

November 29, 2017

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

Re: Third Quarter 2017 Environmental Monitoring Report, Hansville Landfill, Kitsap County, Washington Project No. 160423-05.1

Dear Alexis:

This quarterly report summarizes the results of the environmental monitoring conducted at the Hansville Landfill (Site) during the third quarter of 2017, and was prepared by Aspect Consulting, LLC (Aspect) on behalf of Kitsap County Public Works Solid Waste Division and Waste Management of Washington (WMW). Ongoing environmental monitoring at the Site supports the selected remedy of natural attenuation of groundwater with enhanced monitoring and institutional controls that was established under Amended Consent Decree No. 95-2-03005-1 (August 5, 2011). The data sets presented in this letter report were collected in accordance with the Site Cleanup Action Plan (CAP) and the Compliance Monitoring Plan with Sampling & Analysis Plan and Quality Assurance Plan (Compliance Monitoring Plan) (SCS, 2011), except where otherwise noted.

During the third quarter 2017, conditions monitored at the Site were consistent with historical trends showing improvements in protection of human health and the environment. This report is organized consistent with quarterly reporting topics listed in the Compliance Monitoring Plan (SCS, 2011) and includes:

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

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

Site Activities—Third Quarter 2017

Site activities included environmental monitoring of landfill gas, groundwater, and surface water. Landfill gas monitoring data are presented in Attachment A. Groundwater elevations, a groundwater contour map, and groundwater and surface water quality analytical results are presented in Attachment B. Summary statistics, time-series graphs, and graphs of projected groundwater concentrations for arsenic and vinyl chloride at selected monitoring wells are presented in Attachment C. Supporting field records, laboratory data reports, and chain-of-custody documentation are presented in Attachment D. A chronology of on-Site activities performed during the third quarter of 2017 is provided below.

- On July 11, 2017, groundwater and surface water sampling was completed by Aspect representatives. Groundwater and surface water samples were collected in accordance with the Compliance Monitoring Plan (SCS, 2011).
- On July 27, 2017, WMW personnel installed new wellheads with orifice plates on ten landfill gas extraction wells. The wells with newly installed wellheads are: R-1, R-4, R-5, R-6, R-7, R-8, R-10, TD-1, TR1, and TR-4.
- On July 11 and August 18, 2017, Aspect conducted monthly system tuning of the landfill gas system.
- On September 14 and 20, 2017, Aspect conducted landfill gas monitoring in accordance with the Compliance Monitoring Plan (SCS, 2011). During the September 14 landfill gas monitoring, flow rates at selected wells were adjusted to ensure capture of landfill gasses. These changes included increasing the flowrate at R-1, R-3, R-12, TR-2, TR-3, TR-6, and TD-1. It was also noted that the wellhead on TR-5 could not be adjusted and likely needs replacing, and an observed leak at the R-13 wellhead was patched just prior to measurement.

Deviations from the Compliance Monitoring Plan

There were deviations from the Compliance Monitoring Plan (SCS, 2011) during third quarter sampling, but these deviations do not affect project schedule for Site cleanup. The causes of the deviations are identified below, as are solutions for avoiding these issues during future monitoring events.

During first quarter sampling, samples were not able to be field filtered due to low pressures produced by dedicated pumps in the monitoring wells (Aspect, 2017). During subsequent sampling events, a peristaltic pump was used as a booster pump, with disposable tubing inserted into the outlet of the dedicated Grundfos pumps, and water pumped through a 0.45-micrometer (μ m) filter. This setup allows for samples to be field filtered as specified in the Compliance Monitoring Plan (SCS, 2011).

Summary of Landfill Gas Conditions

The following sections provide a discussion of landfill gas monitoring, gas extraction system performance, and condensate system maintenance conducted during third quarter 2017. The layout of the landfill gas extraction system is shown on Figure A-1.

Landfill Gas Monitoring

During the third quarter 2017, compliance monitoring of the landfill gas collection system and compliance probes occurred on September 14 and 20, and the landfill gas collection system was tuned on July 11 and August 18.

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

- Landfill gas composition measurements included methane (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, reported as "initial" and "adjusted," respectively.
- Collection system flow-rate measurements were obtained at selected locations. At locations with orifice plates, the differential pressure and gas temperature were measured to calculate flow. These locations include the blower inlet, extraction wells R-1 through R-8, R-10, R-11, and R-12, and trench collectors TD-1, TR-1, TR-2, TR-4, and TR-7. Table A-1 presents flow rates measured after valve adjustments, reported "adjusted."

Landfill Gas System Performance

During the third quarter 2017, the flow at the blower inlet was approximately 72.5 standard cubic feet per minute (scfm). Methane and carbon dioxide concentrations at the blower inlet remained relatively stable after increasing during the first half of 2017. Oxygen concentrations remained low after decreasing during the first half of 2017. Wellfield optimization will continue to focus on increasing methane and carbon dioxide collection rates.

Explosive Gas Control

Methane was not detected in any of the compliance gas probes. Carbon dioxide concentrations were less than 5 percent, which is within the range of natural conditions.

Summary of Groundwater and Surface Water Conditions

The following sections provide a discussion on groundwater flow, water quality, and an evaluation of statistical trends for selected groundwater parameters.

Groundwater Flow

Groundwater surface elevations from the third quarter 2017 are presented in Table B-1. Groundwater elevations ranged from 238.5 feet North American Vertical Datum of 1988 (NAVD88) in MW-12I to 268.3 feet NAVD88 in MW-5. Groundwater at the Site flows generally towards the southwest. Groundwater gradients range from 0.007 feet/feet in the upgradient areas, to 0.03 feet/feet further downgradient, with the gradient steepening as it approaches the groundwater discharge area (Figure B-1). Groundwater elevation and gradient conditions are consistent with those presented in previous monitoring events.

Groundwater and Surface Water Quality

Groundwater quality results from the third quarter 2017 are presented in Table B-2, including field parameters, conventional parameters, dissolved metals, and volatile organic compounds. During the third quarter 2017, vinyl chloride concentrations in groundwater were above the Site-specific groundwater cleanup level of 0.025 micrograms per liter (μ g/L) at three monitoring wells, including MW-6 (0.15 μ g/L), MW-12I (0.099 μ g/L), and MW-14 (0.14 μ g/L). These values are consistent with the decreasing trend in vinyl chloride concentrations observed during previous monitoring events. The arsenic concentration in groundwater was above the Site-specific cleanup levels of 0.005 milligrams per liter (mg/L) only at monitoring well MW-14 (0.015 mg/L), which is consistent with previous monitoring events.

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Surface water quality results from the third quarter 2017 are presented in Table B-3, including field parameters, conventional parameters, dissolved metals, and volatile organic compounds. During the third quarter of 2017, no volatile organic compounds were detected in surface water samples. Vinyl chloride has not been detected in surface water samples since the third quarter of 2013, and reporting limits have been less than the Site-specific cleanup level of $0.025 \,\mu$ g/L. Arsenic was detected in each surface water sample, and one sample, SW-6, had a concentration of $0.00811 \,\mu$ g/L, exceeding the Site-specific cleanup level for arsenic of $0.005 \,\mu$ g/L. The increased concentration of arsenic is likely correlated to the seasonally low stream flows. Historically, SW-6 has had arsenic exceedances during seasonally low stream flows, most recently in the third quarter 2016 (SCS, 2016).

Time-Series Plots and Projected Trends

Groundwater sampling results since 2007 are shown on time-series plots for dissolved arsenic (Figure C-1) and vinyl chloride (Figure C-2) at all compliance monitoring locations. In general, dissolved arsenic concentrations in groundwater have been less than the cleanup level of 0.005 mg/L, except at MW-14. Vinyl chloride concentrations in groundwater have been less than the cleanup level of 0.025 μ g/L, except at MW-6, MW-12I, and MW-14.

Figure C-3 shows time-series plots of historical and 10-year projected groundwater concentrations for MW-6 (vinyl chloride), MW-12I (vinyl chloride), and MW-14 (arsenic and vinyl chloride). Projected groundwater concentrations reflect the exponential trend of historical groundwater concentrations. Optimizing the existing landfill gas collection system will reduce the gas-to-groundwater pathway, and may achieve groundwater cleanup levels within a shorter time frame than shown on Figure C-3.

Statistical Evaluation of Groundwater Trends

Dissolved arsenic and/or vinyl chloride concentrations in groundwater show statistically significant decreasing trends at monitoring wells MW-6, MW-12I, and MW-14, where one or both constituents have been detected above Site-specific cleanup levels.

Statistical analysis of groundwater data was performed in accordance with the Compliance Monitoring Plan (SCS, 2011) for historical data collected since January 23, 2007. The program Sanitas WQStat (ver. 9.0.34) was used to evaluate the Mann-Kendall Test and Sen's Slope. Mann-Kendall testing was performed to assess whether there were statistically significant trends in groundwater concentrations using the two-tailed test (alpha = 0.05). Mann-Kendall results are reported as an approximated normal distribution Test Value "Z" (where the number of data points was greater than 40). Sen's slope analysis was performed to identify the trend direction for statistically significant trends, and reflects the median of the slopes of all pairs of historical data.

Table C-1 provides results of statistical analysis for arsenic and vinyl chloride for monitoring wells, where the most recent quarterly results exceeded their Site-specific cleanup levels. The statistical trend summarizes the results of 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 all cases,

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the trends are decreasing because the Sen's Slope is negative¹. In summary, Table C-1 shows that 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.

The annual report will provide additional statistical evaluation, including updates for the upper and lower confidence limits at selected wells to provide context for projected groundwater concentrations.

Geochemical Parameters

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

During the third quarter 2017, dissolved oxygen represented the clearest indicator of landfill effects. The downgradient monitoring wells show lower dissolved oxygen concentrations than the upgradient well (MW-5) or surface water sampling locations (SW-1, SW-4, SW-6, and SW-7), consistent with previous observations. Based on similar concentrations for other geochemical parameters (such as chloride) across the Site, there appears to be little if any leachate effect on groundwater and surface water quality. Optimizing landfill gas collection will reduce the gas-to-groundwater pathway that appears to be affecting groundwater geochemistry, and will reduce the potential for vinyl chloride and arsenic impacts to groundwater.

References

- Aspect Consulting, LLC (Aspect), 2017, First Quarter 2017 Environmental Monitoring Report, Hansville Landfill, Kitsap County, WA, April 28, 2017.
- 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), 2016, Third Quarter 2016 Environmental Monitoring Report, Hansville Landfill, Kitsap County, WA, October 2016.

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

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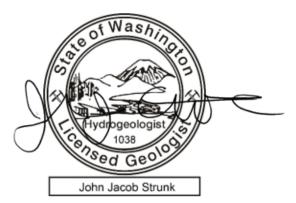
Limitations

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

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Sincerely,

ASPECt consulting, LLC



John J. Strunk, LHG Principal Geologist jstrunk@aspectconsulting.com

Aaron Print

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Attachments: A – Landfill Gas Data

- B Water Quality Results
- C Groundwater Statistics and Time-Series Plots
- D Field Forms and Laboratory Reports
- cc: Phil Perley, Waste Management of Washington Jan Brower, Kitsap Public Health District Ron Timm, Washington State Department of Ecology Sam Phillips, Port Gamble S'Klallam Tribe

