	10.6	10	10.9	13.3	11.88
Specific Conductivity	uS/cm		254.46	118.63	113.15	107.37	154.07	172.8	214	150	134.69
Dissolved Oxygen	mg/L		0.04	0.14		0.47	0.07	0.34	32	0.35	0.26
рН	pH units		7.18	7.66	8.2	7.4	7.64	7.21	7.25	7.39	7.41
Redox	mV		109.6	68.6	45.2	127.8	8.34	96.1	206.9	51.1	87.7
Turbidity	NTU		0.39	18	8.03	6.77	2.29	23.1	1	1.84	4.44
Conventionals											
Bicarbonate	mg/L		140	72	72	66	69	89	100	69	66
Carbonate	mg/L		< 10 U								
Alkalinity	mg/L		140	72	72	66	69	89	100	69	66
Ammonia (as N)	mg/L		< 0.030 U	0.035	< 0.03 U	< 0.030 U	< 0.030 U	0.049	< 0.03 U	< 0.030 U	< 0.030 U
Chloride	mg/L		7.3	4.4	5.5	5.2	5.8	3.9	4.7	< 3.0 U	< 3.0 U
Nitrate (as N)	mg/L		< 0.1 U	0.159	< 0.1 U	< 0.1 U	0.112				
Nitrite (as N)	mg/L		< 0.1 U								
Orthophosphate	mg/L		0.05	0.085	0.084	0.082	0.084	0.136 J	0.122	0.142	0.136
Sulfate	mg/L		12	15	16	16	16	9	10	8.5	9.3
Total Organic Carbon	mg/L		1.4	< 1 U	< 1 U	< 1.0 U	< 1.0 U	1.6	1.3	2.6	2.1
Dissolved Metals											
Arsenic	µg/L	5	2.34	5.05	4.95	5.31	5.11	12.7	11.8	13.7	12.9
Manganese	µg/L	2240	76	11	14	6.2	18	1200	1100	770	600
Volatile Organic Compo	ounds (VO	Cs)									
1,2-Dichloroethene	µg/L			< 2 U				< 2 U			
cis-1,2-Dichloroethene	µg/L			< 1 U				1.6			
Vinyl Chloride	µg/L	0.025	0.12	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U	0.022	< 0.02 U	< 0.020 U	0.024

Notes

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mg/L = milligram per liter

mV = millivolts

µS/cm = microSiemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

µg/L = microgram per liter

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Table B-22024 Annual Environmental Monitoring ReportPage 2 of 2

Table B-3. Surface Water Quality Results

Project No. AS160423, Hansville Landfill, Hansville, Washington

		Location	SW-1	SW-1	SW-1	SW-1	SW-4	SW-4	SW-4	SW-4	SW-6	SW-6	SW-6	SW-6	SW-7	SW-7	SW-7	SW-7
		Date	01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024	01/17/2024	04/17/2024	07/17/2024	10/16/2024
		Site																
		Cleanup																
Parameter	Units	Level																
Field Parameters																		
Temperature	deg C		7.1	9.3	12.1	11.27	4.4	8.9	13.2	12.15	2	8.9	15.9	12.03	3.7	9.1	14.8	12.5
Specific Conductivity	uS/cm		478.8	184.8	175.9	197.31	237.2	339.3	363.5	301.61	98.4	130.5	137.1	130.42	130.2	157.3	160.4	140.03
Dissolved Oxygen	mg/L		8.04	11.07	11.74	10.1	11.02	12.05	11.61	10.35	11.97	12.66	9.97	10.16	10.53	12.79	9.19	10.58
pН	pH units		6.65	7.16	7.33	5.81	7.02	7.74	7.95	7.39	7.5	7.16	7.55	7.24	7.61	7.37	7.77	7.6
Redox	mV		106.2	178.9	167.8	199.9	104.6	213.6	141.1	166	77.6	207.5	90.3	196	73.8	219	138.3	171.8
Turbidity	NTU		1.13	1.17	3.22	2.13	3.89	2.5	10.8	3.12	14.5	8.67	29.6	9.2	4.02	5.31	26.6	3.58
Conventionals																-		
Bicarbonate	mg/L		73	74	71	70	130	140	160	150	44	56	65	66	60	65	76	75
Carbonate	mg/L		< 10 U															
Alkalinity	mg/L		73	74	71	70	130	140	160	150	44	56	65	66	60	65	76	75
Ammonia (as N)	mg/L		< 0.03 U	< 0.03 U	< 0.030 U	< 0.030 U	< 0.03 U	< 0.03 U	< 0.030 U	< 0.030 U	0.068	< 0.03 U	0.040	< 0.030 U	0.055	< 0.03 U	< 0.030 U	< 0.030 U
Chloride	mg/L		4.3	5.8	6.8	5.8	8.5	11	15	12	3.7	4.2	7.3	4.2	3.6	4	10	4.8
Nitrate (as N)	mg/L		2.76	1.55	2.74 J	1.71	0.755	0.781	1.65 J	0.735	0.128	< 0.1 U	0.154 J	< 0.1 U	1.04	0.61	0.392 J	0.2
Nitrite (as N)	mg/L		< 0.1 U	< 0.1 U	0.147 J	< 0.1 U												
Orthophosphate	mg/L		0.036	0.028	0.035	0.035	0.022	0.02	0.026	0.021	0.026	0.028	0.06	0.041	0.068	0.055	0.132	0.244
Sulfate	mg/L		10	9.1	10	9.6	18	22	28	23	6	6.5	6.5	6.0	8.8	9.1	9.6	8.0
Total Organic Carbon	mg/L		2	1.8	1.5	1.4	11	6.5	2.8	5.4	23	14	8.4	8.6	10	7.2	6.2	7.1
Dissolved Metals											-					•		
Arsenic	µg/L	5	1.45	1.51	1.67	1.53	1.49	1.62	1.49	1.65	1.98	2.55	3.63	2.67	1.21	1.47	2.22	2.42
Manganese	µg/L	2240	< 1 U	2.7	< 1.0 U	< 1.0 U	40	33	26	24	24	33	39	33	4.5	5	9.4	7.1
Volatile Organic Comp		DCs)																
1,2-Dichloroethene	µg/L		< 2 U				< 2 U				< 2 U				< 2 U			
cis-1,2-Dichloroethene	µg/L		< 1 U				< 1 U				< 1 U				< 1 U			
Vinyl Chloride	µg/L	0.025	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U	< 0.02 U	< 0.02 U	< 0.020 U	< 0.020 U

Notes

Bold text = Analyte was detected

Shaded Cell = Result exceeded Site Cleanup level

U = Not detected at or above the Reporting Limit shown

J = Result value estimated

(--) = not analyzed

mg/L = milligram per liter

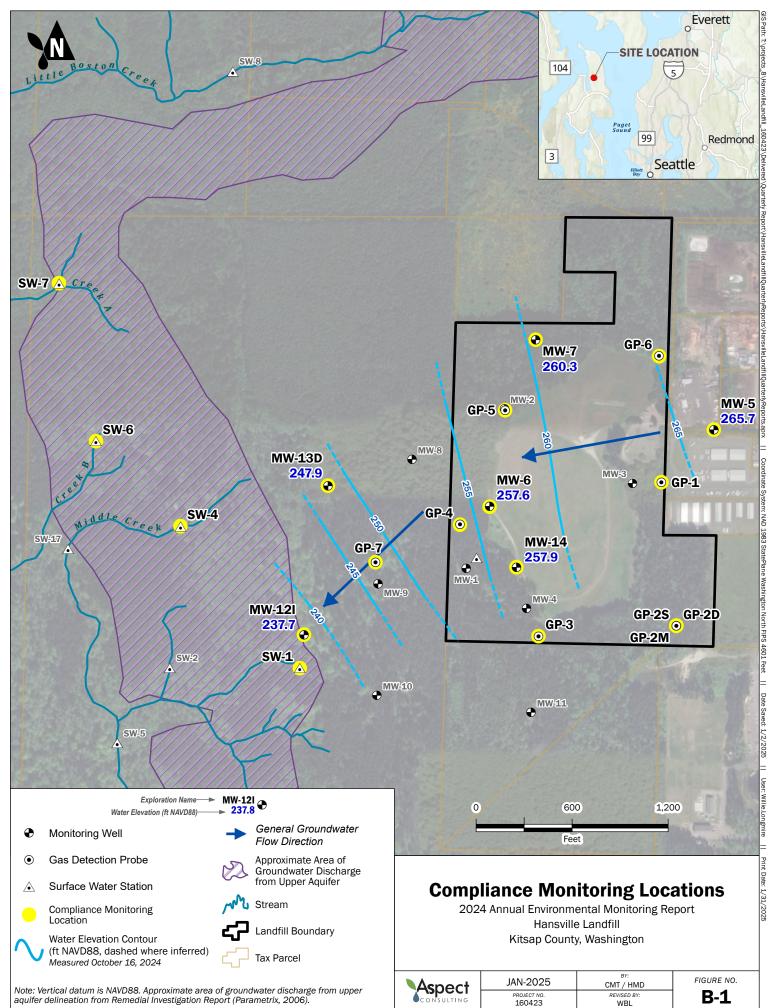
mV = millivolts

 μ S/cm = microSiemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

µg/L = microgram per liter



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APPENDIX C

Groundwater Statistics and Time-Series Graphs

Table C-1. Statistical Analysis

Project 160423, Hansville Landfill, Hansville, WA

Dissolved Arsenic Statistical Results

			Mann-Ker	ndall Test ²		Sen's	Slope
Well	Statistical Trend ¹	Test Value, Z	Critical Value	Number of data points, n	Statistical Significance	(mg/L per day)	(mg/L per year)
MW-5	³						
MW-6							
MW-7							
MW-12I							
MW-13D	Increasing	8.3	1.96	71	Yes	4.5E-04	0.163
MW-14	Decreasing	-8.3	-1.96	71	Yes	-2.4E-03	-0.861

Vinyl Chloride Statistical Results

			Mann-Ker	ndall Test ²		Sen's	Slope
Well	Statistical Trend ¹	Test Value, Z	Critical Value	Number of data points, n	Statistical Significance	(ug/L per day)	(ug/L per year)
MW-5	³						
MW-6	Decreasing	-9.2	-1.96	72	Yes	-5.5E-05	-0.020
MW-7							
MW-12I	Decreasing	-7.9	-1.96	72	Yes	-5.9E-05	-0.022
MW-13D							
MW-14	Decreasing	-9.8	-1.96	72	Yes	-7.3E-05	-0.027

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

mg/L - milligrams per liter

4 - Data range is from 1st quarter 2007 through 4th quarter 2023

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Table C-1 2024 Annual Environmental Monitoring Report

1 of 1

Project 160423, Hansville Landfill, Hansville, WA

Well	Statistic	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Site-specific Cleanup Level
	LCL	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	
MW-13D	Trend	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.006	
	UCL	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.005
	LCL	0.016	0.015	0.014	0.014	0.013	0.012	0.012	0.011	0.011	0.010	0.003
MW-14	Trend	0.017	0.016	0.015	0.015	0.014	0.013	0.013	0.012	0.012	0.011	
	UCL	0.018	0.017	0.016	0.016	0.015	0.015	0.014	0.014	0.013	0.013	

Dissolved Arsenic Statistical Concentrations (mg/L)

Vinyl Chloride Statistical Concentrations (ug/L)

Well	Statistic	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Site-specific Cleanup Level
	LCL	0.130	0.112	0.095	0.081	0.069	0.059	0.050	0.042	0.036	0.030	
MW-6	Trend	0.142	0.122	0.105	0.090	0.077	0.066	0.056	0.048	0.042	0.036	
	UCL	0.156	0.134	0.115	0.099	0.086	0.074	0.064	0.056	0.049	0.042	
	LCL	0.131	0.114	0.099	0.085	0.073	0.063	0.053	0.046	0.039	0.033	
MW-12I	Trend	0.149	0.130	0.113	0.098	0.085	0.074	0.064	0.056	0.048	0.042	0.025
	UCL	0.169	0.147	0.128	0.112	0.099	0.087	0.077	0.068	0.060	0.053	
	LCL	0.118	0.097	0.079	0.064	0.052	0.042	0.034	0.027	0.022	0.018	
MW-14	Trend	0.131	0.108	0.088	0.072	0.059	0.048	0.039	0.032	0.026	0.022	
	UCL	0.146	0.120	0.098	0.081	0.067	0.055	0.046	0.038	0.032	0.027	

Notes

LCL is the 95% Lower Confidence Limit calculated using log-normal transformed concentrations.

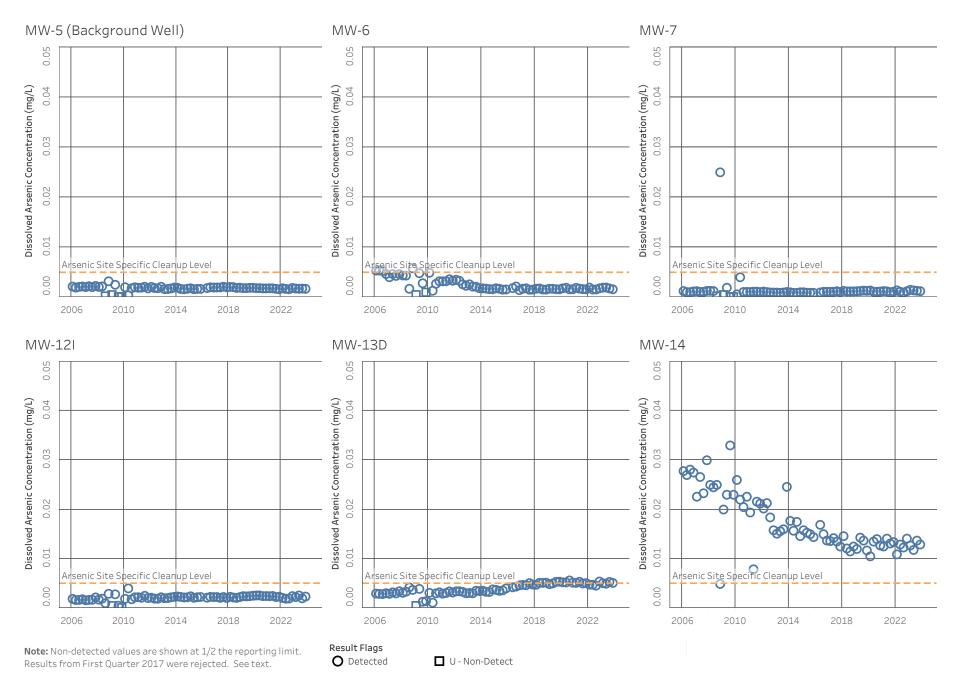
Trend is the average concentration calculated using least-squares fit a line for log-normal transformed concentrations.

UCL is the 95% Upper Confidence Limit calculated using log-normal transformed concentrations.

UCL, LCL calculated based on method described in CMP (SCS Engineers, 2011), except using data collected since January 2007.

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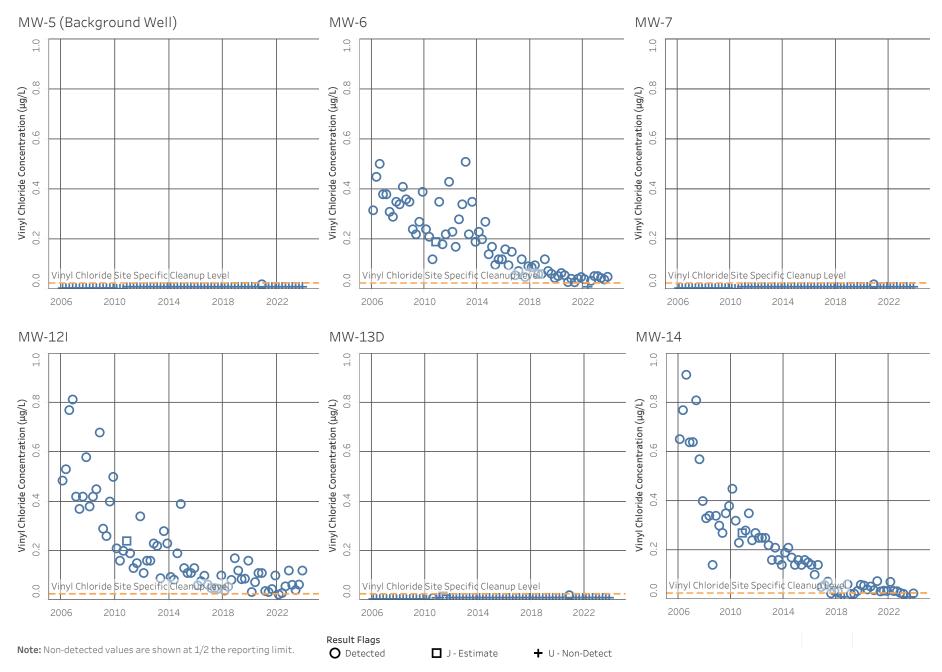
1/9/2025
P:\Kitsap County Solid Waste\Hansville Landfill 2016\Project 160423\Report Drafts\2024 Reports\2024 Q4-annaul Report\App C - Stats\2024 Q4 C1&C2 Statistical Analysis Results_





Trend Plots (As)

Figure C-1 - Fourth Quarter Dissolved Arsenic Sampling Results 2024 Fourth Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, WA



Aspect CONSULTING 12/9/2024 Trend Plots (VC) 2021

Figure C-2 - 2024 Fourth Quarter Vinyl Chloride Sampling Results 2024 Fourth Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, WA

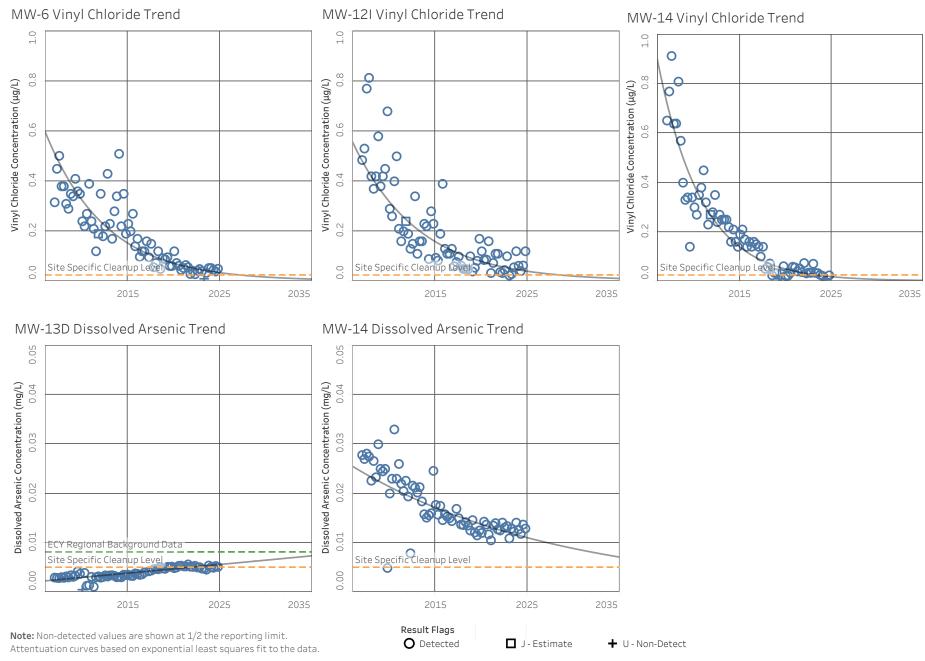




Figure C-3 - 10 Year Attenuation Curves 2024 Fourth Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, WA

APPENDIX D

Fourth Quarter Field Forms and Laboratory Reports

1031 2:0 101:25 11:49 159:34 9:04 7:02 1:57 Shuen 1042 3:0 101:25 11:73 160:78 9:16 7:09 1:57 Shuen 1042 3:0 101:25 11:73 160:78 9:16 7:09 1:57 Shuen 1032 5:0 101:25 11:75 161:78 9:35 7:18 153:4 1:09 1055 101:25 11:62 163:47 9:45 7:18 153:4 1:09 9:10 1055 101:25 11:62 163:47 9:45 7:18 153:4 1:09 9:10 1055 101:25 11:62 163:47 9:45 7:18 153:4 1:09 9:10 1055 101:25 11:62 163:47 9:45 7:18 153:4 1:09 9:10 1:09 9:10 1:09 9:10 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 1:09 <t< th=""><th>GROUND</th><th>WATER S</th><th>AMPLING R</th><th>ECORD</th><th></th><th></th><th>WELL NUMBE</th><th>R: MU</th><th>N-5</th><th></th><th>Page: of</th></t<>	GROUND	WATER S	AMPLING R	ECORD			WELL NUMBE	R: MU	N-5		Page: of
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Name NTOC Sample Intake Depth (T Co): Deck Call Call Call Low Filter Pack Interval (ft. bgs)	Date:	10/16/2024		<i></i>							01.25
Screened Interval (It. Bps)				NTOO				Starting Wa	ater Level (*	ft TOC):	dicated Litane
Party Factor Constraints Constraints <thconstraints< th=""> <thconstraints< th=""></thconstraints<></thconstraints<>								Total Dept	h After Sam	pling (ft TOC):	12.7.23
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Type:// reference// ref			REMENTS				+ 10%			+ 10%	T
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Arome Vor Vor <th< th=""><th>Time</th><th>Volume</th><th>Bottle Type</th><th>Quantity</th><th>Filtration</th><th>Preservation</th><th></th><th>Sediment</th><th></th><th></th><th></th></th<>	Time	Volume	Bottle Type	Quantity	Filtration	Preservation		Sediment			
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250 mL Poly 1 Y N/A 250 mL Poly 1 Y HNO3 500 mL Poly 1 1 N/A METHODS For poly 1 1 N/A Parameters measured with (instrument model & serial number): AquaTroll (PinkPurple), Turbidimeter (PinkPinkYellow), WLI 150 (Blue/white) (y Purging Equipment: Dedicated bladder pump/Peristaltic pum Decon Equipment: Aloconox + DI water Disposal of Discharged Water: Drum on site Drum on site Decon Equipment: Aloconox + DI water		250 mL	Amber	2	N	H2SO4		1			
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Observations/Comments:	Observatio	ons/Comment	s:								