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Attachment A

Landfill Gas Data

Table A-1. Landfill Gas Data, September 14-20, 2017

Project No. 160423, Hansville Landfill, Hansville, WA

			Methane,	Carbon Dioxide,	Oxygen,	Balance,	Static Pressure			G	as Temperat	ure	Flo	w Rate	
Location	Device ID	Date/Time	CH4	CO2	02	Bal		(inches H2O)			(degrees F)		(SCFM)		
			(% by vol)	(% by vol)	(% by vol)	(% by vol)	Initial	Adjusted	Maximum	Initial	Adjusted	Maximum	Initial	Adjusted	
Blower Inlet	HANSBLIN	9/14/2017 8:58	4.50	15.10	1.70	78.70	-3.57	-3.56	-3.56	64.30	64.30	64.3	72.60	* 71.50 *	
Blower Outlet	HANSBLOT	9/14/2017 9:01	4.40	15.20	1.70	78.70	-0.04	-0.04	-0.04	59.30	59.30	59.3	N/A	N/A	
Extraction Well 001	HANSR001	9/14/2017 10:07	5.60	12.60	0.20	81.60	-1.04	-1.07	-1.04	71.60	71.30	71.6	1.40	* 1.60 *	
Extraction Well 002	HANSR002	9/14/2017 11:43	1.40	13.80	3.00	81.80	-1.98	-1.98	-1.98	74.50	74.50	74.5	2.60	* 2.70 *	
Extraction Well 003	HANSR003	9/14/2017 11:38	6.70	12.30	0.00	81.00	-1.21	-1.23	-1.21	77.60	78.90	78.9	2.50	* 2.80 *	
Extraction Well 004	HANSR004	9/14/2017 11:26	2.30	15.90	0.00	81.80	-1.59	-1.60	-1.59	73.30	73.30	73.3	2.20	* 2.20 *	
Extraction Well 005	HANSR005	9/14/2017 11:18	1.50	16.90	0.30	81.30	-1.10	-1.13	-1.1	75.60	75.60	75.6	2.40	* 2.40 *	
Extraction Well 006	HANSR006	9/14/2017 11:03	2.00	15.90	2.50	79.60	-1.44	-1.46	-1.44	79.20	79.20	79.2	1.60	* 1.60 *	
Extraction Well 007	HANSR007	9/14/2017 10:58	0.60	13.40	0.10	85.90	-0.88	-0.88	-0.88	72.80	72.80	72.8	2.80	* 2.80 *	
Extraction Well 008	HANSR008	9/14/2017 9:38	4.00	16.80	0.10	79.10	-1.24	-1.25	-1.24	65.80	65.80	65.8	2.20	* 2.20 *	
Extraction Well 009	HANSR009	9/14/2017 9:55	1.00	14.80	2.10	82.10	-2.43	-2.39	-2.39	77.50	77.50	77.5	0.30	0.40	
Extraction Well 010	HANSR010	9/14/2017 10:00	4.60	9.00	4.20	82.20	-1.15	-1.16	-1.15	73.40	73.50	73.5	1.30	* 1.30 *	
Extraction Well 011	HANSR011	9/14/2017 10:22	2.60	5.20	0.00	92.20	-1.04	-1.06	-1.04	74.00	74.10	74.1	0.70	* 0.70 *	
Extraction Well 012	HANSR012	9/14/2017 10:28	10.00	2.00	0.00	88.00	-1.26	-1.40	-1.26	72.00	72.40	72.4	1.00	* 1.50 *	
Extraction Well 013	HANSR013	9/14/2017 10:52	1.00	9.20	5.60	84.20	-1.70	-1.71	-1.7	73.40	73.50	73.5	3.10	3.10	
Trench Collector TD-1	HANSTD01	9/14/2017 9:15	4.60	20.90	0.00	74.50	-0.09	-0.07	-0.07	70.20	68.20	70.2	1.30	* 3.20 *	
Trench Collector TR-1	HANSTR01	9/14/2017 11:08	0.10	13.60	4.60	81.70	-1.05	-1.06	-1.05	79.50	79.70	79.7	2.40	* 2.40 *	
Trench Collector TR-2	HANSTR02	9/14/2017 9:50	6.50	16.40	0.60	76.50	-1.83	-1.55	-1.55	67.10	67.70	67.7	0.60	2.70	
Trench Collector TR-3	HANSTR03	9/14/2017 10:17	6.60	16.50	0.70	76.20	-1.43	-1.41	-1.41	71.60	71.30	71.6	0.40	1.00	
Trench Collector TR-4	HANSTR04	9/14/2017 11:22	2.60	18.20	0.00	79.20	-1.06	-1.06	-1.06	78.80	78.80	78.8	2.20	* 2.20 *	
Trench Collector TR-5	HANSTR05	9/14/2017 10:43	0.00	0.10	20.50	79.40	-1.15	-1.16	-1.15	70.70	77.00	77	3.60	3.60	
Trench Collector TR-6	HANSTR06	9/14/2017 10:35	7.50	15.50	0.60	76.40	-2.02	-1.29	-1.29	67.60	68.10	68.1	0.80	2.20	
Trench Collector TR-7	HANSTR07	9/14/2017 11:32	8.90	15.10	0.40	75.60	-1.13	-1.13	-1.13	71.90	71.90	71.9	2.80	* 2.80 *	
Native Soil Extraction Well 1 Shallow	HANSN01S	9/14/2017 11:57	0.00	1.50	18.70	79.80	-0.73	-0.97	-0.73	66.80	67.50	67.5	1.20	0.30	
Native Soil Extraction Well 1 Deep	HANSN01D	9/14/2017 11:51	0.00	1.60	18.60	79.80	-1.08	-1.13	-1.08	65.40	64.60	65.4	1.00	0.30	
Native Soil Extraction Well 2 Shallow	HANSN02S	9/14/2017 12:11	0.00	0.10	19.90	80.00	-0.14	-0.15	-0.14	85.80	85.90	85.9	0.30	0.00	
Native Soil Extraction Well 2 Deep	HANSN02D	9/14/2017 12:06	0.00	0.20	20.00	79.80	-0.09	-0.09	-0.09	80.60	80.70	80.7	0.00	0.00	
Native Soil Extraction Well 3 Shallow	HANSN03S	9/14/2017 12:21	0.00	1.80	18.10	80.10	-1.00	-0.53	-0.53	68.30	69.40	69.4	3.90	4.60	
Native Soil Extraction Well 3 Deep	HANSN03D	9/14/2017 12:16	0.00	1.60	18.30	80.10	-0.59	-0.31	-0.31	76.20	79.40	79.4	4.20	4.70	
Native Soil Extraction Well 4 Shallow	HANSN04S	9/20/2017 16:15	0.00	1.40	20.10	78.50	-0.26	-0.25	-0.25	64.00	64.00	64	0.00	0.00	
Native Soil Extraction Well 4 Deep	HANSN04D	9/20/2017 16:11	0.00	1.40	19.90	78.70	-0.17	-0.16	-0.16	64.00	64.00	64	0.00	0.00	
Native Soil Extraction Well 5 Shallow	HANSN05S	9/20/2017 16:04	0.00	1.40	20.00	78.60	-0.62	-0.54	-0.54	64.00	64.00	64	0.00	0.00	
Native Soil Extraction Well 5 Deep	HANSN05D	9/20/2017 16:01	0.00	1.10	20.40	78.50	-0.34	-0.33	-0.33	64.00	64.00	64	0.00	0.00	
Gas Probe 1	HANSGP01	9/20/2017 14:07	0.00	1.00	20.80	78.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 2 Shallow	HANSGP2S	9/20/2017 14:21	0.00	0.10	21.60	78.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 2 Middle	HANSGP2M	9/20/2017 14:32	0.00	1.20	19.00	79.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 2 Deep	HANSGP2D	9/20/2017 14:49	0.00	1.30	18.50	80.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 3	HANSGP03	9/20/2017 14:58	0.00	1.00	21.30	77.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 4	HANSGP04	9/20/2017 15:09	0.00	1.20	20.90	77.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 5	HANSGP05	9/20/2017 15:42	0.00	1.10	20.80	78.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 6	HANSGP06	9/20/2017 15:52	0.00	2.40	19.00	78.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Gas Probe 7	HANSGP07	9/20/2017 15:28	0.00	3.20	19.10	77.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Notes

* Flow rate measured using orifice plate.

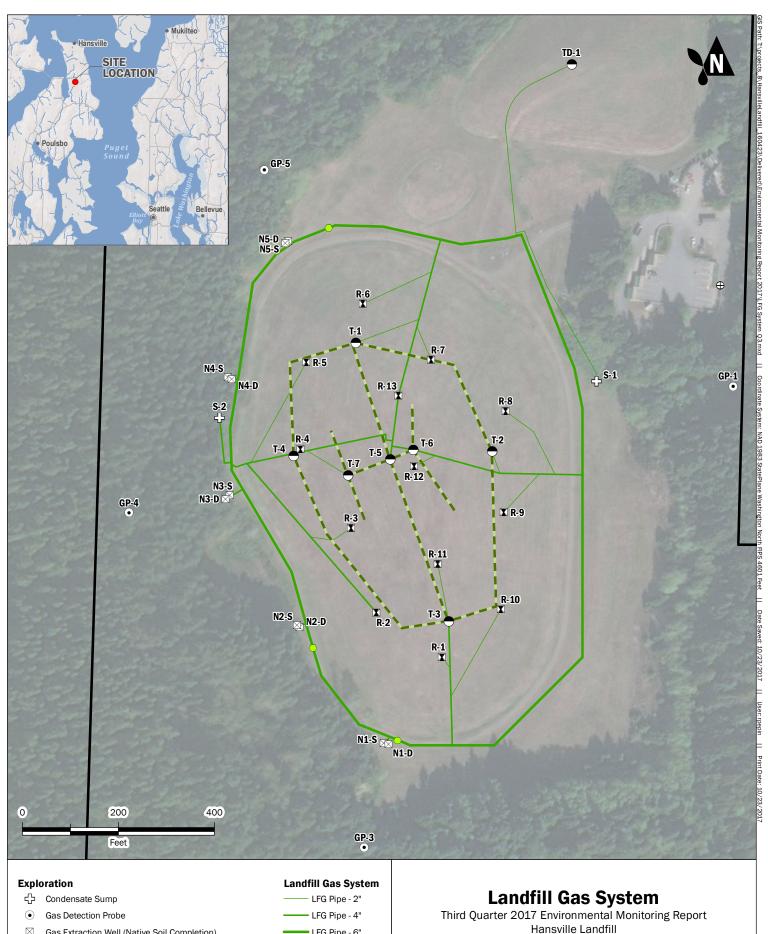
"N/A" indicates parameter not measured.

** Flow rate measured with a hot-wire anemometer on 5/2/17

"inches H2O" - inches water column "degrees F" - degrees Fahrenheit "SCFM" - standard cubic feet per minute

Aspect Consulting

11/28/2017 V:\160423 Kitsap County Hansville Landfill\Deliverables\2017 Reports\Q3 2017 Report\Final\Attachments\A\Table A1_HansvilleLFQ3_2017



- \boxtimes Gas Extraction Well (Native Soil Completion)
- X Gas Extraction Well (in Refuse Completion)
- igodotTrench Completion
- \oplus Well Geologic Control

Example Layer Credits || Copyright:© 2014 Esri Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LFG Pipe - 6"

Trench

Г

LFG Valve

Landfill Boundary

Kitsap County, Washington

OCT-2017

PROJECT NO 160423

Aspect CONSULTING

BY: AHP / RAP / KES

REVISED BY

FIGURE NO.

A-1

Attachment B

Water Quality Results

Table B-1. Water Level Elevations

Project No. 160423, Hansville Landfill, Hansville, WA

	Ground Elevation	Top of Casing Elevation	Screen E (ft NA	Elevation	Depth to Water	Water Level Elevation
Well	(ft NAVD88)	(ft NAVD88)	Тор	Bottom	- (ft)	(ft NAVD88)
MW-5	363.7	366.9	244	234	98.6	268.3
MW-6	332	332.7	260	245	72.9	259.9
MW-7	344.3	346.0	259	244	83.3	262.7
MW-12I	245.6	248.1	217	207	9.6	238.5
MW-13D	258.1	260.4	205	195	10.4	250.0
MW-14	338.6	341.1	262	247	80.7	260.4

Notes

Depths to water collected July 11, 2017

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

Table B-2. Groundwater Quality Results

Project No. 160423, Hansville Landfill, Hansville, WA

	Site Cleanup						
Parameter	Level	MW-5	MW-6	MW-7	MW-12I	MW-13D	MW-14
Conventional Parameters							
Alkalinity		60	130	150	87	76	110
Ammonia (as N)		U	U	U	U	U	U
Bicarbonate		60	130	150	87	76	110
Carbonate		U	U	U	U	U	U
Chloride		2.8	9.9	1.6	3.2	6.0	4.7
Nitrate (as N)		1.01	1.37	0.555	2.18	0.1 U	0.224
Nitrite (as N)		0.1 U	0.355	0.1 U	0.1 U	0.1 U	0.1 U
Orthophosphate (as P)		0.1 U	0.1 U	0.1 U	0.1 U	0.1	0.12
Sulfate		8.8	23	4.4	6.3	18	13
Total Organic Carbon (TOC)		U	U	1.2	1.9	U	U
Dissolved Metals (mg/L)							
Arsenic	0.005	0.00199	0.00216	0.0011	0.00228	0.00437	0.015
Manganese	2.24	1.3	470	U	54	25	870
Field Parameters							
Dissolved Oxygen (mg/L)		8.37	0.42	1.78	0.14	0.13	2.48
pH (units)		7.47	7.2	6.92	7.38	7.76	7.05
Redox (mV)		113.2	117.3	114.6	138.6	191	100.1
Specific Conductivity (uS)		150.8	331.6	299.6	183.6	201.8	251.3
Temperature (degrees C)		13.9	16.6	12.3	11	11.3	15.7
Turbidity (NTU)		0.08	0.16	0.2	0.13	0.3	0.42
Volatile Organic Compound	S						
Vinyl Chloride (8260 SIM)	0.025	U	0.15	U	0.099	U	0.14

Notes

Bold - detected

Shaded - Exceeded Site Cleanup Level

U - Not detected at or above reporting limit

J or UJ - Estimated "usable"

R - Rejected data, not representative of site conditions

mg/L - milligrams per liter ug/L - micrograms per liter mV - millivolts uS - microSiemens degrees C - degrees Celcius NTU - Nephthalometric Turbidity Units