ROUNE	WATER S	AMPLING R	ECORD			WELL NUMBE	R: _Mu	V-6		Page: of	
roject Nar	ne:	Hansville Land	fill Q4 2024			Project Numbe	r:	AS160423			
ate:	10/16/2024								70 70	1 ~~	1
	y: RU		11700				Starting Wa	ater Level (i ako Dooth (t TOC): 75	ticated bladder	Amp
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asing volu	umes: 3/4"=	0.09 L/ft	2" = 0.62 L/ft			" = 5.56 L/ft					
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ault Cond	ition: <u> </u>	and Courd	ition		Well Sealed?	stick - up		Lock Prese	ent? $\frac{105}{100}$		
tanding W	ater in Vault	?	1			Ecology Well T	ag Present	(and Numb	er if yes)?		
URGIN	G MEASU	REMENTS									
	ion Criteria nsecutive	Typical	Stable	na	± 3%	± 10% (or ± 0.5 mg/L if	± 0.1	± 10 mV	± 10% (or 3 succesive <		
	ings):	0.1-0.5 Lpm	(<0.3 ft target)			< 1 mg/L)			10 NTU)		
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	рH	ORP	Turbidity	Comments	
	(L)	(fnL/min)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)		
557			- 75.15						2.09	Begin purging	
602	0.50	0-10	75.20	12.95	223.46	1.23	6.98	143.6	1.79	Clear, no order	no s
1607	1.00	0.10	75.20	12.87	225.67	0.63	7.01	140-9	0.90		
1612	1.50	0.10	75.20			0.45	7.00	139.6	0.48		
1617	2.00	0.10		12.87				137.2		V	
		0.10	75.20		223.69			138-0	0.43	All Parameters	Stab
1622	2.50	0.10	75.20	12.03	205.01	UTA	0.11	19040	0.10	The forteriors	- Oldini
										C. Ma	
1625										Sample	
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	INVENTO	RY									
						Appear	ance Turbidity &			Remarks	
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Color	Sediment				
1625	40 mL	VOA	3	N	N/A	Clear	0.83				
	250 mL	Amber	2	N	H2SO4						
	250 mL	Poly	2	N	N/A						
	250 mL	Poly	1	Y	N/A						
	250 mL	Poly	1	Y	HNO3						
1	500 mL	Poly Poly	1	Y 1	HNO3 N/A		1				
NETHOD	500 mL	Poly			I IN/A						
		with (instrument	model & coriol	number).		AquaTroll/Pint	Purple) Tu	rbidimeter /	Pink/PinkYellow	WLI 150 Blue/white / (ye	llow red)
					Peristaltic pur				+ DI water		
				Port 618 247				Aloconox	Di Water		
		Water:		Drum on s		the gro					
Observatio	ons/Commen	ts:	ear, no	Odor	no sl	nem					

GROUN	WATER S	SAMPLING R	ECORD			WELL NUMB	ER: <u>MU</u>	1-7		Page: of
Project Na	me:	Hansville Land	fill Q4 2024			Project Numbe	ər:	AS160423		
	10/16/2024					-				
	y: FCF		NEOO				Starting Wa	ater Level (ft TOC):	\$5.70 icaloci tubing
		: js)					Total Dept	n After Sam	npling (ft TOC): nes): 2	94.35
	interval (ft. b		-				Casing Dia	meter (inch	nes):2	11
Casing Vo	lume 8°	55 (ft Wate	r)x 0'62	(L/ft) =	5-36 (L)					
Casing vol	umes: 3/4"=	0.09 L/ft				" = 5.56 L/ft				
	ONDITION	Canall		_	Well Sealed?	405		Look Pres	ent?	2
	lition: Vater in Vauli		50		well Sealed?	Ecology Well	Tag Present	(and Num!	ber if yes)?	NIA
	G MEASU		Duble			± 10%			± 10%	
•	nsecutive	Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	(or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	(or 3 succesive < 10 NTU)	
Time	lings): Cumul.	Purge Rate	Water Level	Temp:	Specific	Dissolved	pH	ORP	Turbidity	Comments
Time	Volume (L)	(mL/min)	(ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)	, i	(mv)	(NTU)	
0891			8570						\rightarrow	Boopin purging
0856	1-65	0.2	85.70	10.26	216.55	1.31	6-38	162.3	106	(lear, no odlor or
0800	2.0	1	85-70	010	213.47	0.48	6.37	153.8		Shipen
0906	90		85.70	10.02	215.26	0.41		150-7	81.3	
0911	4.0		88.70	10.00	213.31	0.38	6-39	148.5	61.9	14
0916	5.0		85.70	10.00	213-95	0.40	6.39	146.6	46.7	
0921	6.0		85.70	10.01	216.78	0.40	6.40	14606	24.3'	
09126	7.0		89.20	10.07	218.87	0.42	6.40	146.7		×
093)	8.0		89.20	10.04		0.45	6.40	146.6		
0936	9.0		85-70	10.05	221.06	0.45		147.6	5.50	
0941	0.01	V	85.70	(0.06.	221-91	0.47	641-	146.8	4.66	NI.
0950			0010							Sampl
									a	
				1						-
	·	· · · · · · · · · · · · · · · · · · ·								
Total Litar	s Purged:	10.5	Total Casing '	L Volumes Re	move <u>d:</u> 0-5	1	Ending Wa	ter Level (f	t TOC): 89	5.20
I Otar Liters	s Purgea.	100		volulijes i ve	inove <u>a</u> .					
SAMPLE		RY								
						Color	Turbidity &	in a		Remarks
Time	Volume	Bottle Type	Quantity	Filtration	Preservation		Sediment			
0950	'40 mL	VOA	3	N	N/A	Clear				
	250 mL	Amber	2	N N	H2SO4 N/A					
	250 mL 250 mL	Poly Poly	1	Y	N/A N/A					
	250 mL	Poly	1	Y	HNO3					
J	500 mL	Poly	1	Y	HNO3					
METHO	500 mL	Poly	11	1	N/A					
		with (instrument	model & serie	numberly		AquaTroll (Pin	k/Purple). Tu	rbidimeter	(Pink/PinkYellow)	, WLI 150 (Blue/white) / (yellow red)
			/		p/Peristaltic pur				+ DI water	
			L	Drum on s		. Booon Equip				
	-	Water:								
Observatio	ons/Commen	ts:							12	

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GROUND	NATER S	AMPLING R	ECORD			WELL NUMBE	R: <u>Μυ</u>	3-121		Pag	e: <u></u> of	
Project Name	e:ł	Hansville Land	ill Q 4 2024			Project Numbe	r:	AS160423				
Date:1	0/16/2024	r (E					Charlina 16/	latar Louis /		0.70		
Sampled by:	aint of Wall:	FLE	NTOC						ft TOC):		behur ?	
		3)					Total Dept	h After Sam	pling (ft TOC):	33.47		
ilter Pack Ir	nterval (ft. bg	is)					Casing Dia	ameter (inch	es):	24		
asing Volur	me <u>23</u>	08_(ft Water)x <u>0.62</u>	(L/ft) =	14.31 (L)							
asing volun	nes: 3/4"= (0.09 L/ft 2	2" = 0.62 L/ft	4" = 2.	46 L/ft 6	6" = 5.56 L/ft						
VELL CO	ion:	Good	-		Well Sealed?	ALS		Lock Prese	ent?	423		
standing Wa	ater in Vault?	N	IA				ag Presen		er if yes)?	NIN		
	MEASUR											
Stabilizatio	n Criteria	Typical	Stable	na	± 3%	± 10% (or ± 0.5 mg/L if	± 0.1	± 10 mV	± 10% (or 3 succesive <			
(for 3 cons readin		0.1-0.5 Lpm	(<0.3 ft target)	Tid		< 1 mg/L)	1 0.1	110 111	10 NTU)			
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	pН	ORP	Turbidity		Comments	
	(L)	(mL/min)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	0 . 5.	C d	
158			10-39						/		puging	
1203	1.0	0-2	,0:39	10.05	259-78	6-14	711	105.2		(lear)	no odbi	CS
1208	2.0		10.40		257.82	6.03	7.14	106.8				
	3.0		10.40	10.08	256.65	0.05	7-18	107-9				
218	H-0		10-39	10.03	255.48	0.05	7.17	108.8	0.54			
223	5.0	4	10-40	10002	254.46	0.04	7-18	109.6	0-3.9		V	
125									~~>	Samp	sle	
												_
												_
					14				· · · ·			
			1940 1940									
Fotal Liters F	Puraed:	5.5	Total Casing	/olumes Re	move <u>d:</u> 0.3	8	Ending Wa	ater Level (f	toc): 🚺 🕻	0.39		
										_		_
SAMPLE	INVENTO	RY				Appear	ance	1				
T:	Malana	Dettle Trees	Quantity	Filtration	Preservation	Color	Turbidity & Sediment	1	I	Remarks		
Time 1225	Volume 40 mL	Bottle Type VOA	Quantity 3	N	N/A	cipar	0.39					
1	250 mL	Amber	2	N	H2SO4	1	1					
	250 mL	Poly	2	N	N/A							
	250 mL	Poly	1	Y	N/A							
	250 mL	Poly	1	Y	HNO3							
1	500 mL	Poly	1	Y 1	HNO3 N/A			1.78				
METHOD			·									
Parameters	measured w	ith (instrument	model & serial	number):		AquaTroli (Pink	(eurple), Tu	urbidimeter (Pink/PinkYellow),	, WLI 150 (Blu	e/white / (yellow/r	ed)
					p/Peristaltic pur	r Decon Equip	ment:	Aloconox	+ DI water			_
		Water:		Drum on s								
Jbservation	s/Comments	: <u></u>										

GROUNE	WATER S		ECORD			WELL NUMB		w-131	2	Page: of
		Hansville Land	ill Q4 2024			Project Numbe	ar:	AS160423		
Project Nar Date:	ne: 10/16/2024					Tojectiume		/ 10/100/120		
Sampled by	/:	FCE					Starting W	ater Level (ft TOC):	12.49
			NTOC				Sample Int	ake Depth	(ft TOC): ipling (ft TOC):	dicated tubing
	nterval (ft. bg Interval (ft. b		-				Casing Dia	meter (inch	nes):	2"
			1x 10.62	(L/ft) =	47-34 (L)					
			2" = 0.62 L/ft			" = 5.56 L/ft				
	ONDITION	6				425		1 I. D.		
	ition:		ภิค		Well Sealed?	4		Lock Pres	ent? per if yes)?	1.1.0
	ater in Vaul	REMENTS				Loology Woll				1.11.
Stabilizati	on Criteria	Typical	Stable			± 10%	1	± 10 mV	± 10% (or 3 succesive <	
•	nsecutive ings):	0.1-0.5 Lpm	(<0.3 ft target)	na	± 3%	(or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	10 NTU)	
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	рН	ORP	Turbidity	Comments
	(L)	(mL/min)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	0
1312			12.49	10-66	103.10		- 60	and a	2.50	Begin purging
1317	1-0	10-Z	12.47		151-18	0.18	7-57	91-8	3.55	clear, no edor or
1322	2.0		12.49	10-63	152.03	0.09	7.6	91-3	2-48	sheen
1327	3.0		12-51	10.61	152-94	0.08	763	89.1	2.73	
1332	4.0		12.53	10.62	153.66	0.08	7.64		2.63	
337	50	V	12.53	10.00	15407	0.07	7.64	834	2.29	Sample
1340										sample
								ater Level (i		.09
otal Liters	Purged:	5.3	Total Casing	/olumes Re	move <u>d: 01</u>	<u> </u>	Ending wa	ater Levei (i	(100).	
SAMPLE	INVENTO	RY								
						Appear	ance Turbidity &	-		Remarks
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Color	Sediment			
1340	40 mL	VOA	3	N	N/A	clear	2.29			
+	250 mL	Amber	2	N	H2SO4					
	250 mL	Poly	2	N Y	N/A N/A					
-	250 mL 250 mL	Poly Poly	1	Y	HNO3					
	500 mL	Poly	1	Y	HNO3					
	500 mL	Poly	1	1	N/A	y y	<u> </u>			
		with (instrument	model & contel	number):		AquaTroll (Pia	k/Pernie)	rhidimeter	Pink/PinkYellow)	, WLI 150 (Blue/white) (yellow re
					Peristaltic pur		0		+ Di water	C
				Drum on s		- Decon Equip		7000107		
Jisposal of	Discharged	Water:		Drulli On S						
Observatio	ns/Commen	ts:								

ROUNE	WATER S	SAMPLING R	ECORD			WELL NUMBE	ER:M	W-4	4	Page: of
Project Nar	ne:	Hansville Land	fill Q4 2024			Project Numbe	er:	AS160423		
)ate:	10/16/2024	19 0.03	8							2.2.2
	/:		NTOC				Starting W	ater Level (ake Denth (inter thusing
		l: js)					Total Dept	n After Sam	pling (ft TOC):	91.98
ilter Pack	Interval (ft. b	as)					Casing Dia	meter (inch	es):	211
asing Vol	ume 8.7	S (ft Wate	r) x 0-62	(L/ft) =	5.4L (L)		L			
asing volu	umes: 3/4"=	0.09 L/ft 2	2" = 0.62 L/ft	4" = 2.	.46 L/ft 6	6" = 5.56 L/ft				
	ONDITION	11-	d		Well Sealed?	425		Look Prog	ent?	00
ault Cond	ition:	?N			well Sealed?	Ecology Well 1	Tag Present	(and Numb	per if yes)?	NIA
	1	REMENTS)	Loology How	Lig Trooon			
	on Criteria		Stable		· · · · · · · · · · · · · · · · · · ·	± 10%			± 10%	
	nsecutive ings):	Typical 0.1-0.5 Lpm	(<0.3 ft target)	na	± 3%	(or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	(or 3 succesive < 10 NTU)	
Time	Cumul.	Purge Rate	Water Level	Temp.	Specific	Dissolved	рН	ORP	Turbidity	Comments
TIME	Volume (L)	(mL/min)	(ft)	(*C)	Conductance (µS/cm)	Oxygen (mg/L)	ŕ	(mv)	(NTU)	94
508	1.6/		\$3-20							Begin purging
513	0-0	0-2	\$3.20	11.82	134-87	0.82	7.42	84-7	10.5	clear, no odor
518	2.0	1	83.22	11.79		0.32	7.41	87.3	7.91	or sheen
923	3.0		\$3.25	11.86	134.40	0.28	7.42	88.5	5.55	1
528	4.0			11.87	134.76	0.27	742	87.4	4.61	
	9.0	J	83.25	11.88		0-26	7.41	87.7	4.44	
533	2.0	4	8201	1100	13100		1.11	3		Sample
535	e e									
										/
					·					
							L			(1.2)
otal Liters	Purged:	5.5	Total Casing	Volumes Re	emove <u>d: 1.0</u>		Ending Wa	ater Level (1	t TOC):	322
	INVENTO									
	INVENTO					Appear				Pomorko
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Color	Turbidity & Sediment			Remarks
535	40 mL	VOA	3	N	N/A	Clear	4-24			
	250 mL	Amber	2	N	H2SO4					
	250 mL	Poly	2	N	N/A					
	250 mL	Poly	1	Y	N/A					
_	250 mL	Poly	1	Y	HNO3		\vdash			
1	500 mL 500 mL	Poly Poly	· 1	Y 1	HNO3 N/A	V	1			
ETHO					*	-				0
arameter	s measured	with (instrument	model & seria	number):		AquaTroll (Pinl	k/Rurple), Tu	rbidimeter	Ank/PinkYellow)	, WLI 150 (Blue/white) / (vellow r
					preristaltic pur	r Decon Equip	ment:	Aloconox	+ DI water	\smile
		Water:		Drum on s						
	ň.		10-201		Samp	Saminat	00	MIN -	JONN	
neoruntio	ns/Commen	IS:		ا السرال	- MARCINE	20111111			- Macs	

	IS ULTIN C					-1-2410		1-1		Page:of
		SAMPLING R								1 ugo 0
roject Nar	me:	Hansville Land	fill Q4 2024			Project Number	r:	AS160423	<u> </u>	
	10/16/2024 y:	RWN				ſ	Starting W:	ater Level (1	t TOC):	•
le couring	Deint of Moli		NTOC				Sample Int	ake Depth (ft TOC): Mide	ount of the stream
creened I	nterval (ft. bo	 is)					Total Depth	n After Sam	pling (ft TOC):	*
ilter Pack	Interval (ft. b	 js) gs)					Casing Dia	meter (inch	es):	-
asing Vol	ume 🗧	(ft Wate	-) x (-	(L/ft) =	(L)	1				
asing volu	umes: 3/4"=	0.09 L/ft 2	2" = 0.62 L/ft	4" = 2.	46 L/ft 6	6" = 5.56 L/ft		1		
VELL C	ONDITION									
ault Cond	ition:				Well Sealed?				nt?	
tanding V	/ater in Vault	?				Ecology Well T	ag Present	(and Nume	er ir yes)?	
URGIN	G MEASUI	REMENTS								
	ion Criteria nsecutive	Typical	Stable	па	± 3%	± 10% (or ± 0.5 mg/L if	± 0.1	± 10 mV	± 10% (or 3 succesive <	
(for 3 co read		0.1-0.5 Lpm	(<0.3 ft target)	T KCI		< 1 mg/L)			10 NTU)	
Time	Cumul.	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	. рН і	ORP	Turbidity	Comments
	Volume (L)	(mL/min)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	
1105	-	-	~	11.27	197.31	10-10	5.81	199.9	2.13	clear, no odor, no si
					•				•	
1110										Sample
110			-							
			-							
				-						
					-					
				·						
	1									
					E					
				\sim 1						
					*					
otal Liters	Puraed:		Total Casing	/olumes Re	moved:		Ending Wa	iter Level (f	TOC):	
SAMPLE	INVENTO	RY								
						Appeara	Turbidity &			Remarks
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Color	Sediment			
1110	40 mL	VOA	3	N	N/A	Clear	2.13			
1	250 mL	Amber	2	N	H2SO4					
	250 mL	Poly	2	N	N/A					
	250 mL	Poly	1	Y	N/A					
	250 mL	Poly	1	Y	HNO3		_			
1	500 mL	Poly	1	Y 1	HNO3		5			
	500 mL	Poly	1		N/A	v				
		. 10 <i>(</i>)		mumber 1		Anustrall (D)-1	Durala To	rhidimeter	PinkValland	WLI 150 (Blue/white) / (yellow red)
		with (instrument								, the 150 (Enderwritte) / (Yenow real)
						Decon Equipr	ment:	Aloconox	+ UI water	
Disposal o	f Discharged	Water:		Drum on s	ite- 10 9	round				
)hservativ	ns/Commen	ts:								
20201 VallC	narooninen								0	

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ROUNE	WATER S	AMPLING R	ECORD			WELL NUMBE	R:	N-4		Page: of
roiect Nan	ne:	Hansville Land	fill Q4 2024			Project Numbe	r:	AS160423		
ate:	10/16/2024		1							
ampled by	1: RV	NN					Starting Wa	ater Level (ft TOC):	devel in the stream
		: s)								41 -
		gs)	Minut .						es):	
				(1 /ft) =	(L)					
asing volu	umes: 3/4"=	0.09 L/ft	2" = 0.62 L/ft	4" = 2.	46 L/ft 6	6" = 5.56 L/ft				
	ONDITION									
	ition:				Well Sealed?			Lock Prese	ent? per if yes)?	
tanding W	ater in Vault	?				Ecology Well 1	ag Present	(and Numi	ber if yes)?	
		REMENTS				4004			± 10%	
	on Criteria nsecutive	Typical	Stable	па	± 3%	± 10% (or ± 0.5 mg/L if	± 0.1	± 10 mV	(or 3 succesive <	
•	ings):	0.1-0.5 Lpm	(<0.3 ft target)		Specific	< 1 mg/L) Dissolved			10 NTU)	
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Conductance	Oxygen	рH	ORP	Turbidity	Comments
	(L)	(mL/min)	(ft)	(°C)	(µS/cm) 301-61	(mg/L)	7.39	(mv)	(NTU) 3. j2	alor up to los he s
1200	-	0.00	-	12 15	501-61	10.35	+. 21	166-0	3.12	clear, no odor, no s
1205							_			Sample
	•									
		-								
										· · · · · · · · · · · · · · · · · · ·
					_					×
			1				Ending M/	l ater Level (f	+ TOC):	
otal Liters	Purged:		Total Casing V	Volumes Re	moved:		Ending wa			
	INVENTO									
	INVENTO					Appear		1		Remarks
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Color	Turbidity & Sediment			Remarks
1205	40 mL	VOA	3	N	N/A	clear				
1	250 mL	Amber	2	N	H2SO4					
	250 mL	Poly	2	N	N/A					
	250 mL	Poly	1	Y	N/A		2			
	250 mL	Poly	1	Y	HNO3					
-	500 mL	Poly	1	Y 1	HNO3 N/A					
AETHOD	500 mL	Poly			1973					
		with (instrumen	t model & serial	number):		AquaTroll (Pini	Purple), Tu	urbidimeter	Pink/RinkYellow	WLI 150 (Blue/white) / (yellow red)
					p/Peristaltic put				+ DI water	
				Drum on s	Dures	e to gre	md			
		Water:								2
Observatio	ns/Commen	ts: Clear	no od	ior n	0 Sheev	<u>л</u>				

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ROUNE	WATER S	AMPLING R	ECORD			WELL NUMBE	r: <u>Su</u>	1-6		Page: of
roject Nar	ne:	Hansville Land	fill Q4 2024			Project Numbe	r:	AS160423		
ate:	10/16/2024					-				
ampled by		Sim					Starting W	ater Level (ft TOC):	Laura Da Har Stream
leasuring	Point of Well	:	NTOC				Sample Int	ake Depth (pling (ft TOC):	level in the Streem
creened in	nterval (ft. bg Interval (ft. b	: s) gs)	~						ies):	
nor i dok		90)		() (9) -	— (1)					
					(L) 46 L/ft 6	" = 5.56 L/ft				
	ONDITION		2 - 0.02 1511	4 - 2.		0.00 En				
	ition:				Well Sealed?	-		Lock Prese	ent? ~	
anding W	ater in Vault	?				Ecology Well T	ag Present	(and Num	per if yes)?	
URGIN		REMENTS								
	on Criteria	Typical	Stable		: 0%	± 10%	± 0.1	± 10 mV	± 10% (or 3 succesive <	
	nsecutive ings):	0.1-0.5 Lpm	(<0.3 ft target)	na	± 3%	(or ± 0.5 mg/L if < 1 mg/L)	± 0.1	±1010V	10 NTU)	
Time	Cumul.	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	pН	ORP	Turbidity	Comments
	Volume (L)	(mL/min)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	
1450	-	0.10	-	12.03	130.42	10.16	7.24	169.0	9.2	Clear, no odor, no s
									_	
455			-							Sample
						•				
						I				
otal Liters	Purged:		Total Casing	/olumes Re	moved:		Ending Wa	ater Level (f	(100):	
	INVENTO									
AMPLE	INVENTO					Appear	ance	1		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Color	Turbidity & Sediment			Remarks
1455	40 mL	VOA	3	N	N/A	Clear	9-2			
1			2	N	H2SO4		1			
-	250 mL	Amber	2	N	N/A					
	250 mL	Poly	1	Y	N/A N/A					
-	250 mL 250 mL	Poly	1	Y	HNO3					
	500 mL	Poly	1	Ŷ	HNO3					
V	500 mL	Poly	1	1	N/A	· y	V			<i>i</i>
IETHO						0			0	
										, WLI 150 (Blue/white) / (yellow red)
urging Eq	uipment:		Dedicated bl	adder pumj	Peristaltic put	Decon Equip	ment:	Aloconox	+ DI water	
isposal of	f Discharged	Water:		Drum on s	ite to H	AL Grow	nd			
		Nh	Color L	alt di	in Fino	Guspy	ded	Salim	ents ob	served in
heanvatio	ns/Commen	ts: IVV		van VI	and the			the stress .		

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ROUND	WATER	AMPLING R	ECORD	C 1		WELL NUMBE	R: SW	-7		Page: of
		Hansville Land								
roject Nam	ie: •	Tiansville Lanu				Project Numbe	r:	AS160423		
anpled by:	<u>10/16/2024</u> :	Rive	0				Starting Wa	ater Level (ft TOC): 🛛 🛥	
teasuring F	Point of Well		NTOC				Sample Int	ake Depth (ft TOC): Mid	Havel in the stream
creened in	terval (ft. bo	s)	-				Total Depth	n After Sam	pling (ft TOC):	
ilter Pack I	nterval (ft. b	gs)					Casing Dia	meter (inch	ies):	
					(L)					
		0.09 L/ft 2	2" = 0.62 L/ft	4" = 2.	46 L/ft 6	8" = 5.56 L/ft		-		
	NDITION				Well Sealed?			Lock Prese	ent?	~
ault Condi	uon:	?		2	Weil Sealed :				per if yes)?	
PURGING Stabilizatio		REMENTS				± 10%			± 10%	
(for 3 con		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	(or ± 0.5 mg/L if	± 0.1	± 10 mV	(or 3 succesive <	
readi					Specific	< 1 mg/L) Dissolved			10 NTU)	0te
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Conductance	Oxygen	рН	ORP	Turbidity	Comments
	(L)	(mL/min)	<u>(ft)</u>	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	
1345	-	0.10	-	12.50	140.03	10-58	7.60	171.8	3.58	clear, no odor, no
1350										Sample
				·						
										· ·
							Ending Wr	tor Lovel (t TOC):	
otal Liters	Purged:		Total Casing	Volumes Re	move <u>d:</u>		Ending we			
	INVENTO									
SAMPLE	INVENTO		1			Appear	ance			
	Maharan	D-HI-TINA	Quantiti	Filtration	Preservation	Color	Turbidity & Sediment	41		Remarks
Time 1350	Volume 40 mL	Bottle Type VOA	Quantity 3	N	N/A	Clear	3.58			
-72-			2	N	H2SO4	1	1			
	250 mL	Amber		N	N/A					
	250 mL	Poly	2	Y	N/A N/A					
	250 mL 250 mL	Poly Poly	1	Y	HNO3					
	500 mL	Poly	1	Y	HNO3		I.		_	
V	500 mL	Poly	1	1	N/A	9	J.			
NETHOD	S									
								rbidimeter	Pink/PinkYellow	WEI 150 (Blue/white) / (yellow red)
Purging Equ	uipment:		Dedicated bl	adder pum	Peristaltic pur	Decon Equip	ment:	Aloconox	+ DI water	
		Water:				the gro	ind			
Observation	ns/Commen	ts:								



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Peter Bannister Aspect Consulting 350 Madison Ave N Bainbridge Island, Washington 98110 Generated 11/8/2024 12:53:01 PM 5 6

JOB DESCRIPTION

Hansville Landfill 2Q_3Q_4Q Sampling

JOB NUMBER

280-198330-1

Eurofins Denver 4955 Yarrow Street Arvada CO 80002





Eurofins Denver

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization

anice S. Collin

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

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3

Qualifiers

General	Chemistry
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Qualifier	Qualifier Description
1	MS MSD: The analyte proc

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.
E	Result exceeded calibration range.

Glossary

Olossaly	
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

Eurofins Denver

Job Narrative 280-198330-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

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

Receipt

The samples were received on 10/18/2024 9:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.1°C and 1.8°C.

Subcontract Work

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

GC/MS VOA

Method 8260D_SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 280-672235. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. MW5-241016 (280-198330-1), MW6-241016 (280-198330-2), MW7-241016 (280-198330-3), MW12I-241016 (280-198330-4), MW13D-241016 (280-198330-5), MW14-241016 (280-198330-6), MW20DD-241016 (280-198330-7), SW1-241016 (280-198330-8), SW4-241016 (280-198330-9), SW6-241016 (280-198330-10), SW7-241016 (280-198330-11), TB1-241016 (280-198330-12) and TB2-241016 (280-198330-13)

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

Metals

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

General Chemistry

Method 300.0_28D: The concentration of Chloride in the matrix spike and matrix spike duplicate (MS/MSD) parent sample is higher than the highest point of the calibration range. The recoveries for the MS/MSD are not within the recovery limits of 80-120%. (280-198342-A-1), (280-198342-A-1 MS) and (280-198342-A-1 MSD)

Method 300.0_28D: The concentration of Sulfate in the matrix spike and matrix spike duplicate (MS/MSD) parent sample is higher than the highest point of the calibration range. The recoveries for the MS/MSD are still within the recovery limits of 80-120%. (280-198342-A-1), (280-198342-A-1 MS) and (280-198342-A-1 MSD)

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

Detection Summary

Client: Aspect Consulting Project/Site: Hansville Landfill

Client Sample ID: MW5-241016

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Ргер Туре
Chloride	3.4		3.0		mg/L	1	300.0	Total/NA
Sulfate	8.1		5.0		mg/L	1	300.0	Total/NA
Total Alkalinity	75		10		mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	75		10		mg/L	1	SM 2320B	Total/NA

Client Sample ID: MW6-241016

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Vinyl chloride	0.050	0.020	ug/L	1	8260D SIM	Total/NA
Manganese	190	1.0	ug/L	1	6020B	Dissolved
Chloride	4.1	3.0	mg/L	1	300.0	Total/NA
Sulfate	15	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	130	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	130	10	mg/L	1	SM 2320B	Total/NA

Client Sample ID: MW7-241016

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Туре	
Sulfate	5.7		5.0		mg/L		300.0	Total/NA	
Total Alkalinity	140		10		mg/L	1	SM 2320B	Total/NA	
Bicarbonate Alkalinity	140		10		mg/L	1	SM 2320B	Total/NA	
Total Organic Carbon - Quad	1.4		1.0		mg/L	1	SM 5310B	Total/NA	

Client Sample ID: MW12I-241016

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Vinyl chloride	0.12	0.020	ug/L	1	8260D SIM	Total/NA
Manganese	76	1.0	ug/L	1	6020B	Dissolved
Chloride	7.3	3.0	mg/L	1	300.0	Total/NA
Sulfate	12	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	140	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	140	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Quad	1.4	1.0	mg/L	1	SM 5310B	Total/NA

Client Sample ID: MW13D-241016

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	18		1.0		ug/L	1	_	6020B	Dissolved
Chloride	5.8		3.0		mg/L	1		300.0	Total/NA
Sulfate	16		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	69		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	69		10		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW14-241016

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	Method	Prep Type
Vinyl chloride	0.024	0.020	ug/L	1	8260D SIM	Total/NA
Manganese	600	1.0	ug/L	1	6020B	Dissolved
Sulfate	9.3	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	66	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	66	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Quad	2.1	1.0	mg/L	1	SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Lab Sample ID: 280-198330-1

Job ID: 280-198330-1

Lab Sample ID: 280-198330-4

Lab Sample ID: 280-198330-5

Lab Sample ID: 280-198330-6

Detection Summary

Client: Aspect Consulting Project/Site: Hansville Landfill

Client Sample ID: MW20DD-241016

Lab Sample ID: 280-198330-7

Lab Sample ID: 280-198330-8

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Р гер Туре
Vinyl chloride	0.024	0.020	ug/L	1	8260D SIM	Total/NA
Manganese	580	1.0	ug/L	1	6020B	Dissolved
Sulfate	9.2	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	67	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	67	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Quad	2.0	1.0	mg/L	1	SM 5310B	Total/NA

Client Sample ID: SW1-241016

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	Method	Prep Type
Chloride	5.8		3.0		mg/L	1	300.0	Total/NA
Sulfate	9.6		5.0		mg/L	1	300.0	Total/NA
Total Alkalinity	70		10		mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	70		10		mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Quad	1.4		1.0		mg/L	1	SM 5310B	Total/NA

Client Sample ID: SW4-241016

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Manganese	24		1.0		ug/L	1	6020B	Dissolved
Chloride	12		3.0		mg/L	1	300.0	Total/NA
Sulfate	23		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 - Quad	5.4		1.0		mg/L	1	SM 5310B	Total/NA

Client Sample ID: SW6-241016

Analyte **Result Qualifier** RL MDL Unit Dil Fac D Method Prep Type Manganese 33 1.0 ug/L 6020B Dissolved 1 Chloride 4.2 3.0 mg/L 1 300.0 Total/NA Sulfate 6.0 5.0 mg/L 1 300.0 Total/NA **Total Alkalinity** 66 10 mg/L 1 SM 2320B Total/NA **Bicarbonate Alkalinity** 66 10 mg/L SM 2320B Total/NA 1 Total Organic Carbon - Quad 8.6 SM 5310B Total/NA 1.0 mg/L 1

Client Sample ID: SW7-241016

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Manganese	7.1	1.0	ug/L	1	6020B	Dissolved
Chloride	4.8	3.0	mg/L	1	300.0	Total/NA
Sulfate	8.0	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	75	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	75	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Quad	7.1	1.0	mg/L	1	SM 5310B	Total/NA

Client Sample ID: TB1-241016

No Detections.

Client Sample ID: TB2-241016

No Detections.

This Detection Summary does not include radiochemical test results.

Lab Sample ID: 280-198330-9

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Lab Sample ID: 280-198330-10

Lab Sample	ID: 280-198330-11

Lab Sample ID: 280-198330-13

Lab Sample ID: 280-198330-12

Method Summary

Client: Aspect Consulting Project/Site: Hansville Landfill

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

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

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100 SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

Sample Summary

Client: Aspect Consulting Project/Site: Hansville Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-198330-1	MW5-241016	Water	10/16/24 10:55	10/18/24 09:05
280-198330-2	MW6-241016	Water	10/16/24 14:55	10/18/24 09:05
280-198330-3	MW7-241016	Water	10/16/24 09:50	10/18/24 09:05
280-198330-4	MW12I-241016	Water	10/16/24 12:25	10/18/24 09:05
280-198330-5	MW13D-241016	Water	10/16/24 13:40	10/18/24 09:05
280-198330-6	MW14-241016	Water	10/16/24 15:35	10/18/24 09:05
80-198330-7	MW20DD-241016	Water	10/16/24 08:50	10/18/24 09:05
30-198330-8	SW1-241016	Water	10/16/24 11:10	10/18/24 09:05
80-198330-9	SW4-241016	Water	10/16/24 12:05	10/18/24 09:05
80-198330-10	SW6-241016	Water	10/16/24 16:25	10/18/24 09:05
280-198330-11	SW7-241016	Water	10/16/24 13:50	10/18/24 09:05
280-198330-12	TB1-241016	Water	10/16/24 00:00	10/18/24 09:05
80-198330-13	TB2-241016	Water	10/16/24 00:00	10/18/24 09:05

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

Client Sample ID: MW5-241016 Date Collected: 10/16/24 10:55	5						Lab Sam	ple ID: 280-19 Matrix	98330-1 : Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			10/23/24 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	115		77 - 120					10/23/24 16:14	1
Client Sample ID: MW6-241016	;						Lab Sam	ple ID: 280-19	8330-2
Date Collected: 10/16/24 14:55								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.050		0.020		ug/L			10/23/24 16:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	115		77 - 120			-		10/23/24 16:36	1
Client Sample ID: MW7-241016	3						Lab Sam	ple ID: 280-19	8330-3
Date Collected: 10/16/24 09:50								-	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			10/23/24 16:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	114		77 - 120			-		10/23/24 16:57	1
Date Collected: 10/16/24 12:25 Date Received: 10/18/24 09:05 Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.12		0.020		ug/L			10/23/24 17:18	1
Surrogate	%Recovery	Qualifier	Limits			-	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	115		77 - 120					10/23/24 17:18	1
Client Sample ID: MW13D-2410	016						Lab Sam	ple ID: 280-19	8330-5
Date Collected: 10/16/24 13:40								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			10/23/24 17:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	114		77 - 120			-		10/23/24 17:39	1
Client Sample ID: MW14-24101 Date Collected: 10/16/24 15:35	6						Lab Sam	ple ID: 280-19 Matrix	98330-6 : Water
Date Received: 10/18/24 09:05	Desult	Qualifier			l lucit	~	Duananad	A mak	
Analyte		Qualifier	RL	MDL		<u>D</u>	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.024		0.020		ug/L			10/23/24 18:00	1
Surrogate Dibromofluoromethane (Surr)	%Recovery 114	Qualifier	Limits 77 - 120			-	Prepared	Analyzed 10/23/24 18:00	Dil Fac

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

Client Sample ID: MW20DD-24 Date Collected: 10/16/24 08:50	1016						Lab Sam	ple ID: 280-19 Matrix	8330-7 : Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.024		0.020		ug/L			10/23/24 18:22	1
Surrogate	%Recovery	Qualifier	Limits			_	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	115		77 - 120					10/23/24 18:22	1
Client Sample ID: SW1-241016							Lab Sam	ple ID: 280-19	8330-8
Date Collected: 10/16/24 11:10								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			10/23/24 18:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	114		77 - 120			-		10/23/24 18:43	1
Client Sample ID: SW4-241016							Lab Sam	ple ID: 280-19	8330-9
Date Collected: 10/16/24 12:05									: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L		•	10/23/24 19:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	115		77 - 120			-		10/23/24 19:03	1
Client Sample ID: SW6-241016							Lab Samp	le ID: 280-198	330-10
Date Collected: 10/16/24 16:25									: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			10/23/24 19:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		77 - 120			-		10/23/24 19:24	1
Client Sample ID: SW7-241016							Lab Samp	le ID: 280-198	330-11
Date Collected: 10/16/24 13:50									: Water
Date Received: 10/18/24 09:05									· mator
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L		Tepareu	10/23/24 19:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		77 - 120			-		10/23/24 19:45	1
Client Sample ID: TB1-241016							Lah Samn	le ID: 280-198	330-12
Date Collected: 10/16/24 00:00									: Water
Date Received: 10/18/24 09:05								wau IX	. water
	Pocult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzod	Dil Fac
Analyte Vinyl chloride	ND	Quaiiiiei	0.020			U	riepaieu	Analyzed 10/23/24 13:05	
	ND		0.020		ug/L			10/23/24 13:05	I
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	115		77 - 120			-	i i opui ou	10/23/24 13:05	1

Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS) Client Sample ID: TB2-241016 Lab Sample ID: 280-198330-13 Date Collected: 10/16/24 00:00 Matrix: Water Date Received: 10/18/24 09:05 Analyte RL MDL Unit D Dil Fac **Result Qualifier** Prepared Analyzed Vinyl chloride 0.020 10/23/24 13:26 ND ug/L Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac Dibromofluoromethane (Surr) 77 - 120 10/23/24 13:26 115 Method: SW846 6020B - Metals (ICP/MS) - Dissolved Client Sample ID: MW5-241016 Lab Sample ID: 280-198330-1 Date Collected: 10/16/24 10:55 Matrix: Water Date Received: 10/18/24 09:05 Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Manganese ND 1.0 10/22/24 08:13 10/23/24 19:28 ug/L Client Sample ID: MW6-241016 Lab Sample ID: 280-198330-2 Date Collected: 10/16/24 14:55 **Matrix: Water** Date Received: 10/18/24 09:05 Analyte Result Qualifier RL MDL Unit D Prepared Dil Fac Analyzed 1.0 10/22/24 08:13 10/23/24 19:46 Manganese 190 ug/L Lab Sample ID: 280-198330-3 Client Sample ID: MW7-241016 Date Collected: 10/16/24 09:50 Matrix: Water Date Received: 10/18/24 09:05 Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Manganese ND 1.0 ug/L 10/22/24 08:13 10/23/24 19:49 Client Sample ID: MW12I-241016 Lab Sample ID: 280-198330-4 Date Collected: 10/16/24 12:25 Matrix: Water Date Received: 10/18/24 09:05 Analyte **Result Qualifier** RI MDL Unit D Prepared Analyzed Dil Fac 10/22/24 08:13 10/23/24 19:53 Manganese 76 1.0 ug/L 1 Client Sample ID: MW13D-241016 Lab Sample ID: 280-198330-5 Date Collected: 10/16/24 13:40 Matrix: Water Date Received: 10/18/24 09:05 Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Manganese 1.0 ug/L 10/22/24 08:13 10/23/24 20:04 18 1 Client Sample ID: MW14-241016 Lab Sample ID: 280-198330-6 Date Collected: 10/16/24 15:35 Matrix: Water Date Received: 10/18/24 09:05 MDL Unit Analyte **Result Qualifier** RL Prepared Dil Fac D Analyzed 600 1.0 ug/L 10/22/24 08:13 10/23/24 20:07 Manganese Lab Sample ID: 280-198330-7 Client Sample ID: MW20DD-241016 Date Collected: 10/16/24 08:50 Matrix: Water Date Received: 10/18/24 09:05 Analyte RL MDL Result Qualifier Unit D Prepared Analyzed Dil Fac 1.0 10/22/24 08:13 10/23/24 20:11 Manganese 580 ug/L 1