Table B-3. Surface Water Quality Results

Project No. 16423, Hansville Landfill, Hansville, WA

Parameter	Site Cleanup Level	SW-1	SW-4	SW-6	SW-7		
Conventional Parameters							
Alkalinity		80	160	69	58		
Ammonia (as N)		U	U	0.066	U		
Bicarbonate	ate 80		160	69	58		
Carbonate		U	U	U	U		
Chloride		4.8	15	4.0	3.6		
Nitrate (as N)		1.55	0.931	0.218	0.763		
Nitrite (as N)		0.1 U	0.1 U	0.1 U	0.1 U		
Orthophosphate (as P)		0.1 U	0.1 U	0.1 U	0.1 U		
Sulfate		11	23	2.2	6.9		
Total Organic Carbon (TOC))	1.6	4.4	16	6.6		
Dissolved Metals (mg/L)							
Arsenic	0.005	0.00156	0.00197	0.00811	0.00158		
Manganese	2.24	U	73	330	5.6		
Field Parameters							
Dissolved Oxygen (mg/L)		8.35	8.35	10.23	10.47		
pH (units)		7.82	8.06	7.56	7.94		
Redox (mV)		166.6	166.6	343.1	114.7		
Specific Conductivity (uS)		195.3	195.3	168.6	143.7		
Temperature (degrees C)		11.7	11.7	14.5	12.7		
Turbidity (NTU)		2.32	8.91	18.8	3.17		
Volatile Organic Compoun	lds						
Vinyl Chloride (8260 SIM)	0.025	U	U	U	U		

Notes

Bold - detected Shaded - Exceeded Site Cleanup Level U - Not detected at or above reporting limit J or UJ - Estimated "usable"

R - Rejected data, not representative of site conditions

mg/L - milligrams per liter mV - millivolts uS - microSiemens degrees C - degrees Celcius

NTU - Nephthalometric Turbidity Units

Aspect Consulting

11/28/2017 V:\160423 Kitsap County Hansville Landfill\Deliverables\2017 Reports\Q3 2017 Report\Final\Attachments\B\2017 Q3 Tables B2 and B3 ug/L - micrograms per liter

Attachment C

Groundwater Statistics and Time-Series Plots

Table C-1. Statistical Analysis

Project 160423, Hansville Landfill, Hansville, WA

Dissolved Arsenic Statistical Results

			Mann-I	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								
MW-7								
MW-12I								
MW-13D								
MW-14	Decreasing	-5.7	-1.96	42	Yes	-3.6E-06	-0.0013	

Vinyl Chloride Statistical Results

			Mann-I	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	-4.8	-1.96	43	Yes	-6.4E-05	-0.023	
MW-7								
MW-12I	Decreasing	-5.9	-1.96	43	Yes	-1.2E-04	-0.043	
MW-13D								
MW-14	Decreasing	-7.1	-1.96	43	Yes	-1.0E-04	-0.038	

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.

For N<=40, Mann-Kendall scores are reported as Test Value S.

3 - "--" Indicates most recent groundwater concentrations were below the Site-specific cleanup level.

"ug/L" - micrograms per liter

Aspect Consulting

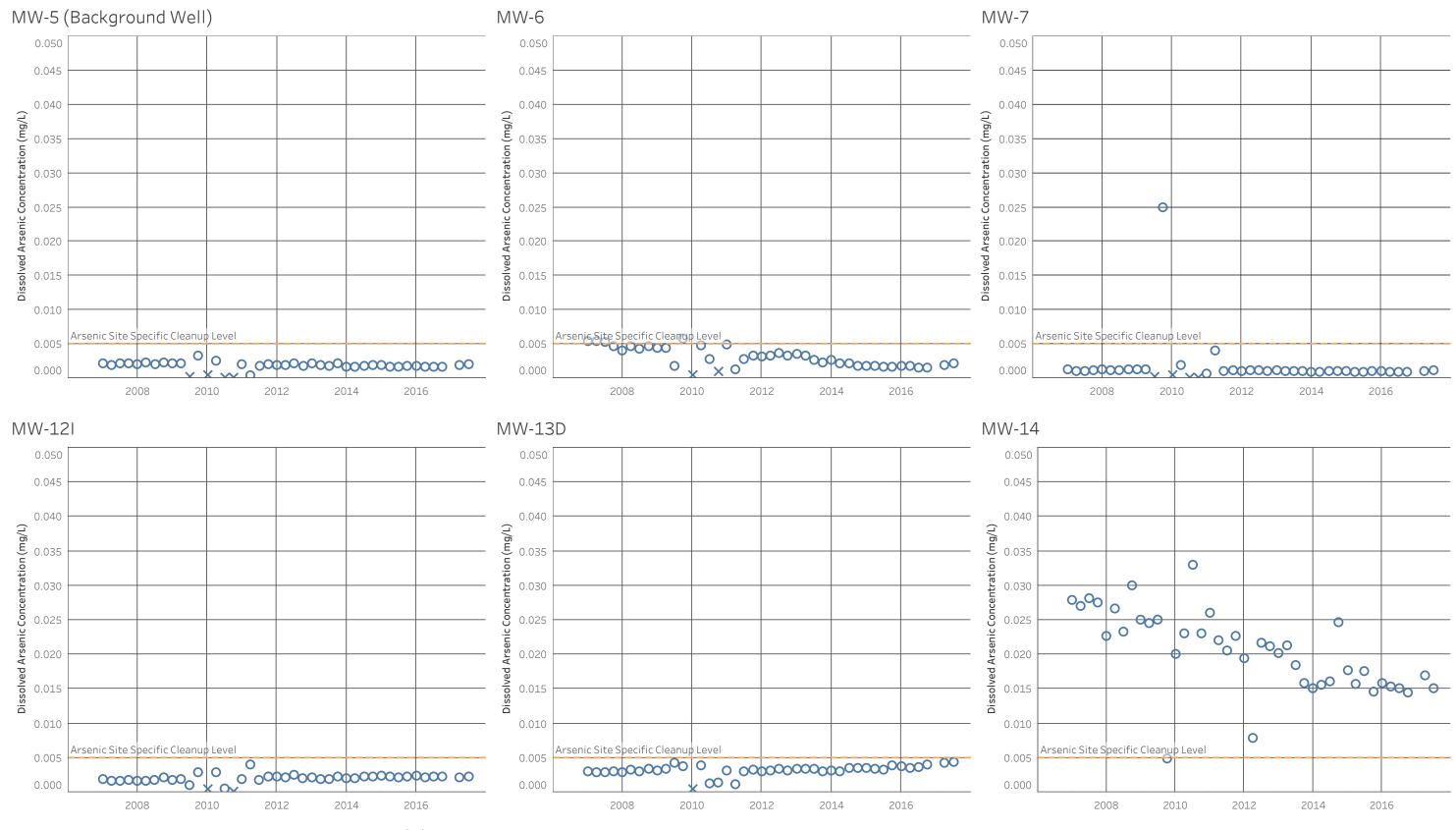
11/28/2017

Third Qu

V:\160423 Kitsap County Hansville Landfill\Deliverables\2017 Reports\Q3 2017 Report\Final\Attachments\C\2017 Q3 Table C-1 Statistical Analysis Results

Table C-1

1 of 1



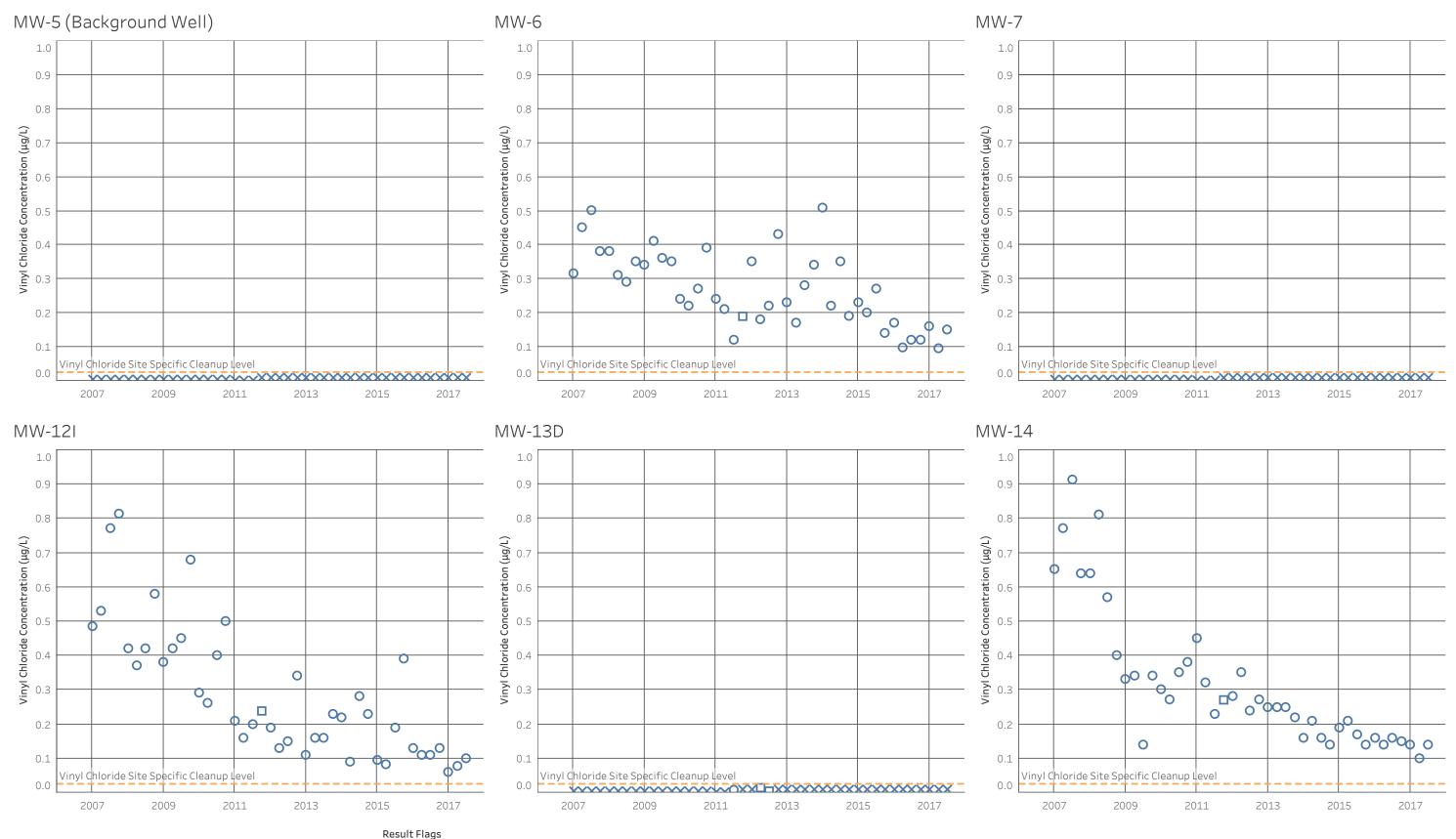
Note: Non-detected values are shown at 1/2 the reporting limit. Results from First Quarter 2017 were rejected. See text.

Result Flags O Detected

🗙 U - Non-Detect



Figure C-1 - Dissolved Arsenic Sampling Results Third Quarter 2017 Environmental Monitoring Report Hansville Landfill Kitsap County, WA



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

Aspect Consulting

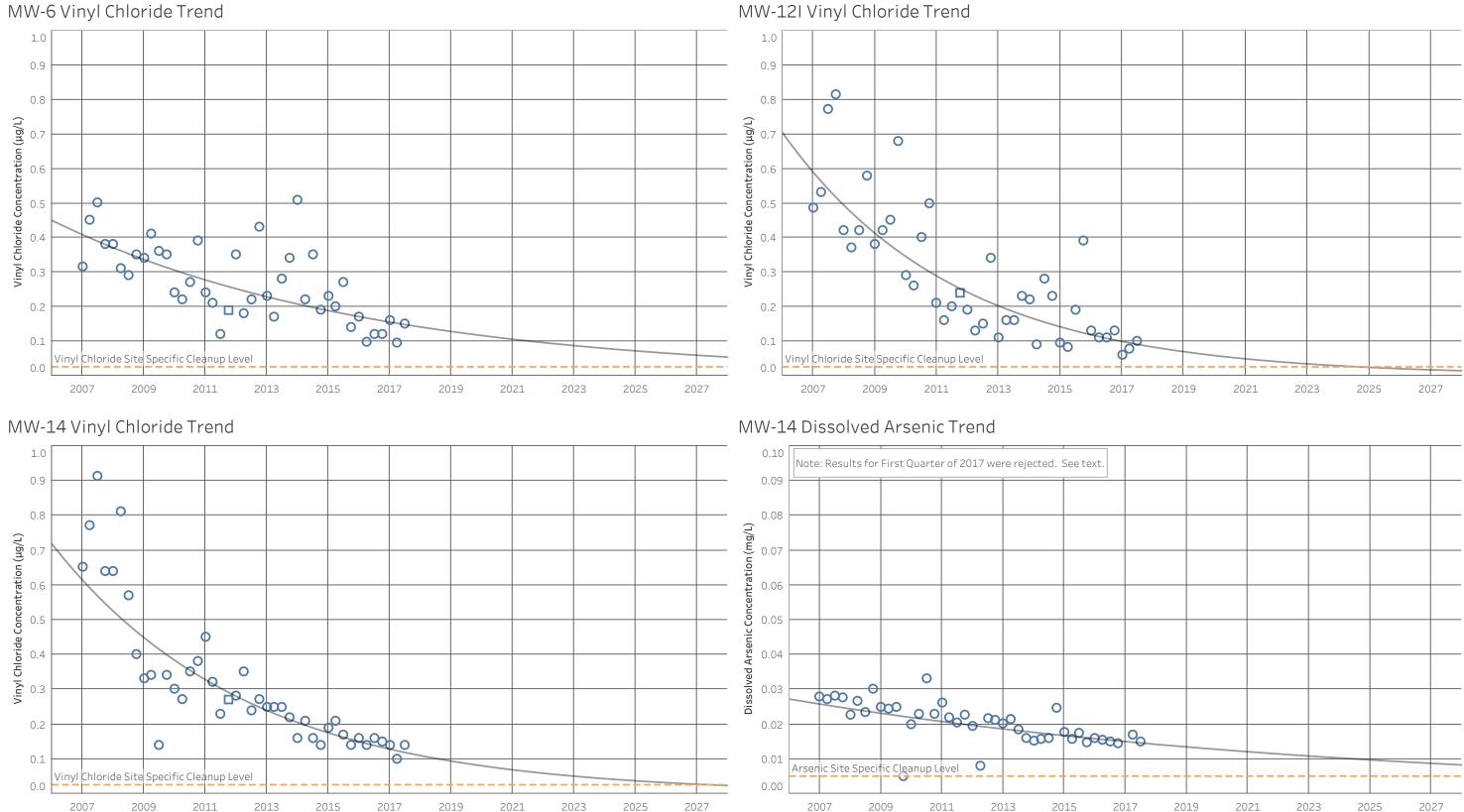
O Detected

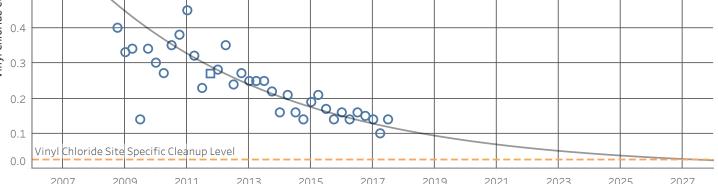
J - Estimate

🗙 U - Non-Detect

Aspect Consultin 10/29/2017 Trend Plots (VC) Figure C-2 - Vinyl Chloride Sampling Results Third Quarter 2017 Environmental Monitoring Report Hansville Landfill Kitsap County, WA

MW-6 Vinyl Chloride Trend





Result Flags O Detected J - Estimate

🗙 U - Non-Detect

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

Aspect Consulting 10/29/2017 Trend Plots (VC) CONSULTING

Figure C-3 - 10 Year Attenuation Curves Third Quarter 2017 Environmental Monitoring Report Hansville Landfill Kitsap County, WA

Attachment D

Field Forms and Laboratory Reports

TestAmerica Denver

4955 Yarrow Street	1-
Arvada CO 80002)

Chain of Custody Record



-

4955 Yarrow Street	170 0107
Arvada, CO 80002	1760123
Phone (303) 736-0100 Fax	(303) 431-7171

	Client Information	Sampler: AtlP Lab PM: Sara, Betsy A				Carrier Tracking No(s):						COC No: 280-23414-6845.1	1								
	Client Information Client Contact: AGreen Printt. Company:	Phone: ZCC	595-1	115	E-Mai	il: y.sara(Dtest	americ	aincio	om			1					P	Page:		
	Company:			612	Detta	J	gicon	amene					L					J	ob #:		
	Aspect Consulting, LLC Address:	Due Date Request	ed:		energi anti anti anti anti anti anti anti ant				- A	Anal	ysis	Rec	uest	ed		1 1	1424		Preservation Code		
	350 Madison Ave N																	265		M - Hexane	
	City: Bainbridge Island	TAT Requested (d	ays):															0	C - Zn Acetate	N - None O - AsNaO2	
	State, Zip: WA, 98110																	E	E - NaHSO4	P - Na2O4S Q - Na2SO3	
	Phone:	PO #: Purchase Orde	r not required	4	ieluisen teknekiungu papur		alo)				RI)							0	G - Amchlor	R - Na2S2SO3 S - H2SO4	
	apruite @ aspectonsulting.com	Purchase Order not required WO #: Project #:skip sites/events 28006013 - 2Q/3Q/4Q Sampling SSOW#: Sample Date Sample Time Sample G=grab) Matrix (W=water, S=solid, O=waste/oil, BT=Tisse, AAkr				s or No	TA Buff			red)	sub to A	ſŗ					S	J - DI Water	T - TSP Dodecahydrate U - Acetone V - MCAA	nyorate	
	Project Name: Hansville Landfill					tple (Yes or (Yes or No)	oride (()	d filter	irect	0				container			W - ph 4-5 Z - other (specify	1)	
	Site: Washington	SSOW#:				Samp SD ()	yl Chl	s	3/NO3	e (fiel	nice (D	(NC)					of co)ther:		
н	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sam Perform MS/MSD	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Alks/Cl/S04/N03/N03(IC)	Ortho-phosphate (field filtered)	Dissolved Arsenice (Direct sub to ARI)	NC JU					Total Number		Special Ins	tructions/Not	te:
ag		\sim	\geq	Preserva	nion code.	XX	A	D S	N	N	D						X	$\langle \Box \rangle$			
Page 75 of 112	MW-7	7/11/17	205		W					X	. X	X								s: NO3/NO2(IC) osphate (IC)),
of	MW-5		1055		i	Ш				X	ĸ	×						CALL NO.			
112	MW-12I		1225							K	F	X					22	The second	Dissolved Arsenic	subbed direct	to ARI
10	Sw -1		1230							X	K	X					ALC: N	C STREET			
	5W-1 5W-4 5W-6		1315							×	X	x						が伝え			
	5w-6		1400					T		X	X	ĸ									
	MW-13D		1500							.4	K	K					1				
	5w = 7		1530							K	×	X						1000 C			
	MW-14 MW-6		1850			\square				1	16	X									
	MW-6		1940							7	X	×				÷.		12.00			
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	Non-Hazard Flammable Skin Irritant Pois Deliverable Requested: I, II, III, IV, Other (specify)	on B 🔛 Unkr	nown 🛄 I	Radiologica	nl	Sp	Re	e <i>turn T</i> nstruct	o Clie	ent OC B	equi		Disposa	al By	Lab		Arc	chiv	/e For	Months	
			Date:			Time:					.cqui	cinci		othod	of Shipr						
	Empty Kit Relinquished by: Relinquished by:	Date/Time:					Recei	ved by:	-					ethod		e/Time:				Company	
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24/2	Relinquished by:	Date/Time: 1			Company		Recei	ved by:				Date/Time:						Company			
07/24/2017	Relinquished by:	Date/Time:			Company		Recei	ved by:					Date/Time:					Company			
7	Custody Seals Intact: Custody Seal No.: Δ Yes Δ No						Cooler Temperature(s) °C and Other Remarks:														

TestAmerica D	enver
---------------	-------

Chain of Custody Record



4955 Yarrow Street Arvada, CO 80002

Phone (303) 736-0100 Fax (303) 431-7171

lient Information	Sampler:			Lab F Sara	M: , Betsy A			Carrier Tracking No(s):			COC No: 280-23414-6845.1					
lient Contact: Aaron Realt.	Phone:	95-66	15	E-Ma			ameri	cainc	com			1			Page:	
ompany	206 3	75 - 66	13	Dets	y.sard(elesti	ameri			hert				-	Job #:	
Aspect Consulting, LLC	Due Date Reques	ted:			1			-	Ana	ilysis	ske	quested	TTT		Preservation Codes:	
50 Madison Ave N				_											A - HCL M	- Hexane
ity: Bainbridge Island	TAT Requested (uays):													C - Zn Acetate O	- None - AsNaO2
tate, Zip: NA, 98110	P0#: Purchase Order not required								D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3							
hone:									10	G - Amchlor S	- Na2S2SO3 - H2SO4					
mail: b- 11 A a	WO#	WO#				s or No) No) TA Buffalo) TA Buffalo)					8				I-lce U	- TSP Dodecahydrate - Acetone
apruille @ aspectionsulting	Project #:skip site:	Project #:skip sites/events				e (TA				tered)	ans to			containers	K-EDTA W	- MCAA / - ph 4-5
Project Name: Hansville Landfill	28006013 - 20 SSOW#:	2/3Q/4Q Sam	pling	_	ple (Ye	hlorid			() HC)	III pla	(Direc			onta	L - EDA Z Other:	- other (specify)
site: Nashington	550W#:	SSOW#:					als		OBING	ate (fi	enice			5		
			Sample Type	Matrix (w=yvater, Sanolid,	Field Filtered	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/cl/SO4/ NO3/NO3/IC)	Ortho-phosphate (field filtered)	Dissolved Arsenice (Direct sup			Number		
Sample Identification	Sample Date	Sample Time	(C=comp, G=grab) в	O=waste/oil,	Field	82600	Disso	Amme	Alks/6	Ortho	Disso			Total	Special Inst	ructions/Note:
Sample Identification	\rightarrow	X	Preservati		X	A		Acres 100		ND		66.3 440		X		
MW-7	\$1/11/17	905		W		X	X	X	×					200		NO3/NO2(IC), osphate (IC)
MW-5	7/11/17	1055				×	X	X	X					ALC: N		
MWHRI	1	1225	+			X	\land	x	X			-		1		subbed direct to AF
5w - 1		1230				X	X	K	X					がい	o-phos d	- NOS/NOZ
5~-4		1315	-			K	K	K	X					8	to 1	ART
SW -6		1400		1		X	1	X	X							
MW-13D		1500			TT	×	X	×	X				IIIII			
5W -7		1530		1		X	4	X	X							
MW-14		1350			11	X	+	K	¥							
MW-G		1940		1	11	X	X	X	×				280-	991	46 Chain of Custod	У
MW-20DD		-			11	X	1	X	X		1			1	a.	
Possible Hazard Identification		_		+	5	Sampl	le Dis	posa	I(A	fee n	nay b	e assessed	l if samples are	retai	ned longer than 1	month)
Non-Hazard Flammable Skin Irritant	Poison B U	nknown	Radiologica	1	-		Retur					Disposal	By Lab	Ar	chive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)							ii insti	ructio	ns/Q	C Re	quirer	nents:		_		_
Empty Kit Relinquished by:	Date/Times	Date:		Company	Tim	_	-	hur	_	-	-	Met	hod of Shipment:			
Relinquished by: Afan 12	Date/Time:	12/17	1200		ret				17	0845	Company					
Relinquished by:	Date/Time:			Company	Received by				Date/Time:			Company				
Relinquished by:	Date/Time:			Company	pany Received by:			Date/Time:			Company					
Custody Seals Intact: Custody Seal No.:						-		_	_	_	_		\$7,-0.	_		

07/24/2017



GROUN	WATER S	SAMPLING R	ECORD			WELL NUMBER: MW-6 Page: _ of								
		novilly				Project Number								
Date:	7/11	/17				Starting Wate	er Level (ft 1	roc): <u>0</u> 2	1.85					
Developed	by:					Casing Stick	up (ft):	`						
Measuring	Point of Well	:				Total Depth ((ft TOC):							
		(00)				Casing Diam	eter (inches	s):						
		OC)												
		(ft Water) 0.16 gpf				(L)(gal) Sample Intake Depth (ft TOC):								
		0.62 Lpf								· · · · · · · · · · · · · · · · · · ·				
PURGIN		REMENTS												
Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	па	± 3%	± 10%	± 0.1	± 10 mV	± 10%					
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductivity	Dissolved	pН	Eh ORP	Turbidity	Comments				
	(gal or L)	(gpm or Lpm)	Level (ft)	(CorF)	(µS/cm)	Oxygen (mg/L)		(mv)	(NTU)					
1918		0.2	72,4			· · ·				Start				
1923					294.5	0.42	1,34	116.9	0_01					
1928			13.31		313.0	0.46	113							
		ļ	12.5/			1	1 22							
1932		ļ	├───┤	16.3	324.2				0.03					
1935			l	16.6	331.6	0.42	1.20	117.3	2.16	Sample				
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Total Gallor	ns Purged:				_	Total Casing	Volumes R	emoved:						
Ending W-	ter Level (ft T	.OC).				Ending Total	Denth /# T	DC).						
	·····		F			Ending Total		· · / / ·····		·				
	INVENTO		r,	-		<u> </u>			,					
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	arance	ļ	Remarks				
							Color	Turbidity & Sediment						
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METHOD)S			2										
	Sampling Equipment with IDs:													
Purging Eq	uipment:		<u> </u>			Decon Equi	ipment:							
Disposal of	Discharged	Water:				3								
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vuoci valioi														
<u></u>		ante)Groundwater Sr	ampling1							······································				