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

Client Sample ID: SW1-241016							Lab Sam	ple ID: 280-19 Matrix	
Date Collected: 10/16/24 11:10								Matrix	: Water
Date Received: 10/18/24 09:05	Desult	Ovellfier	ы	MDI	11		Durananad	A starburge of	
Analyte	ND	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed 10/23/24 20:14	Dil Fac
Manganese	ND		1.0		ug/L		10/22/24 08:13	10/23/24 20:14	1
Client Sample ID: SW4-241016							Lab Sam	ple ID: 280-19	98330-9
Date Collected: 10/16/24 12:05								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	24		1.0		ug/L		10/22/24 08:13	10/23/24 20:18	1
Client Sample ID: SW6-241016							Lab Samp	le ID: 280-198	3330-10
Date Collected: 10/16/24 16:25									: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	33		1.0		ug/L		10/22/24 08:13		1
					U U				
Client Sample ID: SW7-241016							Lab Samp	le ID: 280-198	
Date Collected: 10/16/24 13:50								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	7.1		1.0		ug/L		10/22/24 08:13	10/23/24 20:25	1
General Chemistry									
-									
Client Sample ID: MW5-241016							Lab Sam	ple ID: 280-19	
Date Collected: 10/16/24 10:55							Lab Sam	•	
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05	Posult	Qualifier	DI	MDI	Unit	п		Matrix	: Water
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte		Qualifier	RL	MDL	Unit	D	Lab Sam	Matrix Analyzed	: Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0)	3.4	Qualifier	3.0	MDL	mg/L	D		Matrix Analyzed 10/24/24 22:28	: Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0)	3.4 8.1	Qualifier _	3.0 5.0	MDL	mg/L mg/L	<u>D</u>		Matrix Analyzed 10/24/24 22:28 10/24/24 22:28	: Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1)	3.4 8.1 ND	Qualifier _	3.0 5.0 0.030	MDL	mg/L mg/L mg/L	D		Matrix Analyzed 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44	: Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B)	3.4 8.1 ND 75	Qualifier _	3.0 5.0 0.030 10	MDL	mg/L mg/L mg/L mg/L	<u> </u>		Matrix Analyzed 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31	Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B)	3.4 8.1 ND 75 75	Qualifier _	3.0 5.0 0.030 10 10	MDL	mg/L mg/L mg/L mg/L mg/L	<u>D</u>		Matrix Analyzed 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31	: Water Dil Fac 1 1 1 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B)	3.4 8.1 ND 75 75 ND	Qualifier	3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>		Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31	: Water Dil Fac 1 1 1 1 1 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B)	3.4 8.1 ND 75 75	Qualifier _	3.0 5.0 0.030 10 10	MDL	mg/L mg/L mg/L mg/L mg/L	<u> </u>		Matrix Analyzed 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31	: Water Dil Fac 1 1 1 1 1 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B)	3.4 8.1 ND 75 75 ND	Qualifier _	3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 18:51	: Water Dil Fac 1 1 1 1 1 1 1 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016	3.4 8.1 ND 75 75 ND	Qualifier	3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L	<u> </u>	Prepared	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 18:51 ple ID: 280-19	: Water Dil Fac 1 1 1 1 1 1 1 1 2 8 8 3 3 0-2
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55	3.4 8.1 ND 75 75 ND	Qualifier	3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 18:51 ple ID: 280-19	: Water Dil Fac 1 1 1 1 1 1 1 1 208330-2
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016	3.4 8.1 ND 75 75 ND ND	Qualifier	3.0 5.0 0.030 10 10 10		mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 18:51 ple ID: 280-19	: Water Dil Fac 1 1 1 1 1 1 1 1 8 330-2 : Water
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte	3.4 8.1 ND 75 75 ND ND		3.0 5.0 0.030 10 10 10 10		mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/24/24 18:51	: Water Dil Fac 1 1 1 1 1 1 28330-2 : Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0)	3.4 8.1 ND 75 75 ND ND		3.0 5.0 0.030 10 10 10 1.0 RL		mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/24/24 18:51 Ple ID: 280-19 Matrix Analyzed	: Water Dil Fac 1 1 1 1 1 1 28330-2 : Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0)	3.4 8.1 ND 75 75 ND ND Result 4.1		3.0 5.0 0.030 10 10 10 1.0 RL 3.0		mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 18:51 ple ID: 280-19 <u>Matrix</u> <u>Analyzed</u> 10/24/24 22:39	: Water Dil Fac 1 1 1 1 1 1 1 28330-2 : Water Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1)	3.4 8.1 ND 75 75 ND ND Result 4.1 15		3.0 5.0 0.030 10 10 10 1.0 1.0 RL 3.0 5.0		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix <u>Analyzed</u> 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/24/24 18:51 ple ID: 280-19 Matrix <u>Analyzed</u> 10/24/24 22:39 10/24/24 22:39	: Water Dil Fac
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B)	3.4 8.1 ND 75 75 ND ND ND Result 4.1 15 ND		3.0 5.0 0.030 10 10 10 1.0 1.0 8 RL 3.0 5.0 0.030		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix Analyzed 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/24/24 18:51 ple ID: 280-19 Matrix Analyzed 10/24/24 22:39 10/24/24 22:39 10/23/24 13:06	: Water Dil Fac 1 1 1 1 1 1 1 1 28330-2 : Water 1 1 1 1 1 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0)	3.4 8.1 ND 75 75 ND ND ND 8 8 8 8 8 15 ND 130		3.0 5.0 0.030 10 10 10 1.0 1.0 RL 3.0 5.0 0.030 10		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix Analyzed 10/24/24 22:28 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/24/24 18:51 Ple ID: 280-19 Matrix Analyzed 10/24/24 22:39 10/24/24 22:39 10/24/24 22:39 10/23/24 13:06 10/22/24 05:14	: Water Dil Fac 1 1 1 1 1 1 1 28330-2 : Water Dil Fac 1 1
Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B) Carbonate Alkalinity (SM 2320B) Total Organic Carbon - Quad (SM 5310B) Client Sample ID: MW6-241016 Date Collected: 10/16/24 14:55 Date Received: 10/18/24 09:05 Analyte Chloride (EPA 300.0) Sulfate (EPA 300.0) Ammonia as N (EPA 350.1) Total Alkalinity (SM 2320B) Bicarbonate Alkalinity (SM 2320B)	3.4 8.1 ND 75 75 ND ND 8 Result 4.1 15 ND 130 130		3.0 5.0 0.030 10 10 10 1.0 1.0 5.0 0.030 10 10		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		Prepared Lab Sam	Matrix <u>Analyzed</u> 10/24/24 22:28 10/23/24 11:44 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/22/24 04:31 10/24/24 18:51 ple ID: 280-19 <u>Matrix</u> <u>Analyzed</u> 10/24/24 22:39 10/24/24 22:39 10/23/24 13:06 10/22/24 05:14 10/22/24 05:14	: Water Dil Fac 1 1 1 1 1 1 1 28330-2 : Water Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1

Client Sample Results

Client Sample ID: MW7-241016

Total Organic Carbon - Quad (SM

5310B)

General Chemistry

5

8 9

Lab Sample ID: 280-198330-3 Matrix: Water

Client Sample ID: MW7-241016							Lab Sam	ple ID: 280-19	98330-3
Date Collected: 10/16/24 09:50								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	ND		3.0		mg/L			10/24/24 22:50	1
Sulfate (EPA 300.0)	5.7		5.0		mg/L			10/24/24 22:50	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			10/23/24 13:50	1
Total Alkalinity (SM 2320B)	140		10		mg/L			10/22/24 05:28	1
Bicarbonate Alkalinity (SM 2320B)	140		10		mg/L			10/22/24 05:28	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			10/22/24 05:28	1
Total Organic Carbon - Quad (SM _5310B)	1.4		1.0		mg/L			10/24/24 19:21	1
Client Sample ID: MW12I-241016							Lab Sam	ple ID: 280-19	98330-4
Date Collected: 10/16/24 12:25								-	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	7.3	·	3.0		mg/L		•	10/24/24 23:01	1
Sulfate (EPA 300.0)	12		5.0		mg/L			10/24/24 23:01	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			10/23/24 13:59	1
Total Alkalinity (SM 2320B)	140		10		mg/L			10/22/24 05:36	1
Bicarbonate Alkalinity (SM 2320B)	140		10		mg/L			10/22/24 05:36	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			10/22/24 05:36	1
Total Organic Carbon - Quad (SM	1.4		1.0		mg/L			10/24/24 19:36	1
_5310B)					0				
 Client Sample ID: MW13D-241016							l ah Sam	ple ID: 280-19	98330-5
Date Collected: 10/16/24 13:40							Lab Gain		: Water
Date Received: 10/18/24 09:05								Matrix	. Water
Analyte	Result	Qualifier	RL	мы	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	5.8		3.0		mg/L		Tiepureu	10/24/24 23:12	1
Sulfate (EPA 300.0)	16		5.0		mg/L			10/24/24 23:12	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			10/23/24 14:01	1
Total Alkalinity (SM 2320B)	69		10		mg/L			10/22/24 05:43	
Bicarbonate Alkalinity (SM 2320B)	69		10		mg/L			10/22/24 05:43	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			10/22/24 05:43	1
Total Organic Carbon - Quad (SM	ND		1.0		mg/L			10/25/24 07:24	
_5310B)	ND		1.0		ilig/L			10/23/24 07.24	I
Client Sample ID: MW14-241016							Lab Sam	ple ID: 280-19	98330-6
Date Collected: 10/16/24 15:35								Matrix	: Water
Date Received: 10/18/24 09:05									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	ND		3.0		mg/L			10/24/24 23:23	1
Sulfate (EPA 300.0)	9.3		5.0		mg/L			10/24/24 23:23	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			10/23/24 14:03	1
Total Alkalinity (SM 2320B)	66		10		mg/L			10/22/24 05:50	1
Bicarbonate Alkalinity (SM 2320B)	66		10		mg/L			10/22/24 05:50	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			10/22/24 05:50	1

Eurofins Denver

10/25/24 08:28

1.0

mg/L

2.1

1

Client Sample Results

Client Sample ID: MW20DD-241016

General Chemistry

Job ID: 280-198330-1

Lab Sample ID: 280-198330-7 Wat

Date Received: 10/18/24 09:05 Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chlonde (EPA 300.0) ND 3.0 mg/L 10/25/24 00:40 1 Sulfate (EPA 300.0) 9.2 5.0 mg/L 10/25/24 00:40 1 Ammonia as N (EPA 330.1) ND 0.030 mg/L 10/25/24 00:40 1 Total Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Blcarbonate Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Total Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Total Organic Carbon - Quad (SM 2.0 1.0 mg/L 10/25/24 07:41 1 5310B 53 3.0 mg/L 10/25/24 00:51 1 Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Suffate (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Suffate (E
Chloride (EPA 300.0) ND 3.0 mg/L 10/25/24 00:40 1 Sulfate (EPA 300.0) 9.2 5.0 mg/L 10/25/24 00:40 1 Ammonia as N (EPA 330.1) ND 0.030 mg/L 10/23/24 14:05 1 Total Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Bicarbonate Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Cathonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Total Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Cathorate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Statiation of the experimental strength Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 1 Admonia as N (EPA 350.1) ND 0.030 mg/L 10/22/24 00:51 1
Sulfate (EPA 300.0) 9.2 5.0 mg/L 10/25/24 00:40 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:05 1 Total Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Bicarbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Total Organic Carbon - Quad (SM 2.0 1.0 mg/L 10/22/24 05:57 1 StolB ND 10 mg/L 10/22/24 05:57 1 Client Sample ID: SW1-241016 Eab Sample ID: 280-198330-8 Matrix: Water Date Collected: 10/16/24 11:10 MML Unit D Prepared Analyzed DII Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Aumonia as N (EPA 350.1) ND 0.030 mg/L 10/22/24 00:61 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L
Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:05 1 Total Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Bicarbonate Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Carbonate Alkalinity (SM 2320B) ND 1.0 mg/L 10/22/24 05:57 1 Total Organic Carbon - Quad (SM 2.0 1.0 mg/L 10/22/24 07:41 1 S310B) Etab Sample ID: SW1-241016 Etab Sample ID: 280-198330-8 Matrix: Water Date Received: 10/18/24 09:05 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chioride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 330.0) ND 0.030 mg/L 10/22/24 06:04<
Total Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Bicarbonate Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Total Organic Carbon - Quad (SM 2.0 1.0 mg/L 10/25/24 07:41 1 5310B) Client Sample ID: SW1-241016 Lab Sample ID: 280-198330-8 Matrix: Water Date Collected: 10/16/24 11:10 Date Received: 10/18/24 09:05 Matrix: Water Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DI Fac Chioride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Suffate (EPA 300.1) ND 0.030 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Gar
Bicarbonate Alkalinity (SM 2320B) 67 10 mg/L 10/22/24 05:57 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Total Organic Carbon - Quad (SM 2.0 1.0 mg/L 10/25/24 07:41 1 S310B) Client Sample ID: SW1-241016 Lab Sample ID: 280-198330-8 Matrix: Water Date Collected: 10/16/24 11:10 Date Received: 10/18/24 09:05 Matrix: Water Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chioride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Suifate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 <
Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 05:57 1 Total Organic Carbon - Quad (SM 2.0 1.0 mg/L 10/25/24 07:41 1 S310B) Client Sample ID: SW1-241016 Lab Sample ID: 280-198330-8 Matrix: Water Date Collected: 10/16/24 11:10 Matrix: Water Matrix: Water Matrix: Water Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 S10B) Client Sample ID: SW4-241016 Lab Sample ID: 280-198330-9 Matrix: Water Date Received: 10/16/24 12:05 Eab Sample ID: 280-198330-9 Matrix: Wat
Total Organic Carbon - Quad (SM 5310B) 2.0 1.0 mg/L 10/25/24 07:41 1 Client Sample ID: SW1-241016 Date Collected: 10/16/24 11:10 Date Received: 10/18/24 09:05 Analyte Lab Sample ID: 280-198330-8 Matrix: Water Chioride (EPA 300.0) 5.8 3.0 mg/L D Prepared Analyzed Dil Fac Chioride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/25/24 00:51 1 Garbonate Alkalinity (SM 2320B) 70 10 mg/L 10/25/24 00:64 1 Garbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 Sat0B) ND 10 mg/L 10/25/24 07:58 1 Client Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Date Received: 10/18/24 09:05 Lab Sample ID: 280-198330-9 Matrix: Water Client Sample ID: SW4-241016 Date Collected: 10/18/24 09:05 Result Qualifier RL 3.0 MDL Unit D
Sande ID: SW1-241016 Lab Sample ID: 280-198330-8 Matrix: Water Date Collected: 10/16/24 11:10 Date Collected: 10/18/24 09:05 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/25/24 00:51 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/25/24 07:58 1 Client Sample ID: SW4-241016 Lab Sample ID: 280-198330-9 Matrix: Water Date Collected: 10/16/24 12:05 Result Qualifier RL MDL <th< td=""></th<>
Client Sample ID: SW1-241016 Date Collected: 10/16/24 11:10 Date Received: 10/18/24 09:05 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Armmonia as N (EPA 350.1) ND 0.030 mg/L 10/25/24 00:51 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Garbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/25/24 07:58 1 Client Sample ID: SW4-241016 Lab Sample ID: 280-198330-9 Matrix: Water Matrix: Water Date Received: 10/16/24 12:05 Eab mg/L
Date Collected: 10/16/24 11:10 Date Received: 10/18/24 09:05 Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:07 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 5310B) Elab Sample ID: SW4-241016 Matrix: Water Matrix: Water Matrix: Water Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 07:58 1 Sulfate (EPA 300.0) 12
Date Received: 10/18/24 09:05 Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/25/24 00:51 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Sattor of the alkalinity (SM 2320B) ND 10 mg/L 10/25/24 07:58 1 Client Sample ID: SW4-241016 Eab Sample ID: 280-198330-9 Matrix: Water Matrix: Water Mat
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:07 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 SatioB) Eleb Sample ID: SW4-241016 Matrix: Water Matrix: Water Matrix: Water Date Collected: 10/16/24 12:05 Result Qualifier RL MDL Unit D
Chloride (EPA 300.0) 5.8 3.0 mg/L 10/25/24 00:51 1 Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/25/24 00:51 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 S310B) Eab Sample ID: SW4-241016 Lab Sample ID: 280-1988330-9 Matrix: Water Date Collected: 10/16/24 12:05 Matrix: Water Matrix: Water 10/25/24 07:58 1 Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L </td
Sulfate (EPA 300.0) 9.6 5.0 mg/L 10/25/24 00:51 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:07 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 Salte Collected: 10/16/24 12:05 Eab Sample ID: SW4-241016 Eab Sample ID: 280-198330-9 Matrix: Water Date Collected: 10/16/24 12:05 Matrix: Water Matrix: Water Matrix: Water Date Received: 10/18/24 09:05 Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1
Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:07 1 Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 S310B) 1.4 1.0 mg/L 10/25/24 07:58 1 Client Sample ID: SW4-241016 Lab Sample ID: 280-198330-9 Matrix: Water Date Collected: 10/16/24 12:05 Matrix: Water Matrix: Water Date Received: 10/18/24 09:05 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/23/24 14:09 1 Ammon
Total Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 S310B) S310B) 1.4 1.0 mg/L 10/25/24 07:58 1 Client Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Date Received: 10/18/24 09:05 Lab Sample ID: 280-198330-9 Matrix: Water Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1 </td
Bicarbonate Alkalinity (SM 2320B) 70 10 mg/L 10/22/24 06:04 1 Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 5310B) Client Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Lab Sample ID: 280-198330-9 Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:04 1 Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 S310B) Client Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Date Received: 10/18/24 09:05 Lab Sample ID: 280-198330-9 Matrix: Water Analyte Result Chloride (EPA 300.0) Result 12 Qualifier RL 3.0 MDL mg/L Unit D Prepared 10/25/24 01:02 Dil Fac 10/25/24 01:02 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Total Organic Carbon - Quad (SM 1.4 1.0 mg/L 10/25/24 07:58 1 S310B) Client Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Date Received: 10/18/24 09:05 Lab Sample ID: 280-198330-9 Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
5310B) Lab Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Matrix: Water Date Received: 10/18/24 09:05 Malyte Analyte Result Qualifier Chloride (EPA 300.0) 12 Sulfate (EPA 300.0) 23 Ammonia as N (EPA 350.1) ND Output mg/L Unit 10/25/24 01:02 10/23/24 14:09 1
Client Sample ID: SW4-241016 Date Collected: 10/16/24 12:05 Lab Sample ID: 280-198330-9 Date Received: 10/18/24 09:05 Matrix: Water Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L D Prepared Analyzed Dil Fac Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Date Collected: 10/16/24 12:05 Matrix: Water Date Received: 10/18/24 09:05 Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Date Collected: 10/16/24 12:05 Matrix: Water Date Received: 10/18/24 09:05 Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Date Received: 10/18/24 09:05 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Chloride (EPA 300.0) 12 3.0 mg/L 10/25/24 01:02 1 Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Sulfate (EPA 300.0) 23 5.0 mg/L 10/25/24 01:02 1 Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:09 1
Total Alkalinity (SM 2320B) 150 10 mg/L 10/22/24 06:11 1
Bicarbonate Alkalinity (SM 2320B) 150 10 mg/L 10/22/24 06:11 1
Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:11 1
Total Organic Carbon - Quad (SM 5.4 1.0 mg/L 10/25/24 08:12 1
_5310B)
Client Sample ID: SW6-241016 Lab Sample ID: 280-198330-10
Date Collected: 10/16/24 16:25 Matrix: Water
Date Received: 10/18/24 09:05
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac
Chloride (EPA 300.0) 4.2 3.0 mg/L 10/25/24 01:13 1
Sulfate (EPA 300.0) 6.0 5.0 mg/L 10/25/24 01:13 1
Ammonia as N (EPA 350.1) ND 0.030 mg/L 10/23/24 14:12 1
Total Alkalinity (SM 2320B) 66 10 mg/L 10/22/24 06:19 1
Bicarbonate Alkalinity (SM 2320B) 66 10 mg/L 10/22/24 06:19 1
Carbonate Alkalinity (SM 2320B) ND 10 mg/L 10/22/24 06:19 1

5310B)

8

General Chemistry

Client Sample ID: SW7-241016 Date Collected: 10/16/24 13:50 Date Received: 10/18/24 09:05						Lab Sam	ole ID: 280-198 Matrix	330-11 : Water
Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.8		3.0	mg/L			10/25/24 01:24	1
Sulfate (EPA 300.0)	8.0		5.0	mg/L			10/25/24 01:24	1
Ammonia as N (EPA 350.1)	ND		0.030	mg/L			10/23/24 14:14	1
Total Alkalinity (SM 2320B)	75		10	mg/L			10/22/24 06:26	1
Bicarbonate Alkalinity (SM 2320B)	75		10	mg/L			10/22/24 06:26	1
Carbonate Alkalinity (SM 2320B)	ND		10	mg/L			10/22/24 06:26	1
Total Organic Carbon - Quad (SM _5310B)	7.1		1.0	mg/L			10/25/24 09:57	1

Surrogate Summary

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

Prep Type: Total/NA

_			Percent Surrogate Recovery (Acceptance Limits)	
		DBFM		
Lab Sample ID	Client Sample ID	(77-120)		5
280-198330-1	MW5-241016	115		
280-198330-2	MW6-241016	115		
280-198330-3	MW7-241016	114		
280-198330-4	MW12I-241016	115		
280-198330-5	MW13D-241016	114		
280-198330-6	MW14-241016	114		9
280-198330-7	MW20DD-241016	115		
280-198330-8	SW1-241016	114		C
280-198330-9	SW4-241016	115		· ·
280-198330-10	SW6-241016	113		
280-198330-11	SW7-241016	113		
280-198330-12	TB1-241016	115		
280-198330-13	TB2-241016	115		
LCS 280-672235/1002	Lab Control Sample	115		
LCSD 280-672235/3	Lab Control Sample Dup	116		
MB 280-672235/6	Method Blank	116		
Surrogate Legend				1

DBFM = Dibromofluoromethane (Surr)

Job ID: 280-198330-1

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

Lab Sample ID: MB 280-6	72235/6						Clie	ent Samp	ole ID: Method	d Blan
Matrix: Water									Prep Type: Te	otal/N
Analysis Batch: 672235										
-	Ν	AB MB								
Analyte	Res	ult Qualifier	RL	м	DL Unit	D	Р	repared	Analyzed	Dil Fa
Vinyl chloride			0.020		ug/L				10/23/24 12:44	
VillyFolionae			0.020		ug/L				10/20/24 12:44	
	Л	NB MB								
Surrogate	%Recove	ery Qualifier	Limits				Р	repared	Analyzed	Dil Fa
Dibromofluoromethane (Surr)		16	77 - 120					opulou	10/23/24 12:44	
	,	10	11 - 120						10/23/24 12.44	
Lab Sample ID: LCS 280-(Matrix: Water	672235/1002					Clien	t Sar	nple ID:	Lab Control S Prep Type: T	
Analysis Batch: 672235										
			Spike	LCS I	201				%Rec	
Amelia			•	-		1124	-	0/ P -		
Analyte			Added		Qualifier	Unit	_ <u>D</u>	%Rec	Limits	
Vinyl chloride			1.00	1.17		ug/L		117	40 - 144	
_	LCS I									
Surrogate	%Recovery	Qualifier	Limits							
Dibromofluoromethane (Surr)	115		77 - 120							
Lab Sample ID: LCSD 280)-672235/3				C	lient San	nple	ID: Lab	Control Samp	ole Du
Matrix: Water							÷		Prep Type: T	
Analysis Batch: 672235										
Analysis Batch. 072235			Omilia		000				0/ D = =	
			Spike	LCSD I					%Rec	RP
Analyte			Added		Qualifier	Unit	_ <u>D</u>	%Rec	Limits RPI	<u> </u>
Vinyl chloride			1.00	1.13		ug/L		113	40 - 144	4 2
	LCSD L									
Surrogate	%Recovery (Qualifier	Limits							
Dibromofluoromethane (Surr)	116		77 - 120							
lethod: 6020B - Metal	s (ICP/MS)									
							Clie	ont Sami	ole ID: Methor	d Blan
Lab Sample ID: MB 280-6								-	ole ID: Method	
Lab Sample ID: MB 280-6 Matrix: Water									e: Total Reco	verab
Lab Sample ID: MB 280-6 Matrix: Water										verab
Lab Sample ID: MB 280-6 Matrix: Water	71874/1-A	ИВ МВ							e: Total Reco	verab
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254	71874/1-A	/IB MB ult Qualifier	RL	м	DL Unit	D	F		e: Total Reco	verab
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 ^{Analyte}	71874/1-A	ult Qualifier		м		D	F P	Prep Typ	e: Total Reco Prep Batch:	verabl 67187
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 ^{Analyte}	71874/1-A			M	DL Unit	<u>D</u>	F P	Prep Typ	e: Total Reco Prep Batch: Analyzed	verabl 67187
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese	71874/1-A Res	ult Qualifier		M			P 10/2	Prep Typ repared 2/24 08:13	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21	verabl 67187 Dil Fa
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: LCS 280-0	71874/1-A Res	ult Qualifier		M			P 10/2 t Sa r	Prep Typ repared 2/24 08:13 mple ID:	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S	verab 67187 Dil Fa Sampl
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-6 Matrix: Water	71874/1-A Res	ult Qualifier		M			P 10/2 t Sa r	Prep Typ repared 2/24 08:13 mple ID:	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S e: Total Reco	verab 67187 Dil Fa Sampl verab
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-6 Matrix: Water	71874/1-A Res	ult Qualifier	1.0		ug/L		P 10/2 t Sa r	Prep Typ repared 2/24 08:13 mple ID:	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch:	verabl 67187 Dil Fa Sampl verabl
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: LCS 280-0 Matrix: Water	71874/1-A Res	ult Qualifier		M	ug/L		P 10/2 t Sa r	Prep Typ repared 2/24 08:13 mple ID:	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S e: Total Reco	verabl 67187 Dil Fa Sampl verabl
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: LCS 280-6 Matrix: Water Analysis Batch: 672254	71874/1-A Res	ult Qualifier	1.0	LCS I	ug/L		۲ 10/2 t Sar F	Prep Typ repared 2/24 08:13 mple ID:	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch:	verabl 67187 Dil Fa Sampl verabl
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-6 Matrix: Water Analysis Batch: 672254	71874/1-A Res	ult Qualifier	Spike Added	LCS I Result	ug/L	Clien	۲ 10/2 t Sar F	Prep Typ repared 2/24 08:13 mple ID: Prep Typ	e: Total Reco Prep Batch: 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits	verabl 67187 Dil Fa Sampl verabl
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-6 Matrix: Water Analysis Batch: 672254 Analyte	71874/1-A Res	ult Qualifier		LCS I	ug/L	Clien	۲ 10/2 t Sar F	Prep Typ repared 2/24 08:13 mple ID: Prep Typ %Rec	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec	verabl 67187 Dil Fa Sampl verabl
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese	71874/1-A Res 671874/2-A	ult Qualifier	Spike Added	LCS I Result	ug/L	Clien	F t Sar P	Prep Typ repared 2/24 08:13 mple ID: Prep Typ <u>%Rec</u> 99	e: Total Reco Prep Batch: 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits 85 - 117	verabl 67187 Sampl verabl 67187
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-0 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: 280-19833	71874/1-A Res 671874/2-A	ult Qualifier	Spike Added	LCS I Result	ug/L	Clien	F t Sar P	repared 2/24 08:13 mple ID: Prep Typ <u>%Rec</u> 99 –	e: Total Reco Prep Batch: 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits 85 - 117	verabl 67187
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-0 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: 280-19833 Matrix: Water	71874/1-A Res 671874/2-A	ult Qualifier	Spike Added	LCS I Result	ug/L	Clien	F t Sar P	repared 2/24 08:13 mple ID: Prep Typ <u>%Rec</u> 99 –	e: Total Reco Prep Batch: 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits 85 - 117 pple ID: MW5- Prep Type: Dis	verabl 67187 Dil Fa Sampl verabl 67187 24101 ssolve
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Manganese Lab Sample ID: LCS 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: 280-19833 Matrix: Water	71874/1-A Res 671874/2-A	ult Qualifier	Spike Added	LCS I Result	ug/L	Clien	F t Sar P	repared 2/24 08:13 mple ID: Prep Typ <u>%Rec</u> 99 –	e: Total Reco Prep Batch: 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits 85 - 117	verabl 67187 Dil Fa Sampl verabl 67187 24101 ssolve
Aethod: 6020B - Metal Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: LCS 280-0 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: 280-19833 Matrix: Water Analysis Batch: 672254	71874/1-A Res 671874/2-A	ult Qualifier	Spike Added	LCS I Result	LCS Qualifier	Clien	F t Sar P	repared 2/24 08:13 mple ID: Prep Typ <u>%Rec</u> 99 –	e: Total Reco Prep Batch: 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits 85 - 117 pple ID: MW5- Prep Type: Dis	verabl 67187 Dil Fa Sampl verabl 67187 24101 ssolve
Lab Sample ID: MB 280-6 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: LCS 280-0 Matrix: Water Analysis Batch: 672254 Analyte Manganese Lab Sample ID: 280-19833 Matrix: Water	71874/1-A 	Ample	Spike Added 40.0	LCS I Result (39.5	LCS Qualifier	Clien	F t Sam F CI	repared 2/24 08:13 mple ID: Prep Typ <u>%Rec</u> 99 –	e: Total Reco Prep Batch: Analyzed 10/23/24 19:21 Lab Control S e: Total Reco Prep Batch: %Rec Limits 85 - 117 Prep ID: MW5- Prep Type: Dis Prep Batch:	verabl 67187 Dil Fa Sampl verabl 67187 24101 ssolve

Prep Type: Total/NA

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

Lab Sample ID: 280-198330)-1 MSD						(mple ID: MV		
Matrix: Water									Prep Type: I	Diss	olved
Analysis Batch: 672254									Prep Batc	h: 67	71874
	Sample	Sample	Spike	MSD	MSD				%Rec		RP
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D %Rec	Limits I	RPD	Lim
Manganese	ND		40.0	36.9		ug/L		92	89 - 119	1	2
	·	omatog	raphy				С	lient Sam	nple ID: Meth	nod I	Blan
Method: 300.0 - Anions Lab Sample ID: MB 280-67 Matrix: Water	·	omatog	raphy				С	lient Sar	nple ID: Meth Prep Type		
Lab Sample ID: MB 280-672	·	omatog	raphy				С	lient Sam			
Lab Sample ID: MB 280-67 Matrix: Water	·	omatog MB MB	raphy				С	lient San			
Lab Sample ID: MB 280-67 Matrix: Water Analysis Batch: 672400	2400/6			RL	MDL Unit		C	lient Sam		: Tot	
Lab Sample ID: MB 280-67 Matrix: Water	2400/6	MB MB		RL 3.0	MDL Unit				Prep Type	: Tot	al/N

Lab Sample ID: LCS 280-672400/4 **Matrix: Water** Analysis Batch: 672400

· ····· , ··· · ·······················	Spike	LCS	LCS				%Rec	
Analyte	Added	-	Qualifier	Unit	D	%Rec	Limits	
Chloride	100	101		mg/L		101	90 - 110	
Sulfate	100	102		mg/L		102	90 - 110	

Lab Sample ID: LCSD 280-672400/5 Matrix: Water

matri	.	ater	
Analy	/sis	Batch:	672400

-	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	100	100		mg/L		100	90 - 110	0	10
Sulfate	100	102		mg/L		102	90 - 110	0	10

Lab Sample ID: MRL 280-672400/3 Matrix: Water

Analysis Batc	h: 672400
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	Spi	ke MRL	. MRL			%Rec		
Analyte	Add	ed Result	t Qualifier Ur	nit D	%Rec	Limits		
Chloride	5.	5.17	7 <u> </u>	g/L	103	50 - 150	 	
Sulfate	5.	5.12	2 m	g/L	102	50 - 150		

Lab Sample ID: 280-198342-A-1 MS **Matrix: Water** Analysis Batch: 672400

-	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	7700	E	50.0	7600	E 4	mg/L		-112	80 - 120	
Sulfate	850	Е	50.0	896	E 4	mg/L		94	80 - 120	

Lab Sample ID: 280-198342-A-1 MSD **Client Sample ID: Matrix Spike Duplicate** Matrix: Water Pren Type: Total/NA Analysis Batch: 672400 Spike MSD MSD Sample Sample RPD %Rec Analyte **Result Qualifier** Added Result Qualifier Unit D %Rec Limits RPD Limit 7700 E Chloride 50.0 7610 E4 mg/L -93 80 - 120 0 20

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

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

Prep	Type:	Iotal/NA
% D oo		חחם

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Client: Aspect Consulting Project/Site: Hansville Landfill

QC Sample Results

Job ID: 280-198330-1

Method: 300.0 - Anions,	Ion Chromatography (Continued)

Lab Sample ID: 280-198342-A-1 Matrix: Water	MSD								Clien	t Sa	Imp	le ID: N	latrix Spik Prep Ty			
Analysis Batch: 672400	•	•		0				_					0/ D		-	
	Sample		•	Spike		MSD	-		Unit		D	% Boo	%Rec Limits			PD mit
Analyte Sulfate	Result 850			Added 50.0		Result	E 4	anner				%Rec 96	80 - 120			mit 20
	650	E		50.0		697	⊏4		mg/L			90	00 - 120	Ľ	J	20
Lab Sample ID: 280-198342-A-1	DU											Client	Sample II	D: Du	plica	te
Matrix: Water													· Prep Ty			
Analysis Batch: 672400																
-	Sample	San	nple			DU	DU								R	PD
Analyte	Result	Qua	alifier			Result	Qua	alifier	Unit		D			RPD) Lir	ni
Chloride	7700	E				7650	Е		mg/L					0.1	1	15
Sulfate	850	Е				856	Е		mg/L					0.8	3	15
Method: 350.1 - Nitrogen, A	mmo	nia	1													
Lab Sample ID: MB 280-672236	/18										Clie	ent Sam	ple ID: M	ethod	l Blai	nk
Matrix: Water													Prep Ty	pe: To	otal/N	١A
Analysis Batch: 672236																
-		MB	MB													
Analyte	Re	sult	Qualifier		RL		MDL	Unit		D	Pi	repared	Analyz	ed	Dil F	a
Ammonia as N		ND			0.030			mg/L		_			10/23/24	11:01		
Lab Sample ID: MB 280-672236 Matrix: Water Analysis Batch: 672236	100	MB	мв								one	un oan	iple ID: Mo Prep Tyj			
Analyte	Re		Qualifier		RL		мпі	Unit		D	P	repared	Analyz	her	Dil F	a
Ammonia as N		ND	quamer		0.030			mg/L		_		lepuieu	10/23/24			-
-																
Lab Sample ID: MB 280-672236	/94										Clie	nt Sam	ple ID: M	ethod	l Blai	nł
Matrix: Water													Prep Ty	pe: To	otal/N	١A
Analysis Batch: 672236																
		MB	MB													
Analyte	Re	sult	Qualifier		RL		MDL	Unit		D	Pi	repared	Analyz	ed	Dil F	a
Ammonia as N		ND			0.030			mg/L					10/23/24	13:46		1
Lab Sample ID: LCS 280-67223 Matrix: Water	6/19								Cli	ent	Sar	nple ID	: Lab Con Prep Ty			
Analysis Batch: 672236																
				Spike		LCS	LCS	6					%Rec			
Analyte				Added		Result	Qua	alifier	Unit		D	%Rec	Limits			
Ammonia as N				2.51		2.51			mg/L			100	90 - 110			
Lab Sample ID: LCS 280-67223 Matrix: Water	6/57								Cli	ent	Sar	nple ID	: Lab Con Prep Ty			
Analysis Batch: 672236																
 * 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.				Spike		LCS	LCS	3					%Rec			
				Opine		200		-								
Analyte				Added		Result			Unit		D	%Rec	Limits			

Job ID: 280-198330-1

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Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 280-67	2236/95					Clie	nt Sai	mple ID	: Lab Cor		
Matrix: Water									Prep Ty	pe: Tot	al/NA
Analysis Batch: 672236									~ -		
			Spike	-	LCS		_	~-	%Rec		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Ammonia as N			2.51	2.54		mg/L		101	90 - 110		
Lab Sample ID: 280-198330 Matrix: Water	-1 MS						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 672236											
-	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ammonia as N	ND		1.00	1.03		mg/L		103	90 - 110		
Lab Sample ID: 280-198330 Matrix: Water	-1 MSD						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 672236	Commis	Commis	Cuilto	MOD	MOD				% Dee		000
Analyta	•	Sample	Spike Added	-	MSD Qualifier	l Init	-	0/ Baa	%Rec	000	RPD
Analyte Ammonia as N	ND	Qualifier	Added	1.06	Qualifier	Unit	D	%Rec 105	Limits	RPD 2	Limit 10
	ND		1.00	1.00		mg/L		105	90-110	2	IC
Lab Sample ID: 280-198330 Matrix: Water	-2 MS						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 672236	0	0	0						0/ D		
	•	Sample	Spike	-	MS		_	a/ -	%Rec		
Analyte	ND	Qualifier	Added	1.01	Qualifier	Unit	<u>D</u>	%Rec 101	Limits		
Ammonia as N	ND		1.00	1.01		mg/L		101	90 - 110		
Lab Sample ID: 280-198330 Matrix: Water	-2 MSD						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 672236											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ammonia as N	ND		1.00	1.03		mg/L		103	90 - 110	2	10
Lab Sample ID: 280-198330 Matrix: Water	-3 MS						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 672236	<u> </u>	. .	• "						a/ -		
		Sample	Spike		MS		_	~ -	%Rec		
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits		
Ammonia as N	ND		1.00	1.02		mg/L		102	90 - 110		
Lab Sample ID: 280-198330 Matrix: Water	-3 MSD						CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 672236											
		Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ammonia as N	ND		1.00	1.05		mg/L		104	90 - 110	3	10

Bicarbonate Alkalinity

Carbonate Alkalinity

Method: SM 2320B - Alkalinity

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Lab Sample ID: MB 280-67 Matrix: Water	1985/34								Clie	ent Sam	ple ID: M Prep Ty		
Analysis Batch: 671985													
		MB											
Analyte		Qualifier		RL		MDL	Unit	D	P	repared	Analyz	zed	Dil Fac
Total Alkalinity	ND			10			mg/L				10/22/24		1
Bicarbonate Alkalinity	ND			10			mg/L				10/22/24	01:30	1
Carbonate Alkalinity	ND			10			mg/L				10/22/24	01:30	1
Lab Sample ID: MB 280-67	1985/62								Clie	ent Sam	ple ID: M	ethod	Blank
Matrix: Water											Prep Ty	pe: To	otal/NA
Analysis Batch: 671985													
	MB	MB											
Analyte	Result	Qualifier		RL		MDL	Unit	D	Р	repared	Analyz	zed	Dil Fac
Total Alkalinity	ND			10			mg/L				10/22/24	05:10	1
Bicarbonate Alkalinity	ND			10			mg/L				10/22/24	05:10	1
Carbonate Alkalinity	ND			10			mg/L				10/22/24	05:10	1
Lab Sample ID: LCS 280-6 Matrix: Water	71985/32							Clien	t Sa	mple ID	: Lab Cor Prep Ty		
Analysis Batch: 671985													
			Spike		LCS	LCS	;				%Rec		
Analyte			Added		Result	Qua	lifier	Unit	D	%Rec	Limits		
Total Alkalinity			200		182			mg/L		91	89 - 110		
Lab Sample ID: LCS 280-6 Matrix: Water Analysis Batch: 671985	71985/60							Clien	t Sa	mple ID	: Lab Cor Prep Ty		
			Spike		LCS	LCS	;				%Rec		
Analyte			Added		Result	Qua	lifier	Unit	D	%Rec	Limits		
Total Alkalinity			200		184			mg/L		92	89 - 110		
Lab Sample ID: LCSD 280-	671985/33						С	lient Sar	nple	ID: Lab		Samp	le Dup
Matrix: Water									÷		Prep Ty		
Analysis Batch: 671985												•	
			Spike		LCSD	LCS	D				%Rec		RPD
Analyte			Added		Result	Qua	lifier	Unit	D	%Rec	Limits	RPD	Limit
Total Alkalinity			200		184			mg/L		92	89 - 110	0	10
Lab Sample ID: LCSD 280- Matrix: Water	671985/61						C	lient Sar	nple	ID: Lab	Control Prep Ty		
Analysis Batch: 671985												-	
-			Spike		LCSD	LCS	D				%Rec		RPD
Analyte			Added		Result	Qua	lifier	Unit	D	%Rec	Limits	RPD	Limit
Total Alkalinity			200		185			mg/L		93	89 - 110	1	10
Lab Sample ID: 280-19833 Matrix: Water	0-2 DU								CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 671985													
	Sample San					DU							RPD
Analyte	Result Qua	lifier			Result	Qua	lifier	Unit	_ <u>D</u>			RPD	Limit
Total Alkalinity	130				125			mg/L	_			3	10

3

NC

20

20

125

ND

mg/L

mg/L

130

ND

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

Lab Sample ID: MB 280-67 Matrix: Water	2486/4								Clie	ent Sam	ple ID: Me Prep Typ		
Analysis Batch: 672486													
		MB MB											
Analyte	Re	esult Quali	fier	RL		MDL	Unit	[D P	repared	Analyz	ed	Dil Fac
Total Organic Carbon - Quad		ND		1.0		r	mg/L				10/24/24	10:25	1
Lab Sample ID: MB 280-67 Matrix: Water	2486/68								Clie	ent Sam	ple ID: Me		
Analysis Batch: 672486											Prep Тур	Je. 10	
Analysis Batch. 072400		MB MB											
Analyte	Re	esult Quali	fier	RL	I	MDL (Unit	I	D P	repared	Analyz	ed	Dil Fac
Total Organic Carbon - Quad		ND		1.0		r	ng/L				10/25/24 (04:29	1
Lab Sample ID: LCS 280-6 Matrix: Water	72486/3							Clie	nt Sai	nple ID	: Lab Con Prep Typ		
Analysis Batch: 672486											Fiebilit	Je. 10	
ranayoro Batori. 072400			Spike		LCS	LCS					%Rec		
Analyte			Added		Result		fier	Unit	D	%Rec	Limits		
Total Organic Carbon - Quad			25.0		24.6			mg/L		98	88 - 112		
Lab Sample ID: LCS 280-6 Matrix: Water	72486/67							Clie	nt Sai	mple ID	: Lab Con Prep Typ		
Analysis Batch: 672486			Onites		1.00	1.00					0/ D = =		
Analyte			Spike Added		Result	LCS	fior	Unit	Б	%Rec	%Rec		
Total Organic Carbon - Quad			25.0		25.2	Quali	ner	Unit mg/L	D	101	Limits 88 - 112		
Lab Sample ID: 280-198123 Matrix: Water Analysis Batch: 672486	3-C-1 MS								CI	ient Sa	mple ID: M Prep Typ		
	Sample	Sample	Spike		MS	MS					%Rec		
Analyte		Qualifier	Added		Result	Quali	fier	Unit	D	%Rec	Limits		
Total Organic Carbon - Quad	ND		25.0		25.1			mg/L		100	88 - 112		
Lab Sample ID: 280-198123 Matrix: Water	3-C-1 MSD							Client	Samp	le ID: N	latrix Spik Prep Typ		
Analysis Batch: 672486													
-	Sample	Sample	Spike		MSD	MSD					%Rec		RPD
Analyte		Qualifier	Added		Result	Quali	fier	Unit	D	%Rec	Limits	RPD	Limit
Total Organic Carbon - Quad	ND		25.0		25.0			mg/L		100	88 - 112	1	15
Lab Sample ID: 280-198330 Matrix: Water	0-6 MS								Clie	ent Sam	ple ID: M Prep Typ		
Analysis Batch: 672486													
		Sample	Spike			MS					%Rec		
Analyte		Qualifier	Added		Result	Quali	fier	Unit	D	%Rec	Limits		
Total Organic Carbon - Quad	2.1		25.0		27.1			mg/L		100	88 - 112		
									Clie	ent Sam	ple ID: M	N14-2	41016
Matrix: Water)-6 MSD										Prep Typ		
Lab Sample ID: 280-198330 Matrix: Water Analysis Batch: 672486		Somela	Online		Men	Mer					Prep Typ		tal/NA
Matrix: Water	Sample	Sample Qualifier	Spike Added		MSD Result	MSD Quali	fior	Unit	D	%Rec			

QC Sample Results

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QC Association Summary

GC/MS VOA

Analysis Batch: 672235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-198330-1	MW5-241016	Total/NA	Water	8260D SIM	
280-198330-2	MW6-241016	Total/NA	Water	8260D SIM	
280-198330-3	MW7-241016	Total/NA	Water	8260D SIM	
280-198330-4	MW12I-241016	Total/NA	Water	8260D SIM	
280-198330-5	MW13D-241016	Total/NA	Water	8260D SIM	
280-198330-6	MW14-241016	Total/NA	Water	8260D SIM	
280-198330-7	MW20DD-241016	Total/NA	Water	8260D SIM	
280-198330-8	SW1-241016	Total/NA	Water	8260D SIM	
280-198330-9	SW4-241016	Total/NA	Water	8260D SIM	
280-198330-10	SW6-241016	Total/NA	Water	8260D SIM	
280-198330-11	SW7-241016	Total/NA	Water	8260D SIM	
280-198330-12	TB1-241016	Total/NA	Water	8260D SIM	
280-198330-13	TB2-241016	Total/NA	Water	8260D SIM	
MB 280-672235/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 280-672235/1002	Lab Control Sample	Total/NA	Water	8260D SIM	
LCSD 280-672235/3	Lab Control Sample Dup	Total/NA	Water	8260D SIM	