GROUNDWATER SAMPLING RECORD						WELL NUMBER: Mu - 14 Page: of					
Project Nan	ne: <u>Ha</u>	asuille				Project Numb					
Date:	7/11	7			1	Starting Wate	er Level (ft T	"OC):	0.70		
Developed	by:					Casing Sticku	up (ft):				
						Total Depth (1	ft TOC <u>):</u>			—	
		00)				Casing Diam	eter (inches	:):			
		OC)									
	umes: 2" = 0	(ft Water) 0.16 gpf 4	4" = 0.65 gpf	6" :	= 1.47 gpf	(L)(gal) Sample Intake Depth (ft TOC):					
PURGING	2" = 0 G MEASUF	0.62 Lpf 4	4" = 2.46 Lpf	6"	= 5.56 Lpf						
Criteria:		Typical	Stable and	na	± 3%	± 10%	± 10% ± 0.1 ± 10 mV ± 10%				
	Cumul.	0.1-0.5 Lpm Purge Rate	minimal and Water		Specific	Dissolved	pН	Eh	Turbidity	Comments	
Time	Volume	Purge Rate	Level	Temp.	Conductivity		Ч	ORP (mv)	(NTU)		
00	(gal or L)	_(gpm or Long)	(ft)	(C or F)	(µS/cm)	(mg/L)		<u>(117)</u>		start	
8.13	├ ──┤	-4	20 01	17 17	125 1	11 AF	1 20	95.0	2.81		
18:18			80.86			4.05					
18:23	ļļ		80.87	14.1	2423	12411	13-99		1.48		
18:28	ļ		80.87	15.2	244.7	3.15	17.15	93.3	0.64		
12:33			~		247.0	2.90	1.12				
18:38					251,3	2.62		96.7			
19:42				15.7	251.3	2.48	7.05	100.1	. 42	Somple	
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Total Gallo	ns Purged:					Total Casing	Volumes R	Removed:			
Ending Mr-	ter Level /4 T	.0C).				Ending Total	l Depth /fr T	OC):			
		TOC):						/			
			<u> </u>	0	Filtration	Preservation	A	arance	1	Remarks	
Time	Volume	Bottle Type		Quantity	r-nuration	, reservation		Turbidity &	1		
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METHOD	DS				_						
Sampling I	Equipment wit	th IDs:									
Purging Ec	uipment:					_ Decon Equ	ipment:				
Disposal o	f Discharged	Water:									
	-			-							
Observatic	ms/comment	ts:			•						
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GROUND	WATER S	AMPLING R	ECORD									
		asville 1				Project Numb	per:					
Developed Measuring I Screened Ir	by: Point of Well nterval (ft. TC	7 : DC) OC)				Starting Wate Casing Stickt Total Depth (Casing Diam						
Casing Volu	ume	(ft Water).16 gpf 0.62 Lpf) x	(Lpfv)(g	gpf) =	(L)(gai) Sample Intake Depth (ft TOC):						
		REMENTS	4 – 2.40 Lpi		- 5.50 Lpi							
Criteria:		Typical	Stable and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume (gal or L)	0.1-0.5 Lpm Purge Rate (gpm or Lpm)	minimal and Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm) 143.17	Dissolved Oxygen (mg/L) 」つ、イフ	рн 1.9¥	Eh ORP (mv) 11 4.7	Turbidity (NTU) S 17	Comments		
	ter Level (ft					Total Casing Ending Total				· · · · · · · · · · · · · · · · · · ·		
SAMPLE Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance	1	Remarks		
	T GIGINIO						Color	Turbidity & Sediment	-			
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Purging Eq Disposal of	Equipment wi uipment: f Discharged	th IDs:					lipment:					
Observatio	ns/Commen	ts:) unta (e ht	+/							

C-\LIsers\apruitt\Documents\Groundwater_Sampling1



GROUNDWATER SAMPLING RECORD						WELL NUMBER: MW-13D Page: of						
Project Nar	ne: <u>Han</u>	isulle				Project Numb	per:					
Date:	7/11	/17				Starting Wate						
Developed	by:					Casing Sticku						
						Total Depth (ft TOC):						
		DC) OC)				Casing Diameter (inches):						
	umes: 2" = ((π water)).16 gpf 4).62 Lpf 4	" = 0.65 apf	6" :	= 1.47 gpf	(L)(gal) Sample Intake Depth (ft TOC):						
PURGIN		REMENTS	2.40 LPI	0	- 0.00 LPI							
Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume	Purge Rate	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	рН	Eh ORP (mv)	Turbidity (NTU)	Comments		
1435	(gal or L)	(gpm or Lpm)	("/	(COFF)	201.7	0,25		217.5		stent		
1440		0 / 1/	11 02		201.7		7.81	717.5	1.17.			
			11	112	. ,		241	19347	032			
1445			" there	11.3	201.7	0.13		143.3				
1450						0.13	7.76		0.30			
1455				11.3	2013		1-130	1710		En da		
1500					·					Sample		
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										10		
	· · · ·											
Total Gallo	ns Purgod:	L	I		<u>.</u>	Total Casing	Volumes R	temoved:				
TOLAI GAILO	na ruiyeu.				_							
Ending Wa	iter Level (ft [*]	FOC):				Ending Total	l Depth (ft T	OC):				
SAMPLE		DRY										
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance		Remarks		
		1					Color	Turbidity & Sediment				
1500			1		<u> </u>	1		1				
		<u>}</u>	<u> </u>	<u> </u>	<u> </u>	+	1	†	<u> </u>			
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	<u> </u>			<u> </u>	+	+	+	<u> </u>				
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·				<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>			
METHO	DS											
1		ith IDs:										
							linment:					
1												
Disposal o	I Discharged	Water:			·							
Observatio	ons/Commen	ts:			-							



		AMPLING R	-			WELL NUMBER: OF OF OF					
Project Na	me: 1-1-6	nsv.11e	LF			Project Numb	er:				
Date:	7/11/	7				Starting Wate					
Developed	Dy					Casing Sticku	up (ft):				
		:				Total Depth (ft TOC):					
						Casing Diameter (inches):					
		OC)									
		(ft Water				(L)(gal)			Sample Intelie		
Casing volu).16 gpf 4				Sample Intake Depth (ft TOC):					
PURGIN		REMENTS	. 2.70		<u>о.со црі</u>						
Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	pН	Eh ORP	Turbidity	Comments	
	Volume (gal or L)	(gpm or Lpm)	Level (ft)	(CorF)	Conductivity (µS/cm)	Oxygen (mg/L)		(mv)	(NTU)		
1406				14.5	163.6	10,23	2.50	343.1	183		
1.00					<u> </u>	<u>, - , - ,</u>					
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Total Oal		L	I		L	Total Cosina		emoved.	· _ · · · · · · · · · · · · · · · · · ·		
Fotal Gallo	ons Purged:			· · · · · · · · · · · · · · · · · · ·	-	Total Casing	volumes R	GINUVEU.			
Ending Wa	ater Level (ft 7	FOC):				Ending Total	Depth (ft T	OC) <u>; </u>	,		
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance		Remarks	
							Color	Turbidity &	1		
	<u> -</u>					+		Sediment			
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	· · · · ·	I	1		<u> </u>				L		
METHO	DS										
Sampling I	Equipment wi	th IDs:									
						Decon Fou	ipment.				
	Purging Equipment: Decon Equipment:										
Disposal o	Disposal of Discharged Water:										
Observatio	ons/Comment	ts:									
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		SAMPLING R		WELL NUMBER: Y Page: of								
Project Na	me:itar	noulle L!	P			Project Num	ber:					
Date:	2/11/17		-			Starting Wate	er Level (ft	TOC):				
Developed	. Dy		-			Casing Stick	up (ft):					
Measuring	Point of Wel	l:				Total Depth (ft TOC): Casing Diameter (inches):						
Screened Filter Pack	mervat (tt. T(∶Interval (ft. T	DC)				Casing Diam	ieter (inches	5):				
		(ft Water				(1.)/ <i>ee</i> .)						
Casing vol	lumes: 2" = ((it water 0.16 gpf 0.62 Lpf	4" = 0.65 gpf	6"	= 1.47 gpf	(L)(gal) Sample Intake Depth (ft TOC):						
PURGIN		REMENTS	<u> 2.40 Lpt</u>	0	- 5.50 LPI	. <u></u>			<u> </u>			
Criteria:		Typical	Stable and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul.	0.1-0.5 Lpm Purge Rate	minimal and Water	Temp.	Specific	Dissolved	pH	Eh	Turbidity	Comments		
	Volume (gal or L)	(gpm or Lpm)	Level (ft)	(CorF)	Conductivity (µS/cm)	Oxygen (mg/L)	PL	ORP (mv)	(NTU)	COMMENTS		
1315		(gr or up(1))		11.7	195.3	(mg/L) 3 - 35	\$.06		\$,91	Sample		
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L	L											
Total Gallo	ons Purged:					Total Casing	Volumes R	emoved:				
Ending We	iter Level (ft T	OC):				Ending Total	Denth /# T	DC).				
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Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	Irance		Remarks		
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					ļ		Color	Sediment				
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METHOD)S											
	Sampling Equipment with IDs:											
						Deces 5						
						Decon Equi						
		Water:										
Observatio	ns/Comments	s:										

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GROUND	WATER S		ECORD			WELL NUMB	WELL NUMBER: <u> </u>					
Project Nan	ne: <u>l-l-a</u>	nsvilla				Project Numb	er <u>.</u>					
Date:	Flatin	ı				Starting Wate	r Level (ft T	OC):				
Developed	by:					Casing Sticku	p (ft):					
						Total Depth (ft TOC):						
Screened Ir	nterval (ft. TC)				Casing Diameter (inches):						
		OC)										
		(ft Water)).16 gpf 4				(L)(gal)			Sample Inta	ke Depth (ft TOC):		
-	2" = ().62 Lpf 4										
PURGING	G MEASUI	REMENTS										
Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul.	Purge Rate	Water	Temp.	Specific Conductivity	Dissolved	pН	Eh ORP	Turbidity	Comments		
	Volume (gal or L)	(gpm or Lpm)	Level (ft)	(C or F)	(µS/cm)	Oxygen (mg/L)		(mv)	(NTU)			
	(341 01 14)			,								
		· <u> </u>		11.7	195.3	225	240	166	232	Simple		
1230				<u> 11. r</u>	170.0	0.00	1.02	100.00	$\alpha \cdot j -$			
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	L	I		I	L		Volumes	L				
Total Gallo	ons Purged:				_	Total Casing	volumes H	(emoved:				
Ending Wa	ter Level (ft *	TOC):				Ending Total	Depth (ft T	OC):		-		
					<u> </u>							
	Volume	Bottle Type	T	Quantity	Filtration	Preservation	Anne	arance		Remarks		
Time	volume	Dome Type		suanuty				Turbidity &	1			
			I		ļ	ļ	Color	Sediment				
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METHO	DS											
Sampling I	Equipment w	ith IDs:										
Purging Ed	quipment:					_ Decon Equ	ipment:					
		Water:							. <u></u>			
Dispusaro	n Disonaryeu			···· ··· ··· ··· ··· ··· ··· ··· ··· ·		n						
Observatio	ons/Commen	ts:										
ł										50		
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GROUN	OWATER S	AMPLING R	ECORD			WELL NUMBER: MW-121 Page: of						
Project Na	me:	langville	LF			Project Numb						
Date:	/u[']	1	-			Starting Wate	er Level (ft 1	FOC):	0.10			
Developed	by:		•			Casing Stick	up (ft):	·	4.60	*		
						Total Depth (ft TOC):						
)C)				Casing Diameter (inches):						
Filter Pack	Interval (ft. T	OC)										
		(ft Water .16 gpf				(L)(gal) Sample Intake Depth (ft TOC):						
	2" = 0).62 Lpf										
PURGIN	G MEASUR											
Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	па	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductivity	Dissolved Oxygen	pН	Eh ORP	Turbidity	Comments		
11:00	(gal or L)	(gpm or (pm)	(ft)	(C or F)	(µS/cm)	(mg/L)		(mv)	(NTU)			
11:59		3					0 10	10.2	271	Start		
12: D4			9.7	10,9	180.9	0.49	7.37	160.3				
12:09			9.7	11.0	182,5	0.23	7.40	148.4	,24	2		
12:15				11.0	183.2		7.38	142.7	,12 ,13			
12:20		<u> </u>	1	11.0	183.6	2.14	730	138.6	13	sample		
10100				1.0	182.0		- [-: - 3r	120.0				
			1									
						L						
Total Gallo	ons Purged:					Total Casing	Volumes F	Removed:				
					_	-						
Ending Wa	ater Level (ft T	OC):	· _ · _ · _ · _ · _ · · · · _ · _ · _ · _ · _ · · · _ · _ · _ · · · · · · · · · · · _ = · _ · _		· · ·	Ending Total	Depth (ft T	UC):				
SAMPLE			1	٥	T	.	1					
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance	1	Remarks		
				1			Color	Turbidity & Sediment				
12:25	IL	poly	1	l	N	-						
16.67	500ml	amb	1	1	N	Saif				······································		
				+		JOCH			<u> </u>			
	9	poly				11.10			<u> </u>			
	(*	"		2	Y	HNO,	<u> </u>	ļ	-			
	250mL		ļ	- 1	Y I	-		ļ				
	40mL	VOA		3	N	Hei						
METHO	ns		···-·		i							
Sampling	Equipment wit	th IDs.	Gnu	ndfor	/ peris	caffic						
Puraina Fe	auipment:		ICI DI	NO.	<u> </u>	Decon Equipment: ALONOX + H2D						
Disposal	f Discharged	Water:	Dn	5149								
		s:	•	· · · · ·								
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GROUN	GROUNDWATER SAMPLING RECORD						WELL NUMBER: <u>MW</u> -5 Page: of					
Project Na	me:	Yansv.T.	eLŦ			Project Number:						
		7				Starting Wat		TOC):	2.58			
Developed	/					Casing Stick	up (ft):		1-0			
Measuring	Point of Well	:				Total Depth	(ft TOC):			V		
Screened I	Interval (ft. TC	DC)				Casing Diam						
		OC)				L						
		(ft Water)).16 gpf				(L)(gal)			Sample Inte	ake Depth (ft TOC):		
		0.62 Lpf										
PURGIN	G MEASU											
Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	рН	Eh	Turbidity	Comments		
	Volume (gal or L)	(gpm or Lom)	Level (ft)	(C or F)	Conductivity (µS/cm)	Oxygen (mg/L)	·	ORP (mv)	(NTU)			
10:20		5. 4			A			· ····/		start		
10:25		· · ·	98.6	11.3	150.8	9.40	7.69	135.6	.38			
				1.3		1.TO						
10:30		· · · · · · · · · · · · · · · · · · ·	98.6	11.5	151,7	9.21		132.4				
10:35	ļ			#12.4		8.85	7.47	106.8	.13			
10:40				13.0	150.8	8.80	7.50	105.1	<u>_09</u>			
10:45				13.6	150,6	8.59	7.49		.08			
10:50				13.9	150.8	8.37	1.41	113.2	.08	sounde		
	· · · ·						1.4.1.1	11-10-				
	ļ											
						†						
<u> </u>						<u> </u>				L		
		,								l		
Total Gallo	ons Purged:				_	Total Casing	Volumes R	Removed:				
			_									
Ending Wa	ater Level (ft T	OC):				Ending Total	Depth (ft T	OC) <u>:</u>		-		
SAMPLE	INVENTO	RY										
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance		Remarks		
							Color	Turbidity & Sediment				
10:55	پورون پورون	Deli			N			Soument				
10.75		poly					·			n		
	500ml	ans			N	Suff						
	1'	paly	L	1	N	None	L					
	11	11		2	ĭ	HN03			·			
	250mL	, 17		i	N ·	None						
	42NL	NOA		3	N	HCI						
		<u>V r1</u>	L									
METHOD	DS		<u> </u>	n 1		(5						
Samplina E	Equipment wit	h IDs:	Gmit	tog 1	perital	+10			1			
- · · ·	uipment:	10	TWIN		•	Decon Equ	inment.	Alco	NOVT	-H.o		
			<u>, , , w</u>	site	·····	_ boon Equ	.pon		X			
Uisposal of	I UISCHArged	Water:	<u>0</u> 2	JUR				-				
Observatio	ons/Comment	s:					<u> </u>			·		
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GROUN	GROUNDWATER SAMPLING RECORD											
Project Na	me: 44	nsville LF	,			Project Numl	oer:					
	•	11				Starting Wate	er Level (ft	тос): 🕅	3.30			
Developed	l by:					Casing Stick	up (ft):	·				
Measuring	Point of Well:					Total Depth (ft TOC <u>):</u>					
) <u> </u>				Casing Diam	eter (inches	s) <u>:</u>				
Filter Pack	Interval (ft. T	OC)			<u>.</u>							
Casing Vo	lume	(ft Water)	x	(Lpfv)(g	,pf) =	(L)(gal)						
Casing vol		0.16 gpf 4							Sample Inta	ike Depth (ft TOC):		
PURGIN	IG MEASUR		<u> </u>	Ê.								
Criteria	:	Typical 0.1-0.5 Lpm	Stable and minimal and	па	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	pН	Eh	Turbidity	Comments		
	Volume (gal or L)	(gpm o(Lpm)	Level (ft)	(CorF)	Conductivity (µS/cm)	Oxygen (mg/L)		ORP (mv)	(NTU)			
8:36		. Ý	(10)		(po/only	17.		()		start		
	+		82.1	17 2	309.1	19.37	7.09	12:1	.78			
8.42			83.4	12.3				121.1				
8:47		0.3.44	83.4		305.2			(19.2				
8.52		83. KJ	Same	12.4	302.8	1.84	6.93	118.2	.42			
8:57				12.5	299.9	1.79	699	115.0	.26			
902				12.3	299,6	1.78	6.92	114.6	0.20			
505			·					1		Samole		
· · · ·					-			<u> </u>				
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									· ·			
Total Gallo	ons Purged:				_	Total Casing	Volumes F	Removed:				
Ending Wa	ater Level (ft T	OC):				Ending Total	l Depth (ft T	OC):		_		
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Арре	arance		Remarks		
							Color	Turbidity & Sediment				
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	500mL	Poly			N	N						
	500-L	Poly		3	V	HNO3	ļ	L	ļ			
	250 ml	POIN			Y	N	- A.					
	HOAL	VOA		3	N	HCI						
	·											
METHO	DS	0	. 0	1	·							
Sampling	Equipment wit	th IDs: <u>Gn</u> YSI BI	indtos	<u> </u>	ustath	٢						
Purging E	quipment:	YSI BI	ue	. 1		Decon Equ	ipment:	Hlu	MOX +	H,O		
		Water:										
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Observatio	ons/Comment	s:										
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ANALYTICAL REPORT

Job Number: 280-99146-1 Job Description: Hansville Landfill

For: Aspect Consulting 350 Madison Ave N Bainbridge Island, WA 98110 Attention: Mr. Aaron Pruitt

Betsy Sara

Approved for release. Betsy A Sara Project Manager II 7/24/2017 2:25 PM

Betsy A Sara, Project Manager II 4955 Yarrow Street, Arvada, CO, 80002 (303)736-0189 betsy.sara@testamericainc.com 07/24/2017

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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CASE NARRATIVE

Client: Aspect Consulting

Project: Hansville Landfill

Report Number: 280-99146-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Sample Receiving

The samples were received on 07/13/2017; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 3.4° C, 5.3° C and 5.4° C.

One of three hydrochloric preserved VOA vials for sample SW-6 contained a bubble greater than 6 mm. The laboratory used the vials without headspace to perform the analysis. The client was notified on 7/13/2017.

Two sets of three hydrochloric preserved VOA vials for Trip Blanks were received but were not listed on the chain of custody. One set (TB1) was logged for 8260C SIM and TB2 was cancelled per the client's request.

Holding Times

All holding times were within established control limits.

Method Blanks

All Method Blanks were within established control limits.

Laboratory Control Samples (LCS)

All Laboratory Control Samples were within established control limits.

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

All MS and MSD samples were within established control limits.

Organics

The analyte 2-chloroethyl vinyl ether cannot be reliably quantitated in acid preserved samples, therefore, the reporting limit for the analyte 2-chloroethyl vinyl ether is not reliable or defensible.

General Comments

The analysis for Method 8260C SIM was performed by TestAmerica Buffalo. Their address and phone number are: TestAmerica Buffalo 10 Hazelwood Drive, Suite 106 Amherst, NY 14228 716-691-2600 The analysis for Nitrate, Nitrite, Ortho-phosphate Method 300.0, and Dissolved Arsenic Method 200.8 were performed by ARI. Their address and phone number are: Analytical Resources, Inc. 4611 S.134th Place Tukwila, WA 98168-3240 206-695-6200

EXECUTIVE SUMMARY - Detections

Client: Aspect Consulting

Job Number: 280-99146-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-99146-1	MW-7					
Chloride		1.6		1.0	mg/L	300.0
Sulfate		4.4		1.0	mg/L	300.0
Total Alkalinity		150		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity	,	150		5.0	mg/L	SM 2320B
Total Organic Carbon	- Average	1.2		1.0	mg/L	SM 5310B
280-99146-2	MW-5					
Chloride	·	2.8		1.0	mg/L	300.0
Sulfate		8.8		1.0	mg/L	300.0
Total Alkalinity		60		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity	,	60		5.0	mg/L	SM 2320B
<i>Dissolved</i> Manganese		1.3		1.0	ug/L	6020
280-99146-3	MW-12I					
Vinyl chloride		0.099		0.020	ug/L	8260C SIM
Chloride		3.2		1.0	mg/L	300.0
Sulfate		6.3		1.0	mg/L	300.0
Total Alkalinity		87		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity	,	87		5.0	mg/L	SM 2320B
Total Organic Carbon	- Average	1.9		1.0	mg/L	SM 5310B
Dissolved		54		1.0	ug/l	6020
Manganese		54		1.0	ug/L	0020
280-99146-4	SW-1					
Chloride		4.8		1.0	mg/L	300.0
Sulfate		11		1.0	mg/L	300.0
Total Alkalinity		80		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		80		5.0	mg/L	SM 2320B
Total Organic Carbon	- Average	1.6		1.0	mg/L	SM 5310B
280-99146-5	SW-4					
Chloride		15		1.0	mg/L	300.0
Sulfate		23		1.0	mg/L	300.0
Total Alkalinity		160		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity	,	160		5.0	mg/L	SM 2320B
Total Organic Carbon		4.4		1.0	mg/L	SM 5310B
<i>Dissolved</i> Manganese		73		1.0	ug/L	6020
-					-	

EXECUTIVE SUMMARY - Detections

Client: Aspect Consulting

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
				-		
280-99146-6	SW-6					
Chloride		4.0		1.0	mg/L	300.0
Sulfate		2.2		1.0	mg/L	300.0
Ammonia as N		0.066		0.030	mg/L	350.1
Total Alkalinity		69		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity	-	69		5.0	mg/L	SM 2320B
Total Organic Carbor	n - Average	16		1.0	mg/L	SM 5310B
Dissolved						
Manganese		330		1.0	ug/L	6020
280-99146-7	MW-13D					
Chloride		6.0		1.0	mg/L	300.0
Sulfate		18		1.0	mg/L	300.0
Total Alkalinity		76		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity	y	76		5.0	mg/L	SM 2320B
Dissolved						
Manganese		25		1.0	ug/L	6020
280-99146-8	SW-7					
Chloride		3.6		1.0	mg/L	300.0
Sulfate		6.9		1.0	mg/L	300.0
Total Alkalinity		58		5.0	mg/L	SM 2320B
Bicarbonate Alkalinit	-	58		5.0	mg/L	SM 2320B
Total Organic Carbor	n - Average	6.6		1.0	mg/L	SM 5310B
Dissolved						
Manganese		5.6		1.0	ug/L	6020
280-99146-9	MW-14					
Vinyl chloride		0.14		0.020	ug/L	8260C SIM
Chloride		4.7		1.0	mg/L	300.0
Sulfate		13		1.0	mg/L	300.0
Total Alkalinity		110		5.0	mg/L	SM 2320B
Bicarbonate Alkalinit	у	110		5.0	mg/L	SM 2320B
Dissolved						
Manganese		870		1.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Aspect Consulting

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-99146-10	MW-6					
Vinyl chloride		0.15		0.020	ug/L	8260C SIM
Chloride		9.9		1.0	mg/L	300.0
Sulfate		23		1.0	mg/L	300.0
Total Alkalinity		130		5.0	mg/L	SM 2320B
Bicarbonate Alkalini	ty	130		5.0	mg/L	SM 2320B
Dissolved						
Manganese		470		1.0	ug/L	6020
280-99146-11	MW-20DD					
Vinyl chloride		0.11		0.020	ug/L	8260C SIM
Chloride		4.7		1.0	mg/L	300.0
Sulfate		13		1.0	mg/L	300.0
Total Alkalinity		110		5.0	mg/L	SM 2320B
Bicarbonate Alkalini	ty	110		5.0	mg/L	SM 2320B
Dissolved						
Manganese		930		1.0	ug/L	6020

METHOD SUMMARY

Client: Aspect Consulting

Job Number: 280-99146-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP/MS) Preparation, Total Recoverable or Dissolved Metals Sample Filtration, Field	TAL DEN TAL DEN	SW846 6020	SW846 3005A FIELD_FLTRD
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Alkalinity	TAL DEN	SM SM 2320B	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	
Volatile Organic Compounds (GC/MS) Purge and Trap	TAL BUF TAL BUF	SW846 8260C	SIM SW846 5030C
General Sub Contract Method	SC0056	Subcontract	

Lab References:

SC0056 = Analytical Resources, Inc

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Method References:

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

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.