Metals

Prep Batch: 671874

Lab Sample ID 280-198330-1	Client Sample ID MW5-241016	Prep Type Dissolved	Matrix Water	Method 3005A	Prep Batch
280-198330-2	MW6-241016	Dissolved	Water	3005A	
280-198330-3	MW7-241016	Dissolved	Water	3005A	
280-198330-4	MW12I-241016	Dissolved	Water	3005A	
280-198330-5	MW13D-241016	Dissolved	Water	3005A	
280-198330-6	MW14-241016	Dissolved	Water	3005A	
280-198330-7	MW20DD-241016	Dissolved	Water	3005A	
280-198330-8	SW1-241016	Dissolved	Water	3005A	
280-198330-9	SW4-241016	Dissolved	Water	3005A	
280-198330-10	SW6-241016	Dissolved	Water	3005A	
280-198330-11	SW7-241016	Dissolved	Water	3005A	
MB 280-671874/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-671874/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-198330-1 MS	MW5-241016	Dissolved	Water	3005A	
280-198330-1 MSD	MW5-241016	Dissolved	Water	3005A	

Analysis Batch: 672254

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-198330-1	MW5-241016	Dissolved	Water	6020B	671874
280-198330-2	MW6-241016	Dissolved	Water	6020B	671874
280-198330-3	MW7-241016	Dissolved	Water	6020B	671874
280-198330-4	MW12I-241016	Dissolved	Water	6020B	671874
280-198330-5	MW13D-241016	Dissolved	Water	6020B	671874
280-198330-6	MW14-241016	Dissolved	Water	6020B	671874
280-198330-7	MW20DD-241016	Dissolved	Water	6020B	671874
280-198330-8	SW1-241016	Dissolved	Water	6020B	671874
280-198330-9	SW4-241016	Dissolved	Water	6020B	671874
280-198330-10	SW6-241016	Dissolved	Water	6020B	671874
280-198330-11	SW7-241016	Dissolved	Water	6020B	671874
MB 280-671874/1-A	Method Blank	Total Recoverable	Water	6020B	671874

QC Association Summary

Metals (Continued)

Analysis Batch: 672254 (Continued)

Lab Sample ID LCS 280-671874/2-A	Client Sample ID Lab Control Sample	Prep Type Total Recoverable	Matrix Water	Method 6020B	Prep Batch 671874
280-198330-1 MS	MW5-241016	Dissolved	Water	6020B	671874
_280-198330-1 MSD	MW5-241016	Dissolved	Water	6020B	671874

General Chemistry

Analysis Batch: 671985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-198330-1	MW5-241016	Total/NA	Water	SM 2320B	
280-198330-2	MW6-241016	Total/NA	Water	SM 2320B	
280-198330-3	MW7-241016	Total/NA	Water	SM 2320B	
280-198330-4	MW12I-241016	Total/NA	Water	SM 2320B	
280-198330-5	MW13D-241016	Total/NA	Water	SM 2320B	
280-198330-6	MW14-241016	Total/NA	Water	SM 2320B	
280-198330-7	MW20DD-241016	Total/NA	Water	SM 2320B	
280-198330-8	SW1-241016	Total/NA	Water	SM 2320B	
280-198330-9	SW4-241016	Total/NA	Water	SM 2320B	
280-198330-10	SW6-241016	Total/NA	Water	SM 2320B	
280-198330-11	SW7-241016	Total/NA	Water	SM 2320B	
MB 280-671985/34	Method Blank	Total/NA	Water	SM 2320B	
MB 280-671985/62	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-671985/32	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-671985/60	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-671985/33	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 280-671985/61	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
280-198330-2 DU	MW6-241016	Total/NA	Water	SM 2320B	

Analysis Batch: 672236

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-198330-1	MW5-241016	Total/NA	Water	350.1	
280-198330-2	MW6-241016	Total/NA	Water	350.1	
280-198330-3	MW7-241016	Total/NA	Water	350.1	
280-198330-4	MW12I-241016	Total/NA	Water	350.1	
280-198330-5	MW13D-241016	Total/NA	Water	350.1	
280-198330-6	MW14-241016	Total/NA	Water	350.1	
280-198330-7	MW20DD-241016	Total/NA	Water	350.1	
280-198330-8	SW1-241016	Total/NA	Water	350.1	
280-198330-9	SW4-241016	Total/NA	Water	350.1	
280-198330-10	SW6-241016	Total/NA	Water	350.1	
280-198330-11	SW7-241016	Total/NA	Water	350.1	
MB 280-672236/18	Method Blank	Total/NA	Water	350.1	
MB 280-672236/56	Method Blank	Total/NA	Water	350.1	
MB 280-672236/94	Method Blank	Total/NA	Water	350.1	
LCS 280-672236/19	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-672236/57	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-672236/95	Lab Control Sample	Total/NA	Water	350.1	
280-198330-1 MS	MW5-241016	Total/NA	Water	350.1	
280-198330-1 MSD	MW5-241016	Total/NA	Water	350.1	
280-198330-2 MS	MW6-241016	Total/NA	Water	350.1	
280-198330-2 MSD	MW6-241016	Total/NA	Water	350.1	
280-198330-3 MS	MW7-241016	Total/NA	Water	350.1	

Job ID: 280-198330-1

General Chemistry (Continued)

Analysis Batch: 672236 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-198330-3 MSD	MW7-241016	Total/NA	Water	350.1	

Analysis Batch: 672400

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-198330-1	MW5-241016	Total/NA	Water	300.0	
280-198330-2	MW6-241016	Total/NA	Water	300.0	
280-198330-3	MW7-241016	Total/NA	Water	300.0	
280-198330-4	MW12I-241016	Total/NA	Water	300.0	
280-198330-5	MW13D-241016	Total/NA	Water	300.0	
280-198330-6	MW14-241016	Total/NA	Water	300.0	
280-198330-7	MW20DD-241016	Total/NA	Water	300.0	
280-198330-8	SW1-241016	Total/NA	Water	300.0	
280-198330-9	SW4-241016	Total/NA	Water	300.0	
280-198330-10	SW6-241016	Total/NA	Water	300.0	
280-198330-11	SW7-241016	Total/NA	Water	300.0	
MB 280-672400/6	Method Blank	Total/NA	Water	300.0	
LCS 280-672400/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-672400/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-672400/3	Lab Control Sample	Total/NA	Water	300.0	
280-198342-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
280-198342-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-198342-A-1 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 672486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-198330-1	MW5-241016	Total/NA	Water	SM 5310B	
280-198330-2	MW6-241016	Total/NA	Water	SM 5310B	
280-198330-3	MW7-241016	Total/NA	Water	SM 5310B	
280-198330-4	MW12I-241016	Total/NA	Water	SM 5310B	
280-198330-5	MW13D-241016	Total/NA	Water	SM 5310B	
280-198330-6	MW14-241016	Total/NA	Water	SM 5310B	
280-198330-7	MW20DD-241016	Total/NA	Water	SM 5310B	
280-198330-8	SW1-241016	Total/NA	Water	SM 5310B	
280-198330-9	SW4-241016	Total/NA	Water	SM 5310B	
280-198330-10	SW6-241016	Total/NA	Water	SM 5310B	
280-198330-11	SW7-241016	Total/NA	Water	SM 5310B	
MB 280-672486/4	Method Blank	Total/NA	Water	SM 5310B	
MB 280-672486/68	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-672486/3	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 280-672486/67	Lab Control Sample	Total/NA	Water	SM 5310B	
280-198123-C-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
280-198123-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
280-198330-6 MS	MW14-241016	Total/NA	Water	SM 5310B	
280-198330-6 MSD	MW14-241016	Total/NA	Water	SM 5310B	

Job ID: 280-198330-1

Initial

Amount

5 mL

50 mL

10 mL

10 mL

20 mL

Initial

Amount

5 mL

50 mL

10 mL

10 mL

20 mL

Dil

1

1

1

1

1

1

Dil

1

1

1

1

1

1

Factor

Factor

Run

Run

Prep Type

Total/NA

Dissolved

Dissolved

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Dissolved

Dissolved

Total/NA

Total/NA

Total/NA

Total/NA

Client Sample ID: MW5-241016 Date Collected: 10/16/24 10:55 Date Received: 10/18/24 09:05

Batch

Type

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Client Sample ID: MW6-241016

Date Collected: 10/16/24 14:55

Date Received: 10/18/24 09:05

Batch

3005A

6020B

300.0

350.1

SM 2320B

SM 5310B

Batch

3005A

6020B

300.0

350.1

SM 2320B

SM 5310B

Method

8260D SIM

Method

8260D SIM

Lab

EET DEN

Matrix: Water

Lab

EET DEN

EET DEN

EET DEN

Lab Sample ID: 280-198330-1 Matrix: Water

Analyst

Prepared

or Analyzed

10/23/24 16:14 DMC

10/22/24 08:13 AMH

10/23/24 19:28 LMT

10/24/24 22:28 IRC

10/23/24 11:44 LBR

10/24/24 18:51 GMW

Lab Sample ID: 280-198330-2

10/22/24 04:31 EL

Prepared

or Analyzed

10/23/24 16:36

10/23/24 13:06 LBR

10/22/24 05:14 EL

Batch

Number

672235

671874

672254

672400

672236

671985

672486

Batch

Number

672235

671874

672254

672400

672236

671985

672486

Final

Amount

5 mL

50 mL

10 mL

10 mL

20 mL

Final

Amount

5 mL

50 mL

10 mL

10 mL

20 mL

5

12

10/22/24 08:13 AMH EET DEN 10/23/24 19:46 LMT EET DEN 10/24/24 22:39 IRC EET DEN

Analyst

DMC

10/24/24 19:07 GMW EET DEN

Lab Sample ID: 280-198330-3 Matrix: Water

Lab Sample ID: 280-198330-4

Client Sample ID: MW7-241016 Date Collected: 10/16/24 09:50 Date Received: 10/18/24 09:05

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 16:57	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 19:49	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/24/24 22:50	IRC	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 13:50	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 05:28	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/24/24 19:21	GMW	EET DEN

Client Sample ID: MW12I-241016 Date Collected: 10/16/24 12:25 Date Received: 10/18/24 09:05

[Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 17:18	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 19:53	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/24/24 23:01	IRC	EET DEN

Eurofins Denver

Matrix: Water

Client Sample ID: MW12I-241016 Date Collected: 10/16/24 12:25 Date Received: 10/18/24 09:05

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 13:59	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 05:36	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/24/24 19:36	GMW	EET DEN

Client Sample ID: MW13D-241016 Date Collected: 10/16/24 13:40 Date Received: 10/18/24 09:05

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 17:39	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 20:04	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/24/24 23:12	IRC	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 14:01	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 05:43	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/25/24 07:24	GMW	EET DEN

Client Sample ID: MW14-241016 Date Collected: 10/16/24 15:35 Date Received: 10/18/24 09:05

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 18:00	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 20:07	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/24/24 23:23	IRC	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 14:03	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 05:50	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/25/24 08:28	GMW	EET DEN

Client Sample ID: MW20DD-241016 Date Collected: 10/16/24 08:50 Date Received: 10/18/24 09:05

Ргер Туре	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 18:22	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 20:11	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/25/24 00:40	IRC	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 14:05	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 05:57	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/25/24 07:41	GMW	EET DEN

Eurofins Denver

Job ID: 280-198330-1

Lab Sample ID: 280-198330-4 Matrix: Water

Lab Sample ID: 280-198330-5

Lab Sample ID: 280-198330-6

Lab Sample ID: 280-198330-7

Matrix: Water

Matrix: Water

Matrix: Water

Initial

Amount

5 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: SW1-241016 Date Collected: 10/16/24 11:10 Date Received: 10/18/24 09:05

Batch

Type

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Client Sample ID: SW4-241016

Date Collected: 10/16/24 12:05

Date Received: 10/18/24 09:05

Batch

3005A

6020B

300.0

350.1

SM 2320B

SM 5310B

Method

8260D SIM

Lab

EET DEN

Matrix: Water

Lab Sample ID: 280-198330-8 Matrix: Water

Analyst

DMC

Prepared

or Analyzed

10/23/24 18:43

10/22/24 08:13 AMH

10/23/24 20:14 LMT

10/25/24 00:51 IRC

10/23/24 14:07 LBR

10/25/24 07:58 GMW

10/22/24 06:04 EL

Batch

Number

672235

671874

672254

672400

672236

671985

672486

Final

Amount

5 mL

50 mL

10 mL

10 mL

20 mL

5

12

Lab Sample ID: 280-198330-9 Matrix: Water

Lab Sample ID: 280-198330-10

Lab Sample ID: 280-198330-11

Batch Batch Dil Initial Final Batch Prepared Method Prep Type Туре Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Analysis 8260D SIM 5 mL 5 mL 672235 10/23/24 19:03 DMC EET DEN 1 3005A 50 mL Dissolved Prep 50 mL 671874 10/22/24 08:13 AMH EET DEN Dissolved Analysis 6020B 1 672254 10/23/24 20:18 LMT EET DEN Total/NA 300.0 10 mL Analysis 1 10 mL 672400 10/25/24 01:02 IRC EET DEN Total/NA Analysis 350.1 1 10 mL 10 mL 672236 10/23/24 14:09 LBR EET DEN Total/NA 671985 10/22/24 06:11 EL EET DEN Analysis SM 2320B 1 Total/NA Analysis 20 mL 20 mL 672486 10/25/24 08:12 GMW SM 5310B 1 EET DEN

Client Sample ID: SW6-241016 Date Collected: 10/16/24 16:25 Date Received: 10/18/24 09:05

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 19:24	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 20:21	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/25/24 01:13	IRC	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 14:12	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 06:19	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/25/24 09:43	GMW	EET DEN

Client Sample ID: SW7-241016 Date Collected: 10/16/24 13:50 Date Received: 10/18/24 09:05

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 19:45	DMC	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	671874	10/22/24 08:13	AMH	EET DEN
Dissolved	Analysis	6020B		1			672254	10/23/24 20:25	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	672400	10/25/24 01:24	IRC	EET DEN

Eurofins Denver

Matrix: Water

11/8/2024

Client Sample ID: SW7-241016 Date Collected: 10/16/24 13:50 Date Received: 10/18/24 09:05

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	672236	10/23/24 14:14	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			671985	10/22/24 06:26	EL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	672486	10/25/24 09:57	GMW	EET DEN

Client Sample ID: TB1-241016 Date Collected: 10/16/24 00:00 Date Received: 10/18/24 09:05

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 13:05	DMC	EET DEN

Client Sample ID: TB2-241016 Date Collected: 10/16/24 00:00 Date Received: 10/18/24 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analvzed	Analvst	Lab
Total/NA	Analysis	8260D SIM		1	5 mL	5 mL	672235	10/23/24 13:26	DMC	EET DEN

Laboratory References:

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

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

Matrix: Water

Matrix: Water

Lab Sample ID: 280-198330-11 Matrix: Water

Lab Sample ID: 280-198330-12

Lab Sample ID: 280-198330-13

12 13

Laboratory: Eurofins Denver

Unless otherwise noted, all analy	ytes for this laboratory were covered unde	er each accreditation/certification below.	
	_		
Authority	Program	Identification Number	Expiration Date
Washington	State	C583	08-03-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytesfor which the agency does not offer certification.Analysis MethodPrep MethodMatrixAnalyte

 SM 5310B
 Top method
 Matrix
 Matrix

 Total Organic Carbon - Quad



01 November 2024

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

RE: Hansville Landfill (28006013-2Q_3Q_4Q Sampling)

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

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

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

Associated Work Order(s) 24J0381 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, LLC

Shelly & Fish

Shelly Fishel, Project Manager

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.



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

Client Information Sampler: Risinance Fish Fish Company: Pione: Pione: <td< th=""><th></th><th>Matr (wewated Cevasal Cevasal BIT-Tissue,</th><th>C e020 - Dissolved Metals (field filtered)</th><th>A Record and a filtered) - Direct sub to ARI</th><th>Dissolved Arsenic (Direct sub to ARI)</th><th>X Z Nitrate/Nitrite (IC) - Direct sub to RRI Lacking Notes:</th><th>COC No: 280-125973-19522.1 Page: Jub #: Jub #: Jub #: A - HCL M- A - HCL M- C - Zh Acetalate P- D - NathSod R- A - HCL M- A - HCL M- A - HCL M- A - HCL M- C - Zh Acetalate P- D - NathSod R- A - Accorbic Acid Q- P - Ascorbic Acid Q- J - Divater V V - I - Ice V D - Nuater V A - EDTA Z - D - Other: Special Instru-</th><th>CC No: 180-125973-19522.1 age: Teservation Codes: Teservation Codes: Teservation Codes: Teservation Codes: A - HCL N - None A - HCL A - None A - No</th></td<>		Matr (wewated Cevasal Cevasal BIT-Tissue,	C e020 - Dissolved Metals (field filtered)	A Record and a filtered) - Direct sub to ARI	Dissolved Arsenic (Direct sub to ARI)	X Z Nitrate/Nitrite (IC) - Direct sub to RRI Lacking Notes:	COC No: 280-125973-19522.1 Page: Jub #: Jub #: Jub #: A - HCL M- A - HCL M- C - Zh Acetalate P- D - NathSod R- A - HCL M- A - HCL M- A - HCL M- A - HCL M- C - Zh Acetalate P- D - NathSod R- A - Accorbic Acid Q- P - Ascorbic Acid Q- J - Divater V V - I - Ice V D - Nuater V A - EDTA Z - D - Other: Special Instru-	CC No: 180-125973-19522.1 age: Teservation Codes: Teservation Codes: Teservation Codes: Teservation Codes: A - HCL N - None A - HCL A - None A - No
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ulting. LLC Ave N Ave N Armisrer Oceaped censulting. Com Infill Tappero Oceaped censulting. Com Infilation		Matrix Second BITTTERUN Andre BITTTERUN ANDRE BITTTER	Control Moleculi Moleculi Moleculi (field filtered) Control Moleculi Moleculi (field filtered) Control Moleculi Moleculi (field filtered)	Annonia/TOC			<u>, </u>	n Codes: M - Hexane M - Hexane N - None N - NabaO2 N - NabaO2 A - Na2O4S N - Na2O5 N
Ave N iand Zumister Ocepect conculting. con notili Tappero Ocepector Suthing. com itilication		E Lield Filtered Sample (Yes or No)	Z Alks/Cl/SO4					n Codes: M - Hexane N - None N - None O - AsNaO2 R - Na2045 Q - Na2045 Q - Na2045 Q - Na2045 R - Na22503 R - Na2045 Q - Na2045 R - Na204 R
iand Zrimister Ocepect censultisting. con ndfill Tappero Ocepect concultung. com		E Lield Filtered Sample (Yes or No)	Z Alks/CI/SO4		Dissolved Arsenic (Direct sub to ARI)			Acid N - None P - Na2045 P - Na2045 Q - Na2045 Q - Na2045 Q - Na2045 Q - Na2045 S - H2500 U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Z - other (specify) 3.NO2,0-phos subbed direct to
Zinnister Ocepect censultiting. con Idill Tappero Caspert consulting. com		Eield Filtered Sample (Yes or No)	Z Alks/CI/SO4		Y O Dissolved Arsenic (Direct sub to ARI)			Acid 7 - M22503 8 - N22503 5 - H2504 7 - T5P Dodecahydrate V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Z - other (specify) 3.NO2,0-phos subbed direct to
Zumister Ocepect censultitry. con Internation		E Field Filtered Sample (Yes or No)	Z Viks/CI/SO¢		Y O Dissolved Arsenic (Direct sub to ARI)			Acid T - TSP Dodecahydrate T - TSP Dodecahydrate V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Z - other (specify) 3.NO2.0-phos subbed direct to
		Eield Filtered Sample (Yes or No	Z Alks/Cl/SO4		A O Dissolved Arsenic (Direct sub to AF			V - McAA V - MCAA W - PH 4-5 Y - Trizma Z - other (specify) Z - other (specify) 3.NO2,0-phos subbed direct to
Project #:skip sites/ev 28006013 - 20_3 SSOW#: Sample Date		Eield Filtered Sample (Yes	Z Alks/CI/SO4		Dissolved Arsenic (Direct sui			Y - Trizma Z - other (specify) ial Instructions/Note:
Apero Caspertansuthing and ssower		Eield Filtered Sampl	Z Alks/CI/SO4		Dissolved Arsenic (Dir			ial Instructions/Note: 3.NO2.o-phos subbed direct to
Despertion Suthing Com								ial Instructions/Note: 3.NO2.o-phos subbed direct to
10.1.	A COLOR							3,NO2,o-phos subbed direct to
self i l'acc		3			X.		Diss As.NO	3,NO2,o-phos subbed direct to
T, la la	025							ARI
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mw-7-atter6	06130							
9 101HZ - 3H101 P	1225							
241016	1340							
241016	1535							
mm - 3000 - 24101 p	0850							
1-241016	0111							
241016	5021							
2H1016	1455							
6	1350 4	イ			アナト			
Possible Hazard Identification	Radioloaical		sample Disp	le Disposal (A fee Return To Client	Sample Disposal (A fee may be assessed if samples	ed if samples are	are retained longer than 1 month	han 1 month) Months
ssted: I, II, III, IV, Other (specify)			Special Instructions/QC Requirements	ctions/QC Re	equirements:			
Empty Kit Relinquished by:	ö	Time			N	Method of Shipment:		
Relinquished by Date/Time: Date/T	1123	Company Asoct	Received by:	Total	1	Date/Time:	E211 1212	Company
Relinquished by: C Date/Time:		Company	Received by			Date/Time:		Company
Relinquished by: Date/Time:		Company	Received by			Date/Time:		Company
Custody Seals Intact: Custody Seal No.:			Cooler Tem	oerature(s) °C a	Cooler Temperature(s) °C and Other Remarks:	0,300		5, O, 30C

24/0381



Eurofins - Test America - Denver

4955 Yarrow Street

Arvada CO, 80002

Analytical Report

Project Number: 28006013-2Q_3Q_4Q Sampling

Reported: 01-Nov-2024 17:52

ANALYTICAL REPORT FOR SAMPLES

Project Manager: Janice Collins

Project: Hansville Landfill

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5-241016	24J0381-01	Water	16-Oct-2024 10:55	17-Oct-2024 11:23
MW-6-241016	24J0381-02	Water	16-Oct-2024 16:25	17-Oct-2024 11:23
MW-7-241016	24J0381-03	Water	16-Oct-2024 09:50	17-Oct-2024 11:23
MW-12I-241016	24J0381-04	Water	16-Oct-2024 12:25	17-Oct-2024 11:23
MW-13D-241016	24J0381-05	Water	16-Oct-2024 13:40	17-Oct-2024 11:23
MW-14-241016	24J0381-06	Water	16-Oct-2024 15:35	17-Oct-2024 11:23
MW-20DD-241016	24J0381-07	Water	16-Oct-2024 08:50	17-Oct-2024 11:23
SW-1-241016	24J0381-08	Water	16-Oct-2024 11:10	17-Oct-2024 11:23
SW-4-241016	24J0381-09	Water	16-Oct-2024 12:05	17-Oct-2024 11:23
SW-6-241016	24J0381-10	Water	16-Oct-2024 14:55	17-Oct-2024 11:23
SW-7-241016	24J0381-11	Water	16-Oct-2024 13:50	17-Oct-2024 11:23

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Initial and continuing calibrations were within method requirements.

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

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

control limits.

Analytical Resources, L Analytical Chemists and Consult	ants	Analytical Report
Eurofins - Test America - Denver 4955 Yarrow Street	Project: Hansville Landfill Project Number: 28006013-2Q_3Q_4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Janice Collins	01-Nov-2024 17:52
	Work Order Case Narrative	
Client: Eurofins - Test America - Denver Project: Hansville Landfill Project Number: 28006013-2Q_3Q_4Q S Nork Order: 24J0381	ampling	
Sample receipt		
Samples as listed on the preceding page v regarding sample receipt, please refer to t	vere received 17-Oct-2024 11:23 under ARI work order 24J0381. ne Cooler Receipt Form.	For details
Dissolved Metals - EPA Method 200.8		
The sample(s) were prepared and analyze	d within the recommended holding times.	
nitial and continuing calibrations including	interference checks were within method requirements for reported	d elements.
The method blank(s) were clean at the rep	orting limits.	
The blank spike (BS/LCS) percent recover	ies were within control limits.	
The matrix spike (MS) percent recoveries a control limits.	and the duplicate (DUP) relative percent difference (RPD) were w	ithin advisory
Wet Chemistry		
The sample(s) were prepared and analyze	d within the recommended holding times.	
Initial and continuing calibrations were with	in method requirements	

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



Printed: 10/17/2024 12:34:34PM

WORK ORDER

24J0381

Sam		n of a final report unless other instructions are received
	- Test America - Denver	Project Manager: Shelly Fishel Project Number: 28006013-2Q_3Q_4Q Sampling
	Preservati	on Confirmation
Container ID	Container Type	рН
24J0381-01 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	120
24J0381-01 B	HDPE NM, 500 mL	
24J0381-01 C	HDPE NM, 250mL	
24J0381-02 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	12 P
24J0381-02 B	HDPE NM, 500 mL	
24J0381-02 C	HDPE NM, 250mL	
24J0381-03 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	L20
24J0381-03 B	HDPE NM, 500 mL	
24J0381-03 C	HDPE NM, 250mL	
24J0381-04 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	62p
24J0381-04 B	HDPE NM, 500 mL	
24J0381-04 C	HDPE NM, 250mL	
24J0381-05 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	LZP
24J0381-05 B	HDPE NM, 500 mL	
24J0381-05 C	HDPE NM, 250mL	
24J0381-06 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	LZP
24J0381-06 B	HDPE NM, 500 mL	
24J0381-06 C	HDPE NM, 250mL	
24J0381-07 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	42 P
24J0381-07 B	HDPE NM, 500 mL	
24J0381-07 C	HDPE NM, 250mL	
24J0381-08 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	LZP
24J0381-08 B	HDPE NM, 500 mL	
24J0381-08 C	HDPE NM, 250mL	
24J0381-09 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	LZP
24J0381-09 B	HDPE NM, 500 mL	
24J0381-09 C	HDPE NM, 250mL	
24J0381-10 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	LZP
24J0381-10 B	HDPE NM, 500 mL	
24J0381-10 C	HDPE NM, 250mL	
24J0381-11 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	1.20
24J0381-11 B	HDPE NM, 500 mL	
24J0381-11 C	HDPE NM, 250mL	



Printed: 10/17/2024 12:34:34PM

WORK ORDER

24J0381

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

Client: Eurofins - Test America - Denver

Project Manager: Shelly Fishel

Project Number: 28006013-2Q_3Q_4Q Sampling

Project: Hansville Landfill

Preservation Confirmed By

<u>10/17/24</u> Date

Analytical Resources, LLC Cooler Receipt Form Analytical Chemists and Consultants lansville (and Bill ARI Client: Project Name: 🗡 5-125973-14522.1 NA COC No(s): 280 Delivered by: Fed-Ex UPS Courier Hand Delivered Other:_ Assigned ARI Job No: 24 50 381 Tracking No: NA Preliminary Examination Phase: Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO Were custody papers included with the cooler? YES NO Were custody papers properly filled out (ink, signed, etc.) YES NO Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) Time //23 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 2009 708 124 Cooler Accepted by: _//// Time: Date: Complete custody forms and attach all shipping documents Log-In Phase: Was a temperature blank included in the cooler? NO YES Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: What kind of packing material was used? ... Was sufficient ice used (if appropriate)? YES NA NO How were bottles sealed in plastic bags? Individually Grouped Not Did all bottles arrive in good condition (unbroken)? YES NO Were all bottle labels complete and legible? YES NO Did the number of containers listed on COC match with the number of containers received? YES NO Did all bottle labels and tags agree with custody papers? YES (NO) Were all bottles used correct for the requested analyses? YES NO Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO Were all VOC vials free of air bubbles? NA YES NO Was sufficient amount of sample sent in each bottle? YES NO Date VOC Trip Blank was made at ARI..... NA Were the sample(s) split YES Date/Time: (NA) Equipment: Split by: by ARI? Date: 10/17/24 Time: 1211 ____ Labels checked by: SA Samples Logged by: 5A ** Notify Project Manager of discrepancies or concerns **

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
Additional Notes, Discrepancie		s analyes Cllsoy	lister (
requests Nit	rate /Nitrite.	5 41401920 011019	Hond, Coc
y: <mark>5</mark> A Da	5A te: 10/10 10/17/74		
6F		eceipt Form	Revision 01



Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 28006013-2Q_3Q_4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Janice Collins	01-Nov-2024 17:52

MW-5-241016

24J0381-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 10:55 30/2024 19:11
Sample Preparation:	Preparation Method: REN - EPA 3010A M Preparation Batch: BMJ0708 Prepared: 10/30/2024	Sample Size: 2 Final Volume:		Extract ID:	24J0381-01 A			
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	1.69	ug/L	



Eurofins - Test America	- Denver	Project: Hansvill	e Landfill							
4955 Yarrow Street	Pro	Project Number: 28006013-2Q_3Q_4Q Sampling					Reported:			
Arvada CO, 80002	Proj	ect Manager: Janice C	ollins				01-Nov-20	024 17:52		
		MW-5-241016								
		24J0381-01 (Wate	er)							
Wet Chemistry										
Method: EPA 300.0						S	ampled: 10/	16/2024 10:55		
Instrument: IC930 Anal	yst: LERB					A	nalyzed: 10/	17/2024 16:57		
Sample Preparation:	Preparation Method: No Prep Wet Chem						Extract ID:	24J0381-01 B		
	Preparation Batch: BMJ0440	Sample Size: 10								
	Prepared: 10/17/2024	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	3.75	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		

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Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repor 01-Nov-20			
MW-5-241016 24J0381-01 (Water)										
Wet Chemistry Method: SM 4500-P E-11						S	Sampled: 10/	16/2024 10:55		
Instrument: UV1800-2 A	Analyst: SRB							17/2024 14:00		
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5(Final Volume: 5					Extract ID:	24J0381-01 C		
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes		
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.0390	mg-P/L			



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002							Reported: 01-Nov-2024 17:52					
		MW-6-2410 24J0381-02 (Wa	- •									
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 16:25 30/2024 18:48				
Sample Preparation:	Preparation Method: REN - EPA 3010A Preparation Batch: BMJ0708 Prepared: 10/30/2024	M Sample Size Final Volume					Extract ID:	24J0381-02 A				
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes				
Arsenic, Dissolved		7440-38-2	2 1	0.0373	0.200	1.59	ug/L					



Eurofins - Test America	a - Denver	Project: Hansvill	e Landfill							
4955 Yarrow Street	Pro	Project Number: 28006013-2Q_3Q_4Q Sampling					Reported:			
Arvada CO, 80002	Proj	ect Manager: Janice C	ollins				01-Nov-20	024 17:52		
		MW-6-241016								
		24J0381-02 (Wate	er)							
Wet Chemistry										
Method: EPA 300.0						S	ampled: 10/	16/2024 16:25		
Instrument: IC930 Anal	yst: LERB					A	nalyzed: 10/	17/2024 17:57		
Sample Preparation:	Preparation Method: No Prep Wet Chem						Extract ID:	24J0381-02 B		
	Preparation Batch: BMJ0440	Sample Size: 10								
	Prepared: 10/17/2024	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	0.409	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		



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill oject Number: 2800601 ject Manager: Janice C	13-2Q_3Q_4	Q Sampling		Reported: 01-Nov-2024 17:52			
		MW-6-241016 24J0381-02 (Wate							
Wet Chemistry Method: SM 4500-P E-11						S	Sampled: 10/	16/2024 16:25	
Instrument: UV1800-2	Analyst: SRB					A	nalyzed: 10/	17/2024 14:08	
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 50 Final Volume: 5					Extract ID:	24J0381-02 C	
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes	
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.0340	mg-P/L		



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002		Project Number: 280060	Project: Hansville Landfill ject Number: 28006013-2Q_3Q_4Q Sampling ect Manager: Janice Collins 01-Nov					
		MW-7-241010 24J0381-03 (Wat	-					
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 09:50 30/2024 18:52
Sample Preparation:	Preparation Method: REN - EPA 3010A Preparation Batch: BMJ0708 Prepared: 10/30/2024	A M Sample Size: 2 Final Volume:					Extract ID:	24J0381-03 A
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	-	7440-38-2	1	0.0373	0.200	1.22	ug/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ject Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		MW-7-241016						
		24J0381-03 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 09:50
Instrument: IC930 Anal	yst: LERB					Aı	nalyzed: 10/	17/2024 18:17
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440 Prepared: 10/17/2024	Sample Size: 10 Final Volume: 1					Extract ID:	24J0381-03 B
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	0.418	mg/L	
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repor 01-Nov-20	
		MW-7-241016 24J0381-03 (Wate						
Wet Chemistry Method: SM 4500-P E-11						S	ampled: 10/	16/2024 09:50
Instrument: UV1800-2	analyst: SRB					A	nalyzed: 10/	17/2024 14:09
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5(Final Volume: 5					Extract ID:	24J0381-03 C
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.0540	mg-P/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	- Denver	Project: Hansvi Project Number: 280060 Project Manager: Janice	013-2Q_3Q_4	4Q Sampling		Reported: 01-Nov-2024 17:52				
		MW-12I-2410 24J0381-04 (Wat								
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 12:25 30/2024 18:56		
Sample Preparation:	Preparation Method: REN - EPA 3010 Preparation Batch: BMJ0708 Prepared: 10/30/2024	DA M Sample Size: 2 Final Volume:					Extract ID:	24J0381-04 A		
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes		
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	2.34	ug/L			



Eurofins - Test America	a - Denver	Project: Hansvill	e Landfill							
4955 Yarrow Street	Pro	Project Number: 28006013-2Q_3Q_4Q Sampling					Reported:			
Arvada CO, 80002	Proj	ect Manager: Janice C	ollins				01-Nov-20	24 17:52		
		MW-12I-24101	6							
		24J0381-04 (Wate	er)							
Wet Chemistry										
Method: EPA 300.0						S	ampled: 10/	16/2024 12:25		
Instrument: IC930 Anal	yst: LERB					Aı	nalyzed: 10/	17/2024 19:17		
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440	Sample Size: 10) mL				Extract ID:	24J0381-04 B		
	Prepared: 10/17/2024	Final Volume: 1								
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		

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Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		MW-12I-24101 24J0381-04 (Wate	•					
Wet Chemistry Method: SM 4500-P E-11								16/2024 12:25
Instrument: UV1800-2 A	nalyst: SRB							16/2024 12:25 17/2024 14:10
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5(Final Volume: 5					Extract ID:	24J0381-04 C
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.0500	mg-P/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002]	Project: Hansvi Project Number: 280060 Project Manager: Janice	013-2Q_3Q_4	4Q Sampling			rted: 024 17:52	
		MW-13D-2410 24J0381-05 (Wat	10					
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 13:40 30/2024 19:00
Sample Preparation:	Preparation Method: REN - EPA 3010A Preparation Batch: BMJ0708 Prepared: 10/30/2024	M Sample Size: 2 Final Volume:					Extract ID:	24J0381-05 A
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	5.11	ug/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill oject Number: 2800601 ject Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		MW-13D-24101	6					
		24J0381-05 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 13:40
Instrument: IC930 Analy	yst: LERB					A	nalyzed: 10/	17/2024 19:37
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440 Prepared: 10/17/2024	Sample Size: 10 Final Volume: 1					Extract ID:	24J0381-05 B
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pr	Project: Hansvill oject Number: 2800601 oject Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repor 01-Nov-20	
		MW-13D-24101 24J0381-05 (Wate						
Wet Chemistry Method: SM 4500-P E-11								16/2024 13:40
Instrument: UV1800-2 A Sample Preparation:	Preparation Method: SM 4500-P B-1 SRF Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 50 Final Volume: 5				A		17/2024 14:11 24J0381-05 C
Analyte Orthophosphorus		CAS Number 1426-44-42	Dilution 1	Detection Limit 0.0040	Reporting Limit 0.0040	Result 0.0840	Units mg-P/L	Notes

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Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Reported: 01-Nov-2024 17:52							
		MW-14-24101 24J0381-06 (Wat	•					
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar							*	16/2024 15:35 30/2024 19:03
Sample Preparation:	Preparation Method: REN - EPA 3010A Preparation Batch: BMJ0708 Prepared: 10/30/2024	M Sample Size: 2 Final Volume:					Extract ID:	24J0381-06 A
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	12.9	ug/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvil oject Number: 280060 ject Manager: Janice (13-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		MW-14-24101	6					
		24J0381-06 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 15:35
Instrument: IC930 Analy	yst: LERB					Aı	nalyzed: 10/	17/2024 19:57
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440 Prepared: 10/17/2024	Sample Size: 1 Final Volume:					Extract ID:	24J0381-06 B
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	0.112	mg/L	
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill oject Number: 2800601 ject Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repor 01-Nov-20	
		MW-14-241010 24J0381-06 (Wate						
Wet Chemistry Method: SM 4500-P E-11							ampled: 10/	16/2024 15:35
Instrument: UV1800-2 A	nalyst: SRB							17/2024 14:13
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 50 Final Volume: 5					Extract ID:	24J0381-06 C
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.136	mg-P/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002		Reported: 01-Nov-2024 17:52						
		MW-20DD-241 24J0381-07 (Wa						
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 08:50 30/2024 19:07
Sample Preparation:	Preparation Method: REN - EPA 3010A Preparation Batch: BMJ0708 Prepared: 10/30/2024	M Sample Size: Final Volume					Extract ID:	24J0381-07 A
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	12.8	ug/L	



	_								
Eurofins - Test America	- Denver	Project: Ha	nsville La	indfill					
4955 Yarrow Street	Pro	oject Number: 28006013-2Q_3Q_4Q Sampling						Repor	rted:
Arvada CO, 80002	Proj	ect Manager: Jan	ice Collir	18				01-Nov-20	024 17:52
		MW-20DD-2	241016						
		24J0381-07 (V	Water)						
Wet Chemistry									
Method: EPA 300.0							S	ampled: 10/	16/2024 08:50
Instrument: IC930 Analy	vst: LERB						Aı	nalyzed: 10/	17/2024 20:17
Sample Preparation:	Preparation Method: No Prep Wet Chem							Extract ID:	24J0381-07 B
	Preparation Batch: BMJ0440	Sample Siz							
	Prepared: 10/17/2024	Final Volu	me: 10 m	L					
					Detection	Reporting			
Analyte		CAS Numbe	er D	ilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-5	5-8	1	0.100	0.100	0.107	mg/L	
					Detection	Reporting			
Analyte		CAS Numbe	er D	ilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-6	5-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pr	Project: Hansvill oject Number: 2800601 oject Manager: Janice C	13-2Q_3Q_4	Reported: 01-Nov-2024 17:52				
		MW-20DD-2410 24J0381-07 (Wate						
Wet Chemistry Method: SM 4500-P E-11	what CDD							16/2024 08:50
Instrument: UV1800-2 A Sample Preparation:	Preparation Method: SM 4500-P B-1 SRF Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5 Final Volume: 5				A	,	17/2024 14:14 24J0381-07 C
Analyte Orthophosphorus		CAS Number 1426-44-42	Dilution 1	Detection Limit 0.0040	Reporting Limit 0.0040	Result 0.133	Units mg-P/L	Notes



Eurofins - Test America - DenverProject: Hansville Landfill4955 Yarrow StreetProject Number: 28006013-2Q_3Q_4Q SamplingArvada CO, 80002Project Manager: Janice Collins							Reported: 01-Nov-2024 17:52				
		SW-1-241016	í								
		24J0381-08 (Wat	er)								
Metals and Metallic C	Compounds (dissolved)										
Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 11:10 30/2024 19:38			
Sample Preparation:	Preparation Method: REN - EPA 3010A M Preparation Batch: BMJ0708 Prepared: 10/30/2024	1 Sample Size: 2 Final Volume:					Extract ID:	24J0381-08 A			
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes			
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	1.53	ug/L				



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill oject Number: 2800601 ject Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		SW-1-241016						
		24J0381-08 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 11:10
Instrument: IC930 Analy	yst: LERB					Aı	nalyzed: 10/	17/2024 20:37
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440 Prepared: 10/17/2024	Sample Size: 10 Final Volume: 1					Extract ID:	24J0381-08 B
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	1.71	mg/L	
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Reported: 01-Nov-2024 17:52				
		SW-1-241016 24J0381-08 (Wate	r)					
Wet Chemistry Method: SM 4500-P E-11						S	Sampled: 10/	16/2024 11:10
Instrument: UV1800-2 A	nalyst: SRB					А	nalyzed: 10/	17/2024 14:15
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5(Final Volume: 5					Extract ID:	24J0381-08 C
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.0350	mg-P/L	



Eurofins - Test America - Denver Project: Hansville Landfill 4955 Yarrow Street Project Number: 28006013-2Q_3Q_4Q Sampling Arvada CO, 80002 Project Manager: Janice Collins SW-4-241016						Reported: 01-Nov-2024 17:52				
		SW-4-241016 24J0381-09 (Wat								
Metals and Metallic C Method: EPA 200.8 UCT Instrument: ICPMS1 Ar								16/2024 12:05 30/2024 19:42		
Sample Preparation:	Preparation Method: REN - EPA 3010A Preparation Batch: BMJ0708 Prepared: 10/30/2024	M Sample Size: 2 Final Volume:					Extract ID:	24J0381-09 A		
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes		
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	1.65	ug/L			



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		SW-4-241016						
		24J0381-09 (Wate	r)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 12:05
Instrument: IC930 Analy	yst: LERB					Aı	nalyzed: 10/	17/2024 20:57
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440 Prepared: 10/17/2024	Sample Size: 10 Final Volume: 1					Extract ID:	24J0381-09 B
Analyte	*	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	0.735	mg/L	
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pr	Project: Hansvi oject Number: 280060 oject Manager: Janice	013-2Q_3Q_4	Q Sampling			Repo 01-Nov-2(
		SW-4-241010 24J0381-09 (Wat	-					
Wet Chemistry Method: SM 4500-P E-11	nekut SDD							16/2024 12:05 17/2024 14:16
Instrument: UV1800-2 A Sample Preparation:	Preparation Method: SM 4500-P B-1 SRI Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: : Final Volume:				A	•	24J0381-09 C
Analyte Orthophosphorus		CAS Number 1426-44-42	Dilution	Detection Limit	Reporting Limit 0.0040	Result 0.0210	Units mg-P/L	Notes



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvil oject Number: 280060 ject Manager: Janice (13-2Q_3Q_4	4Q Sampling			Repo 01-Nov-20	
		SW-6-241016					01110120	
		24J0381-10 (Wat	er)					
Metals and Metallic C	Compounds (dissolved)							
Method: EPA 200.8 UCT Instrument: ICPMS1 Ar							-	16/2024 14:55 30/2024 19:45
Sample Preparation:	Preparation Method: REN - EPA 3010A M Preparation Batch: BMJ0708 Prepared: 10/30/2024	1 Sample Size: 2 Final Volume:					Extract ID:	24J0381-10 A
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	2.67	ug/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repor 01-Nov-20	
		SW-6-241016						
		24J0381-10 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 14:55
Instrument: IC930 Anal	yst: LERB					Aı	nalyzed: 10/	17/2024 21:17
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BMJ0440 Prepared: 10/17/2024	Sample Size: 10 Final Volume: 1					Extract ID:	24J0381-10 B
Analyte	*	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill ject Number: 2800601 ect Manager: Janice C	3-2Q_3Q_4	Q Sampling			Repo 01-Nov-20	
		SW-6-241016 24J0381-10 (Wate	er)					
Wet Chemistry Method: SM 4500-P E-11						S	Sampled: 10/	16/2024 14:55
Instrument: UV1800-2 A	analyst: SRB					A	nalyzed: 10/	17/2024 14:17
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5(Final Volume: 5					Extract ID:	24J0381-10 C
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.0410	mg-P/L	