METHOD / ANALYST SUMMARY

Client: Aspect Consulting

Method	Analyst	Analyst ID
SW846 8260C SIM	Farrell, Ryan J	RJF
SW846 6020	Trudell, Lynn-Anne M	LMT
MCAWW 300.0	Benson, Alex F	AFB
MCAWW 350.1	Moore, Kevin A	KAM
SM SM 2320B	Duplin, Alysha 1	A1D
SM SM 5310B	Jewell, Connie C	CCJ

Client: Aspect Consulting

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-99146-1	MW-7	Water	07/11/2017 0905	07/13/2017 0845
280-99146-2	MW-5	Water	07/11/2017 1055	07/13/2017 0845
280-99146-3	MW-12I	Water	07/11/2017 1225	07/13/2017 0845
280-99146-4	SW-1	Water	07/11/2017 1230	07/13/2017 0845
280-99146-5	SW-4	Water	07/11/2017 1315	07/13/2017 0845
280-99146-6	SW-6	Water	07/11/2017 1400	07/13/2017 0845
280-99146-7	MW-13D	Water	07/11/2017 1500	07/13/2017 0845
280-99146-8	SW-7	Water	07/11/2017 1530	07/13/2017 0845
280-99146-9	MW-14	Water	07/11/2017 1850	07/13/2017 0845
280-99146-10	MW-6	Water	07/11/2017 1940	07/13/2017 0845
280-99146-11	MW-20DD	Water	07/11/2017 0000	07/13/2017 0845
280-99146-12TB	TB1	Water	07/11/2017 0000	07/13/2017 0845

SAMPLE RESULTS

Client: Aspect Consulting

Client Sample ID	: MW-7					
Lab Sample ID: Client Matrix:	280-99146-1 Water					npled: 07/11/2017 0905 ceived: 07/13/2017 0845
	82	860C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1150 07/21/2017 1150	Analysis Batch: Prep Batch:	480-368062 N/A	Lab File ID Initial Weig		
Analyte		Result (u	ıg/L)	Qualifier		RL
Vinyl chloride		ND				0.020
Surrogate		%Rec		Qualifier	Acceptan	nce Limits
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	99 102			50 - 150 50 - 150	

Client: Aspect Consulting

Client Sample ID	: MW-5					
Lab Sample ID: Client Matrix:	280-99146-2 Water					npled: 07/11/2017 1055 ceived: 07/13/2017 0845
	82	260C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1214 07/21/2017 1214	Analysis Batch: Prep Batch:	480-36806 N/A	Lab File II Initial Wei		
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		ND				0.020
Surrogate		%Rec		Qualifier	•	nce Limits
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	98 94			50 - 150 50 - 150	

Client: Aspect Consulting

Client Sample ID	MW-12I					
Lab Sample ID: Client Matrix:	280-99146-3 Water					npled: 07/11/2017 1225 ceived: 07/13/2017 0845
	8	260C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1238 07/21/2017 1238	Analysis Batch: Prep Batch:	480-36806 N/A	Lab File Initial W		HP5973J J3839.D 25 mL 25 mL
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		0.099				0.020
Surrogate Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	%Rec 97 93		Qualifier	Acceptan 50 - 150 50 - 150	nce Limits

Client: Aspect Consulting

Client Sample ID	SW-1					
Lab Sample ID: Client Matrix:	280-99146-4 Water					npled: 07/11/2017 1230 eived: 07/13/2017 0845
	82	60C SIM Volatile Org	anic Compo	ounds (GC	C/MS)	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1303 07/21/2017 1303	Analysis Batch: Prep Batch:	480-36806 N/A	L: Ir	nstrument ID: ab File ID: nitial Weight/Volume: ïinal Weight/Volume:	HP5973J J3840.D 25 mL 25 mL
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		ND				0.020
Surrogate		%Rec		Qualifier	Acceptan	ce Limits
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	100 98			50 - 150 50 - 150	

Client: Aspect Consulting

Client Sample ID	SW-4					
Lab Sample ID: Client Matrix:	280-99146-5 Water					npled: 07/11/2017 1315 ceived: 07/13/2017 0845
	82	260C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1327 07/21/2017 1327	Analysis Batch: Prep Batch:	480-36806 N/A	Lab File II Initial Wei		
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		ND				0.020
Surrogate		%Rec		Qualifier	Acceptar	nce Limits
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	98 100			50 - 150 50 - 150	

Client: Aspect Consulting

Client Sample ID	SW-6					
Lab Sample ID: Client Matrix:	280-99146-6 Water					npled: 07/11/2017 1400 ceived: 07/13/2017 0845
	82	860C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1351 07/21/2017 1351	Analysis Batch: Prep Batch:	480-368062 N/A	Lab File ID Initial Weig		HP5973J J3842.D 25 mL 25 mL
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		ND				0.020
Surrogate Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	%Rec 96 94		Qualifier	Acceptan 50 - 150 50 - 150	nce Limits

Client: Aspect Consulting

Client Sample ID	: MW-13D					
Lab Sample ID: Client Matrix:	280-99146-7 Water					npled: 07/11/2017 1500 ceived: 07/13/2017 0845
	82	60C SIM Volatile Org	anic Compo	ounds (G	C/MS)	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1415 07/21/2017 1415	Analysis Batch: Prep Batch:	480-36806 N/A	l	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	HP5973J J3843.D 25 mL 25 mL
Analyte		Result (u	ıg/L)	Qualifie	r	RL
Vinyl chloride		ND				0.020
Surrogate Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	%Rec 98 95		Qualifier	r Acceptar 50 - 150 50 - 150	nce Limits

Client: Aspect Consulting

Client Sample ID	SW-7					
Lab Sample ID: Client Matrix:	280-99146-8 Water					npled: 07/11/2017 1530 ceived: 07/13/2017 0845
	82	260C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1440 07/21/2017 1440	Analysis Batch: Prep Batch:	480-368062 N/A	2 Instrument Lab File ID Initial Weig Final Weigl	ht/Volume:	HP5973J J3844.D 25 mL 25 mL
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		ND				0.020
Surrogate		%Rec		Qualifier	Acceptan	ice Limits
Dibromofluoromet TBA-d9 (Surr)	nane (Surr)	99 98			50 - 150 50 - 150	

Client: Aspect Consulting

Client Sample ID:	MW-14					
Lab Sample ID: Client Matrix:	280-99146-9 Water					npled: 07/11/2017 1850 ceived: 07/13/2017 0845
	82	260C SIM Volatile Org	anic Compo	ounds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1504 07/21/2017 1504	Analysis Batch: Prep Batch:	480-36806 N/A	Lab File II Initial Wei		
Analyte		Result (u	g/L)	Qualifier		RL
Vinyl chloride		0.14				0.020
Surrogate Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	%Rec 98 101		Qualifier	Acceptan 50 - 150 50 - 150	nce Limits

Client: Aspect Consulting

Client Sample ID	MW-6					
Lab Sample ID: Client Matrix:	280-99146-10 Water					npled: 07/11/2017 1940 ceived: 07/13/2017 0845
	82	60C SIM Volatile Org	anic Compo	unds (GC/MS)		
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1528 07/21/2017 1528	Analysis Batch: Prep Batch:	480-36806 N/A	Lab Fil Initial V	nent ID: e ID: Veight/Volume: Veight/Volume:	HP5973J J3846.D 25 mL 25 mL
Analyte		Result (u	ıg/L)	Qualifier		RL
Vinyl chloride		0.15	-			0.020
Surrogate		%Rec		Qualifier	Acceptan	ce Limits
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	100 100			50 - 150 50 - 150	

Client: Aspect Consulting

Client Sample ID	: MW-20DD						
Lab Sample ID: Client Matrix:	280-99146-11 Water					npled: 07/11/2017 0 eived: 07/13/2017 0	
	826	60C SIM Volatile Org	anic Compou	unds (GC/MS)			
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1553 07/21/2017 1553	Analysis Batch: Prep Batch:	480-368062 N/A	Lab File ID Initial Weig		HP5973J J3847.D 25 mL 25 mL	
Analyte		Result (u	g/L)	Qualifier		RL	
Vinyl chloride		0.11				0.020	
Surrogate		%Rec		Qualifier	Acceptan	ce Limits	
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	101 107			50 - 150 50 - 150		

Client: Aspect Consulting

Client Sample ID	: TB1					
Lab Sample ID: Client Matrix:	280-99146-12TB Water					mpled: 07/11/2017 0000 eceived: 07/13/2017 0845
	826	0C SIM Volatile Org	anic Comp	ounds ((GC/MS)	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	8260C SIM 5030C 1.0 07/21/2017 1617 07/21/2017 1617	Analysis Batch: Prep Batch:	480-36806 N/A	52	Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume:	
Analyte		Result (u	ıg/L)	Qualif	lier	RL
Vinyl chloride		ND	-			0.020
Surrogate		%Rec		Qualif	fier Accepta	ince Limits
Dibromofluoromet TBA-d9 (Surr)	hane (Surr)	100 100			50 - 150 50 - 150	

Client: Aspect Consulting

Lab Sample ID: Client Matrix:	280-99146-1 Water				mpled: 07/11/2017 09 eceived: 07/13/2017 08
		6020 Metals (IC	CP/MS)-Dissol	ved	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0145 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	
Analyte		Result (u	g/L) (Qualifier	RL
Manganese		ND			1.0

Client: Aspect Consulting

Client Sample ID	: MW-5				
Lab Sample ID: Client Matrix:	280-99146-2 Water				mpled: 07/11/2017 1055 eceived: 07/13/2017 0845
		6020 Metals (I	CP/MS)-Dissol	ved	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0205 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	
Analyte		Result (u	ıg/L) (Qualifier	RL
Manganese		1.3	-		1.0

Client: Aspect Consulting

Client Sample ID	: MW-12I				
Lab Sample ID: Client Matrix:	280-99146-3 Water				npled: 07/11/2017 1225 ceived: 07/13/2017 0845
		6020 Metals (10	CP/MS)-Dissolv	ed	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0208 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 217SMPL.d 50 mL 50 mL
Analyte		Result (u	ıg/L) Qı	ualifier	RL
Manganese		54			1.0

Client: Aspect Consulting

Client Sample ID: Lab Sample ID: Client Matrix:	: SW-1 280-99146-4 Water				npled: 07/11/2017 1230 ceived: 07/13/2017 084
		6020 Metals (I0	CP/MS)-Dissolv	ed	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0220 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 220SMPL.d 50 mL 50 mL
Analyte		Result (u	ıg/L) Qu	alifier	RL
Manganese		ND			1.0

Client: Aspect Consulting

Client Sample ID	: SW-4				
Lab Sample ID: Client Matrix:	280-99146-5 Water				mpled: 07/11/2017 1315 eceived: 07/13/2017 0845
		6020 Metals (I	CP/MS)-Disso	lved	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0223 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	
Analyte		Result (u	ıg/L) (Qualifier	RL
Manganese		73	-		1.0

Client: Aspect Consulting

Client Sample ID	: SW-6				
Lab Sample ID: Client Matrix:	280-99146-6 Water				npled: 07/11/2017 1400 ceived: 07/13/2017 0845
		6020 Metals (I0	CP/MS)-Dissolv	ed	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0227 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 222SMPL.d 50 mL 50 mL
Analyte		Result (u	ıg/L) Qu	alifier	RL
Manganese		330	-		1.0

Client: Aspect Consulting

Client Sample ID	: MW-13D				
Lab Sample ID: Client Matrix:	280-99146-7 Water				ampled: 07/11/2017 1500 eceived: 07/13/2017 0845
		6020 Metals (I	CP/MS)-Disso	lved	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0231 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume	
Analyte		Result (u	ig/L)	Qualifier	RL
Manganese		25			1.0

Client: Aspect Consulting

Client Sample ID: Lab Sample ID: Client Matrix:	280-99146-8 Water				npled: 07/11/2017 153 ceived: 07/13/2017 084
		6020 Metals (I0	CP/MS)-Dissolve	ed	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0235 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 224SMPL.d 50 mL 50 mL
Analyte		Result (u	g/L) Qu	alifier	RL
Manganese		5.6	-		1.0

Client: Aspect Consulting

Client Sample ID	: MW-14				
Lab Sample ID: Client Matrix:	280-99146-9 Water				mpled: 07/11/2017 1850 ceived: 07/13/2017 0845
		6020 Metals (10	CP/MS)-Dissol	ved	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0239 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 225SMPL.d 50 mL 50 mL
Analyte		Result (u	ig/L) G	Qualifier	RL
Manganese		870			1.0

Client: Aspect Consulting

Client Sample ID: Lab Sample ID: Client Matrix:	: MW-6 280-99146-10 Water				mpled: 07/11/2017 1940 eceived: 07/13/2017 0845
		6020 Metals (I0	CP/MS)-Disso	lved	
Analysis Method: Prep Method: Dilution: Analysis Date: Prep Date:	6020 3005A 1.0 07/18/2017 0242 07/17/2017 0703	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume:	
Analyte		Result (u	ıg/L) (Qualifier	RL
Manganese		470			1.0

Client: Aspect Consulting

Client Sample ID	MW-20DD				
Lab Sample ID: Client Matrix:	280-99146-11 Water				npled: 07/11/2017 0000 ceived: 07/13/2017 0845
		6020 Metals (I	CP/MS)-Dissolve	d	
Analysis Method: Prep Method: Dilution:	6020 3005A 1.0	Analysis Batch: Prep Batch:	280-381107 280-380768	Instrument ID: Lab File ID: Initial Weight/Volume:	MT_077 227SMPL.d 50 mL
Analysis Date: Prep Date:	07/18/2017 0246 07/17/2017 0703			Final Weight/Volume:	50 mL
Analyte		Result (u	ıg/L) Qua	alifier	RL
Manganese		930			1.0