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvil oject Number: 280060 ject Manager: Janice (13-2Q_3Q_4	4Q Sampling			Repo 01-Nov-20	
		SW-7-241016	í					
		24J0381-11 (Wat	er)					
Metals and Metallic (Compounds (dissolved)							
Method: EPA 200.8 UCT Instrument: ICPMS1 Ar							-	16/2024 13:50 30/2024 19:49
Sample Preparation:	Preparation Method: REN - EPA 3010A M Preparation Batch: BMJ0708 Prepared: 10/30/2024	A Sample Size: 2 Final Volume:					Extract ID:	24J0381-11 A
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	2.42	ug/L	



Eurofins - Test America	Donvor	Project: Hansvill	o Londfill					
		5					_	
4955 Yarrow Street	Proj	ect Number: 2800601	.3-2Q_3Q_4	Q Sampling			Repo	rted:
Arvada CO, 80002	Proje	ect Manager: Janice C	ollins				01-Nov-20)24 17:52
		SW-7-241016						
		24J0381-11 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 10/	16/2024 13:50
Instrument: IC930 Analy	vst: LERB					Aı	nalyzed: 10/	17/2024 21:37
Sample Preparation:	Preparation Method: No Prep Wet Chem						Extract ID:	24J0381-11 B
	Preparation Batch: BMJ0440	Sample Size: 10						
	Prepared: 10/17/2024	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	0.200	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



Eurofins - Test America 4955 Yarrow Street Arvada CO, 80002	Pro	Project: Hansvill nject Number: 280060 ject Manager: Janice C	13-2Q_3Q_4	Q Sampling			Repor 01-Nov-20	
		SW-7-241016 24J0381-11 (Wate	er)					
Wet Chemistry Method: SM 4500-P E-11								16/2024 13:50
Instrument: UV1800-2	Analyst: SRB					A	•	17/2024 14:18
Sample Preparation:	Preparation Method: SM 4500-P B-1 SRP Preparation Batch: BMJ0437 Prepared: 10/17/2024	Sample Size: 5 Final Volume: 5					Extract ID:	24J0381-11 C
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus		1426-44-42	1	0.0040	0.0040	0.244	mg-P/L	



Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 28006013-2Q_3Q_4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Janice Collins	01-Nov-2024 17:52

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BMJ0708 - EPA 200.8 UCT-KED

Instrument: ICPMS1 Analyst: HAL

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMJ0708-BLK1)					Prepa	red: 30-Oct	-2024 Ana	lyzed: 30-	Oct-2024 17	:59		
Arsenic, Dissolved	75a	ND	0.0373	0.200	ug/L							U
LCS (BMJ0708-BS1)					Prepa	red: 30-Oct	-2024 Ana	lyzed: 30-	Oct-2024 18	:06		
Arsenic, Dissolved	75a	24.6	0.0373	0.200	ug/L	25.0		98.3	80-120			
Duplicate (BMJ0708-DUP1)		Se	ource: 24J	0381-01	Prepa	red: 30-Oct	-2024 Ana	lyzed: 30-0	Oct-2024 19	:15		
Arsenic, Dissolved	75a	1.71	0.0373	0.200	ug/L		1.69			1.59	20	
Matrix Spike (BMJ0708-MS1)		Se	ource: 24J	0381-01	Prepa	ared: 30-Oct	-2024 Ana	lyzed: 30-	Oct-2024 19	:19		
Arsenic, Dissolved	75a	26.4	0.0373	0.200	ug/L	25.0	1.69	98.9	75-125			

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



Analytical Report

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 28006013-2Q_3Q_4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Janice Collins	01-Nov-2024 17:52

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BMJ0437 - SM 4500-P E-11

Instrument: UV1800-2 Analyst: SRB

		Detection	Reporting		Spike	Source		%REC		RPD	
QC Sample/Analyte	Result	Limit	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Blank (BMJ0437-BLK1)				Prepa	red: 17-Oct	-2024 Ana	lyzed: 17-0	Oct-2024 13	:57		
Orthophosphorus	ND	0.0040	0.0040	mg-P/L							U
LCS (BMJ0437-BS1)				Prepa	red: 17-Oct	-2024 Ana	lyzed: 17-0	Dct-2024 13	:59		
Orthophosphorus	0.156	0.0040	0.0040	mg-P/L	0.150		104	90-110			
Duplicate (BMJ0437-DUP1)	Se	ource: 24J	0381-01	Prepa	red: 17-Oct	-2024 Ana	lyzed: 17-0	Oct-2024 14	:01		
Orthophosphorus	0.0400	0.0040	0.0040	mg-P/L		0.0390			2.53	20	
Matrix Spike (BMJ0437-MS1)	So	ource: 24J	0381-01	Prepa	red: 17-Oct	-2024 Ana	lyzed: 17-0	Dct-2024 14	:07		
Orthophosphorus	0.142	0.0040	0.0040	mg-P/L	0.101	0.0390	102	75-125			

ts for target a alytes in MS/MSD QC samples are advisory only ery In



Analytical Report

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 28006013-2Q_3Q_4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Janice Collins	01-Nov-2024 17:52

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BMJ0440 - EPA 300.0

Instrument: IC930 Analyst: LERB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMJ0440-BLK1)				Prepa	ared: 17-Oct	-2024 Ana	lyzed: 17-0	Det-2024 16	:17		
Nitrate-N	ND	0.100	0.100	mg/L							U
Nitrite-N	ND	0.100	0.100	mg/L							U
LCS (BMJ0440-BS1)				Prepa	ared: 17-Oct	-2024 Ana	lyzed: 17-0	Oct-2024 16	:37		
Nitrate-N	5.18	0.100	0.100	mg/L	5.00		104	90-110			
Nitrite-N	5.00	0.100	0.100	mg/L	5.00		100	90-110			
Duplicate (BMJ0440-DUP1)	S	ource: 24J	0381-01	Prepa	ured: 17-Oct	-2024 Ana	lyzed: 17-0	Dct-2024 17	:17		
Nitrate-N	3.67	0.100	0.100	mg/L		3.75			2.21	20	
Nitrite-N	ND	0.100	0.100	mg/L		ND				20	U
Matrix Spike (BMJ0440-MS1)	S	ource: 24J	0381-01	Prepa	ared: 17-Oct	-2024 Ana	lyzed: 17-0	Dct-2024 17	:37		
Nitrate-N	5.72	0.100	0.100	mg/L	2.00	3.75	98.8	80-120			
Nitrite-N	1.82	0.100	0.100	mg/L	2.00	ND	90.8	80-120			

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



WA Dept of Ecology

Ecology - Drinking Water

WADOE

WA-DW

Eurofins - Test An	nerica - Denver	Project: Hansville Landfill		
4955 Yarrow Stree	et	Project Number: 28006013-2Q_3Q_4	Q Sampling	Reported:
Arvada CO, 80002	2	Project Manager: Janice Collins		01-Nov-2024 17:52
Certified Ana	lyses included in this Rep	ort		
Analyte		Certifications		
EPA 200.8 UCT-	KED in Water			
Arsenic-75a		NELAP,WADOE,WA-DW,DoD-ELA	\P	
EPA 300.0 in Wa	ater			
Nitrate-N		DoD-ELAP,WADOE,WA-DW,NELA	٨P	
Nitrite-N		DoD-ELAP,WADOE,WA-DW,NELA	٨P	
SM 4500-P E-11	in Water			
Orthophosphor	rus	WADOE,NELAP		
Code	Description		Number	Expires
ADEC	Alaska Dept of Environmental C	Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory	Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory A	Accreditation Program	WA100006-012	05/12/2025

C558

C558

06/30/2025

06/30/2025



Analytical Report

	- Test America - Denver row Street 20, 80002	5	Hansville Landfill 28006013-2Q_3Q_4Q Sampling Janice Collins	Reported: 01-Nov-2024 17:52
		Notes and Defi	initions	
D	The reported value is from a dilution			
J	Estimated concentration value detected belo	w the reporting limit.		
U	This analyte is not detected above the repor	ting limit (RL) or if noted, no	t detected above the limit of detection (LOD).	
DET	Analyte DETECTED			
ND	Analyte NOT DETECTED at or above the	reporting limit		
NR	Not Reported			
dry	Sample results reported on a dry weight bas	is		
RPD	Relative Percent Difference			
[2C]	Indicates this result was quantified on the se	cond column on a dual colum	nn analysis.	

Stantin Collins, Jinice S Colling Returbed S Collin	4955 Yarrow Street Arvada, CO 80002 Phone (303) 736-0100 Phone (303) 431-7171	0	Chain o	of Cus	of Custody Record	ecorc							🛟 eurofins	Environment Testing
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International Dots Description Description Description Analysis Requestion 1 1 0 6.43 7 Period Period<	Ponoiste r	Phone:		M	E-Mai Janic	i: ce.Collins(Det.eurofi	nsus.com		State of Or	igin:		Page:	
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Login Sample Receipt Checklist

Client: Aspect Consulting

Login Number: 198330 List Number: 1 Creator: Naylis, Patrick J

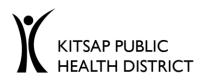
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	False	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	N/A	
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	

Job Number: 280-198330-1

List Source: Eurofins Denver

APPENDIX E

Annual Inspection Forms – Kitsap Public Health District



April 17th, 2024

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

RE: FIRST QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 1st quarter inspection of 2024 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on March 15th, 2024, at 9:00 A.M.

The following items were noted or discussed:

- The landfill cover was in good condition.
- Stormwater drainage has maintained its improved performance.
- An exposed pipe was noted on the top of the landfill. The pipe did not seem to be in use, but Alexis will investigate.

If you have any questions or comments, please feel free to contact me at (360) 728-2307.

Sincerely,

plkob Hughes

Jakob Hughes Environmental Health Specialist 2-RS Solid and Hazardous Waste Program Phone: (360)728-2307 Email: Jakob.Hughes@KitsapPublicHealth.org



kitsappublichealth.org



Closed and Abandoned Landfill Inspection Form

Hansville Landfill		
Facility Name		
7791 NE Ecology Rd		
Location of Facility		
Takoh Hughes	3/15/24	
Inspector	Date Time	

Reason for Inspection	Type of Inspection	Results	Sample Taken?
Scheduled	$\Box \text{ Annual} \\ \overline{\Box} \text{ Other } (QTR)$	☑ Compliant	🗆 Yes 🛛 🖾 No
□ Complaint □ Sample	2 Other Quiny	compliant	Attachments (photos,
□ Other		□ Non-compliant	documents, etc.)?
	· · · · · · · · · · · · · · · · · · ·		🗆 Yes 🖾 No

General

Landfill	cap is inta	ict. No garb	age/waste eroding out of the cap.
Yes 🕱	No 🗆	N/A 🗆	Citation: WAC 173-351-500(2)(a)(i)
The land Yes 🛛	dfill is und No □	eveloped. N	No construction/buildings within the active area of the landfill. Citation: <i>KCBH 2010-1-460(c)</i>
No stori	nwater is b	being detair	ned or stored on the landfill.

Citation: KCBH 2010-1-460(b)

Yes 🕅

No 🗆

N/A



The site	is free of s	solid waste,	debris, and/or illegal dumping.
Yes 🖓	No 🗆	N/A 🗆	Citation: <i>WAC 173-304-407(5)(c)</i>
The site	is free of r	noxious odd	Drs.
Yes 🛛	No 🗆	N/A 🗆	Issue: Potential cause for concern.
There ar	e no signs	of leachate	seeps coming from the landfill.
Yes 🛛	No 🗆	N/A 🗆	Issue: Potential cause for concern.

Post-Closure Monitoring (for landfills closed between 1985 and 2003)

Groundy	water is be	ing monito	red in accordance with WAC 173-304-490.
Yes 🕅	No 🗆	N/A 🗆	Citation: WAC 173-304-460(3)(g)(ii)
Marine and Annual An			
Leachate	e is being 1	monitored (if required by the Health District)
Yes 🔀	No 🗆	N/A 🗆	Citation: WAC 173-304-460(3)(g)(ii)(B)
Methane	e/landfill g	asses are b	eing monitored (if required by the Health District)
Yes 🕅	No 🗆	N/A 🗆	Citation: WAC 173-304-460(3)(g)(ii)(A)



Comments

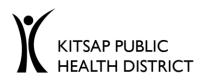
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Signatures: Environmental Health Specialist

4

Facility Representative

Date



July 3rd, 2024

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

RE: SECOND QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 2nd quarter inspection of 2024 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on June 27th, 2024, at 9:00 A.M.

The following items were noted or discussed:

- The landfill cover was in good condition.
- Stormwater drainage has maintained its improved performance.
- Landfill was recently mowed.

If you have any questions or comments, please feel free to contact me at (360) 728-2307.

Sincerely,

pokol Hughes

Jakob Hughes Environmental Health Specialist 2-RS Solid and Hazardous Waste Program Phone: (360)728-2307 Email: Jakob.Hughes@KitsapPublicHealth.org



kitsappublichealth.org



File Index: I.A.3

345 6th Street, Suite 300 Bremerton, WA 98337 360-728-2235

Closed and Abandoned Landfill Inspection Form

Hansville Landfill Facility Name		
7791 NE Ecology Rd Location of Facility		
Jakob Hughes	06/27/24 Date	<u>9`00 A.M</u> Time

Reason for Inspection	Type of Inspection	Results	Sample Taken?
Scheduled	$\square Annual \\ \blacksquare Other (Q1(2))$	Substantially ℃	🗆 Yes 🛛 No
□ Complaint □ Sample		compliant	Attachments (photos, documents, etc.)?
□ Other		□ Non-compliant	
			\Box Yes \Box No

General

Landfill	Landfill cap is intact. No garbage/waste eroding out of the cap.					
Yes 🔀	Yes 🔀 No 🗆 N/A 🗆 Citation: WAC 173-351-500(2)(a)(i)					
The land	The landfill is undeveloped. No construction/buildings within the active area of the landfill.					
Yes 🕱	Yes \overrightarrow{N} No \square N/A \square Citation: KCBH 2010-1-460(c)					
No stormwater is being detained or stored on the landfill.						
Yes 😽	No 🗆	N/A 🗆	Citation: KCBH 2010-1-460(b)			

Page 1 of 3



The site	The site is free of solid waste, debris, and/or illegal dumping.						
Yes 🕱	No 🗆	N/A 🗆	Citation: WAC 173-304-407(5)(c)				
The site	is free of r	noxious odo	ors.				
Yes 🔀	No 🗆	N/A 🗆	Issue: Potential cause for concern.				
There are no signs of leachate seeps coming from the landfill.							
Yes 🗷	No 🗆	N/A 🗆	Issue: Potential cause for concern.				

Post-Closure Monitoring (for landfills closed between 1985 and 2003)

Groundy	Groundwater is being monitored in accordance with WAC 173-304-490.					
Yes 🛣	Yes 🕅 No 🗆 N/A 🗌 Citation: WAC 173-304-460(3)(g)(ii)					
Leachate	Leachate is being monitored (if required by the Health District)					
Yes 🗙	Yes \bigtriangledown No \square N/A \square Citation: WAC 173-304-460(3)(g)(ii)(B)					
Methane/landfill gasses are being monitored (if required by the Health District)						
Yes 🔁	Yes 🔁 No 🗆 N/A 🗌 Citation: WAC 173-304-460(3)(g)(ii)(A)					



Comments

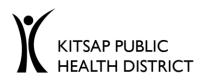
SSUPS Recently Mowed

Signatures: Environmental Health Specialist

24

Facility Representative

Date



October 30th, 2024

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

RE: THIRD QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 3rd quarter inspection of 2024 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on September 27th, 2024, at 9:00 A.M.

The following items were noted or discussed:

- The landfill cover was in good condition.
- Stormwater drainage has maintained its improved performance.

If you have any questions or comments, please feel free to contact me at (360) 728-2307.

Sincerely,

pakob Hughes

Jakob Hughes Environmental Health Specialist 2-RS Solid and Hazardous Waste Program Phone: (360)728-2307 Email: Jakob.Hughes@KitsapPublicHealth.org



kitsappublichealth.org



Closed and Abandoned Landfill Inspection Form

Hansville Lawfill (Post closure)		
Facility Name		
7791 NE ELOLOGY Rd		
Location of Facility		
Jakoh Hvales	09/27/24	9:00 A.M
Inspector	Date	Time

Reason for Inspection	Type of Inspection	Results	Sample Taken?	
Scheduled	□ Annual	Compliant	🗆 Yes 🗆 No	
Complaint	⊠ Other QTR 3	□ Substantially		
□ Sample		compliant	Attachments (photos,	
□ Other		□ Non-compliant	documents, etc.)?	
			🗆 Yes 🗆 No	

General

Landfill	Landfill cap is intact. No garbage/waste eroding out of the cap.						
Yes 📐	No 🗆	N/A 🗆	Citation: WAC 173-351-500(2)(a)(i)				
The land	fill is und	eveloped. N	No construction/buildings within the active area of the landfill.				
Yes 🔀	No 🗆	N/A 🗆	Citation: KCBH 2010-1-460(c)				
No storr	No stormwater is being detained or stored on the landfill.						
Yes 🔯	No 🗆	N/A 🗆	Citation: KCBH 2010-1-460(b)				



· ·

The site	The site is free of solid waste, debris, and/or illegal dumping.					
Yes 🔀	No 🗆	N/A 🗆	Citation: WAC 173-304-407(5)(c)			
The site	The site is free of noxious odors.					
Yes 🔯	No 🗆	N/A 🗋	Issue: Potential cause for concern.			
There are no signs of leachate seeps coming from the landfill.						
Yes 🔀	No 🗆	N/A 🗆	Issue: Potential cause for concern.			

Post-Closure Monitoring (for landfills closed between 1985 and 2003)

Groundy	Groundwater is being monitored in accordance with WAC 173-304-490.					
Yes 🕅	Yes 🕅 No 🗆 N/A 🗌 Citation: WAC 173-304-460(3)(g)(ii)					
Leachate	e is being i	monitored ((if required by the Health District)			
Yes 🕅	No 🗆	N/A 🗆	Citation: WAC 173-304-460(3)(g)(ii)(B)			
Methane/landfill gasses are being monitored (if required by the Health District)						
Yes 💟	Yes No N/A Citation: $WAC 173-304-460(3)(g)(ii)(A)$					



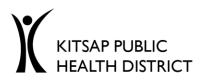
Comments

No issues			
	(
		 3	

Signatures: 4 /Environmental Health Specialist

Facility Representative

Date



December 18th, 2024

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

RE: FOURTH QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 4th quarter inspection of 2024 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on December 13th, 2024, at 9:00 A.M.

The following items were noted or discussed:

- The landfill cover was in good condition.
- Stormwater drainage has maintained its improved performance.

If you have any questions or comments, please feel free to contact me at (360) 728-2307.

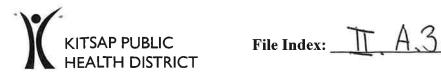
Sincerely,

pakob Hughes

Jakob Hughes Environmental Health Specialist 2-RS Solid and Hazardous Waste Program Phone: (360)728-2307 Email: Jakob.Hughes@KitsapPublicHealth.org



kitsappublichealth.org



Closed and Abandoned Landfill Inspection Form

Hansville Landfill		
Facility Name		
7791 NE Ecology Rd		
Location of Facility	(1 - 1 - 1)	
Jalsob Hughes	12/13/24	
Inspector	Date	Time

Reason for Inspection	Type of Inspection	Results	Sample Taken?	
Scheduled	□ Annual 冠Other @TR4	⊠ Compliant □ Substantially	🗆 Yes 🗆 No	
□ Sample □ Other		compliant	Attachments (photos, documents, etc.)?	
			🗆 Yes 🗆 No	

General

Landfill cap is intact. No garbage/waste eroding out of the cap.					
Yes \bigtriangledown No \Box N/A \Box Citation: WAC 173-351-500(2)(a)(i)					
The landfill is undeveloped. No construction/buildings within the active area of the landfill.					
Yes 🕅	No 🗆	N/A 🗆	Citation: <i>KCBH 2010-1-460(c)</i>		
No stormwater is being detained or stored on the landfill.					
Yes 😡 No 🗆 N/A 🗆 Citation: <i>KCBH 2010-1-460(b)</i>					

Page 1 of 3



The site is free of solid waste, debris, and/or illegal dumping.						
Yes 🕱	No 🗆	N/A 🗆	Citation: WAC 173-304-407(5)(c)		1	
				11		1
The site is free of noxious odors.				1. 1. m. "	. 1	
Yes 🔀	No 🗆	N/A 🗆	Issue: Potential cause for concern.	V		
	1				1	71,
There are no signs of leachate seeps coming from the landfill.						
Yes 🕽	No 🗆	N/A 🗆	Issue: Potential cause for concern.			

Post-Closure Monitoring (for landfills closed between 1985 and 2003)

Groundwater is being monitored in accordance with WAC 173-304-490.						
Yes 🕅	No 🗆	N/A 🗆	itation: WAC 173-304-460(3)(g)(ii)			
Leachate is being monitored (if required by the Health District)						
Yes 🔀	No 🗆	N/A 🗆	Citation: WAC 173-304-460(3)(g)(ii)(B)			
Methane/landfill gasses are being monitored (if required by the Health District)						
Yes X No \square N/A \square Citation: WAC 173-304-460(3)(g)(ii)(A)						



Comments

NO ISSU Druinage Ic	195 20155 54000		

Signatures: My Ny M Environmental Health Specialist

12/13/24

Facility Representative

Date