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-7

Lab Sample ID: 280-99146-1 Client Matrix: Water Date Sampled: 07/11/2017 0905 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	1.6		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1158			
Sulfate	4.4		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1158			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1714			
Total Alkalinity	150		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1034			
Bicarbonate Alka	alinity 150		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1034			
Carbonate Alkali	inity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1034			
Total Organic Ca	arbon - Average 1.2		mg/L	1.0	1.0	SM 5310B
-	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 1939			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-5

Lab Sample ID: 280-99146-2 Client Matrix: Water Date Sampled: 07/11/2017 1055 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	2.8		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1309			
Sulfate	8.8		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1309			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1716			
Total Alkalinity	60		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1039			
Bicarbonate Alka	alinity 60		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1039			
Carbonate Alkali	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1039			
Total Organic Ca	arbon - Average ND		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 1954			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-12I

Lab Sample ID:	280-99146-3
Client Matrix:	Water

Date Sampled: 07/11/2017 1225 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	3.2		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1326			
Sulfate	6.3		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1326			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1718			
Total Alkalinity	87		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1057			
Bicarbonate Alka	alinity 87		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1057			
Carbonate Alkali	inity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1057			
Total Organic Ca	arbon - Average 1.9		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2009			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: SW-1

Lab Sample ID: 280-99146-4 Client Matrix: Water Date Sampled: 07/11/2017 1230 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.8		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1344			
Sulfate	11		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1344			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1720			
Total Alkalinity	80		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1103			
Bicarbonate Alka	alinity 80		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1103			
Carbonate Alkali	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1103			
Total Organic Ca	arbon - Average 1.6		mg/L	1.0	1.0	SM 5310B
-	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2024			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: SW-4

Lab Sample ID: 280-99146-5 Client Matrix: Water Date Sampled: 07/11/2017 1315 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	15		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1402			
Sulfate	23		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1402			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1722			
Total Alkalinity	160		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1109			
Bicarbonate Alka	linity 160		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1109			
Carbonate Alkali	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1109			
Total Organic Ca	arbon - Average 4.4		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2112			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: SW-6

Lab Sample ID:280-99146-6Client Matrix:Water

Date Sampled: 07/11/2017 1400 Date Received: 07/13/2017 0845

nalyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.0		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1420			
Sulfate	2.2		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1420			
Ammonia as N	0.066		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1724			
otal Alkalinity	69		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1114			
Bicarbonate Alka	linity 69		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1114			
Carbonate Alkalii	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1114			
otal Organic Ca	rbon - Average 16		mg/L	1.0	1.0	SM 5310B
-	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2127			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-13D

Lab Sample ID: 280-99146-7 Client Matrix: Water Date Sampled: 07/11/2017 1500 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	6.0		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1437			
Sulfate	18		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 1437			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1744			
Total Alkalinity	76		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1120			
Bicarbonate Alka	alinity 76		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1120			
Carbonate Alkali	inity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1120			
Total Organic Ca	arbon - Average ND		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2141			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: SW-7

Lab Sample ID:280-99146-8Client Matrix:Water

Date Sampled: 07/11/2017 1530 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	3.6		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2058			
Sulfate	6.9		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2058			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1746			
Total Alkalinity	58		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1125			
Bicarbonate Alkal	inity 58		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1125			
Carbonate Alkalir	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1125			
Total Organic Ca	rbon - Average 6.6		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2156			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-14

Lab Sample ID:	280-99146-9
Client Matrix:	Water

Date Sampled: 07/11/2017 1850 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.7		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2116			
Sulfate	13		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2116			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1748			
Total Alkalinity	110		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1130			
Bicarbonate Alka	alinity 110		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1130			
Carbonate Alkali	inity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1130			
Total Organic Ca	arbon - Average ND		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2215			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-6

Lab Sample ID:280-99146-10Client Matrix:Water

Date Sampled: 07/11/2017 1940 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	9.9		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2134			
Sulfate	23		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2134			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1750			
Total Alkalinity	130		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1136			
Bicarbonate Alka	alinity 130		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1136			
Carbonate Alkali	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1136			
Total Organic Ca	arbon - Average ND		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2331			

Client: Aspect Consulting

Job Number: 280-99146-1

General Chemistry

Client Sample ID: MW-20DD

Lab Sample ID: 280-99146-11 Client Matrix: Water Date Sampled: 07/11/2017 0000 Date Received: 07/13/2017 0845

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.7		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2151			
Sulfate	13		mg/L	1.0	1.0	300.0
	Analysis Batch: 280-380837	Analysis Date	: 07/14/2017 2151			
Ammonia as N	ND		mg/L	0.030	1.0	350.1
	Analysis Batch: 280-381062	Analysis Date	: 07/14/2017 1752			
Total Alkalinity	110		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1141			
Bicarbonate Alka	alinity 110		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1141			
Carbonate Alkali	nity ND		mg/L	5.0	1.0	SM 2320B
	Analysis Batch: 280-380956	Analysis Date	: 07/15/2017 1141			
Total Organic Ca	arbon - Average ND		mg/L	1.0	1.0	SM 5310B
	Analysis Batch: 280-380960	Analysis Date	: 07/14/2017 2316			

DATA REPORTING QUALIFIERS

Lab Section

Qualifier

Description

QUALITY CONTROL RESULTS

Job Number: 280-99146-1

Client: Aspect Consulting

QC Association Summary

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-36	88062				
LCS 480-368062/5	Lab Control Sample	Т	Water	8260C SIM	
LCSD 480-368062/6	Lab Control Sample Duplicate	Т	Water	8260C SIM	
MB 480-368062/8	Method Blank	Т	Water	8260C SIM	
280-99146-1	MW-7	Т	Water	8260C SIM	
280-99146-2	MW-5	Т	Water	8260C SIM	
280-99146-3	MW-12I	Т	Water	8260C SIM	
280-99146-4	SW-1	Т	Water	8260C SIM	
280-99146-5	SW-4	Т	Water	8260C SIM	
280-99146-6	SW-6	Т	Water	8260C SIM	
280-99146-7	MW-13D	Т	Water	8260C SIM	
280-99146-8	SW-7	Т	Water	8260C SIM	
280-99146-9	MW-14	Т	Water	8260C SIM	
280-99146-10	MW-6	Т	Water	8260C SIM	
280-99146-11	MW-20DD	Т	Water	8260C SIM	
280-99146-12TB	TB1	Т	Water	8260C SIM	
180-121263-M-8 MS	Matrix Spike	Т	Water	8260C SIM	
480-121263-M-8 MSD	Matrix Spike Duplicate	Т	Water	8260C SIM	

<u>Report Basis</u> T = Total

Job Number: 280-99146-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals	· · · · · · · · · · · · · · · · · · ·				-
Prep Batch: 280-38076	88				
LCS 280-380768/2-A	Lab Control Sample	R	Water	3005A	
MB 280-380768/1-A	Method Blank	R	Water	3005A	
280-99146-1	MW-7	D	Water	3005A	
280-99146-1MS	Matrix Spike	D	Water	3005A	
280-99146-1MSD	Matrix Spike Duplicate	D	Water	3005A	
280-99146-2	MW-5	D	Water	3005A	
280-99146-3	MW-12I	D	Water	3005A	
280-99146-4	SW-1	D	Water	3005A	
280-99146-5	SW-4	D	Water	3005A	
280-99146-6	SW-6	D	Water	3005A	
280-99146-7	MW-13D	D	Water	3005A	
280-99146-8	SW-7	D	Water	3005A	
280-99146-9	MW-14	D	Water	3005A	
280-99146-10	MW-6	D	Water	3005A	
280-99146-11	MW-20DD	D	Water	3005A	
Analysis Batch:280-38	1107				
LCS 280-380768/2-A	Lab Control Sample	R	Water	6020	280-380768
VB 280-380768/1-A	Method Blank	R	Water	6020	280-380768
280-99146-1	MW-7	D	Water	6020	280-380768
280-99146-1MS	Matrix Spike	D	Water	6020	280-380768
280-99146-1MSD	Matrix Spike Duplicate	D	Water	6020	280-380768
280-99146-2	MW-5	D	Water	6020	280-380768
280-99146-3	MW-12I	D	Water	6020	280-380768
280-99146-4	SW-1	D	Water	6020	280-380768
280-99146-5	SW-4	D	Water	6020	280-380768
280-99146-6	SW-6	D	Water	6020	280-380768
280-99146-7	MW-13D	D	Water	6020	280-380768
280-99146-8	SW-7	D	Water	6020	280-380768
280-99146-9	MW-14	D	Water	6020	280-380768
280-99146-10	MW-6	D	Water	6020	280-380768
280-99146-11	MW-20DD	D	Water	6020	280-380768

Report Basis D = Dissolved

R = Total Recoverable

Job Number: 280-99146-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-3	80837				
LCS 280-380837/4	Lab Control Sample	Т	Water	300.0	
LCSD 280-380837/5	Lab Control Sample Duplicate	Т	Water	300.0	
MB 280-380837/6	Method Blank	Т	Water	300.0	
280-99146-1	MW-7	Т	Water	300.0	
280-99146-1DU	Duplicate	Т	Water	300.0	
280-99146-1MS	Matrix Spike	Т	Water	300.0	
280-99146-1MSD	Matrix Spike Duplicate	Т	Water	300.0	
280-99146-2	MW-5	Т	Water	300.0	
280-99146-3	MW-12I	Т	Water	300.0	
280-99146-4	SW-1	Т	Water	300.0	
280-99146-5	SW-4	Т	Water	300.0	
280-99146-6	SW-6	Т	Water	300.0	
280-99146-7	MW-13D	Т	Water	300.0	
280-99146-8	SW-7	Т	Water	300.0	
280-99146-9	MW-14	Т	Water	300.0	
280-99146-10	MW-6	Т	Water	300.0	
280-99146-11	MW-20DD	Т	Water	300.0	
Analysis Batch: 280-3	80956				
LCS 280-380956/30	Lab Control Sample	Т	Water	SM 2320B	
MB 280-380956/31	Method Blank	Т	Water	SM 2320B	
280-99119-A-4 DU	Duplicate	Т	Water	SM 2320B	
280-99146-1	MW-7	Т	Water	SM 2320B	
280-99146-2	MW-5	Т	Water	SM 2320B	
280-99146-3	MW-12I	Т	Water	SM 2320B	
280-99146-4	SW-1	Т	Water	SM 2320B	
280-99146-5	SW-4	Т	Water	SM 2320B	
280-99146-6	SW-6	Т	Water	SM 2320B	
280-99146-7	MW-13D	Т	Water	SM 2320B	
280-99146-8	SW-7	Т	Water	SM 2320B	
280-99146-9	MW-14	Т	Water	SM 2320B	
280-99146-10	MW-6	Т	Water	SM 2320B	
280-99146-11	MW-20DD	т	Water	SM 2320B	

Job Number: 280-99146-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry				inotitou	
Analysis Batch:280-380	0960				
LCS 280-380960/3	Lab Control Sample	Т	Water	SM 5310B	
LCS 280-380960/34	Lab Control Sample	Ť	Water	SM 5310B	
MB 280-380960/35	Method Blank	Ť	Water	SM 5310B	
MB 280-380960/4	Method Blank	Т	Water	SM 5310B	
280-99102-C-4 MS	Matrix Spike	Т	Water	SM 5310B	
280-99102-C-4 MSD	Matrix Spike Duplicate	т	Water	SM 5310B	
280-99146-1	MW-7	Т	Water	SM 5310B	
280-99146-2	MW-5	Т	Water	SM 5310B	
280-99146-3	MW-12I	Т	Water	SM 5310B	
280-99146-4	SW-1	Т	Water	SM 5310B	
280-99146-5	SW-4	Т	Water	SM 5310B	
280-99146-6	SW-6	Т	Water	SM 5310B	
280-99146-7	MW-13D	Т	Water	SM 5310B	
280-99146-8	SW-7	Т	Water	SM 5310B	
280-99146-9	MW-14	Т	Water	SM 5310B	
280-99146-10	MW-6	Т	Water	SM 5310B	
280-99146-11	MW-20DD	Т	Water	SM 5310B	
Analysis Batch:280-38 ⁷	1062				
LCS 280-381062/59	Lab Control Sample	Т	Water	350.1	
LCSD 280-381062/60	Lab Control Sample Duplicate	Т	Water	350.1	
MB 280-381062/61	Method Blank	Т	Water	350.1	
280-99146-1	MW-7	Т	Water	350.1	
280-99146-2	MW-5	Т	Water	350.1	
280-99146-3	MW-12I	Т	Water	350.1	
280-99146-4	SW-1	Т	Water	350.1	
280-99146-5	SW-4	Т	Water	350.1	
280-99146-6	SW-6	Т	Water	350.1	
280-99146-6MS	Matrix Spike	Т	Water	350.1	
280-99146-6MSD	Matrix Spike Duplicate	Т	Water	350.1	
280-99146-7	MW-13D	Т	Water	350.1	
280-99146-8	SW-7	Т	Water	350.1	
280-99146-9	MW-14	Т	Water	350.1	
280-99146-10	MW-6	Т	Water	350.1	
280-99146-11	MW-20DD	Т	Water	350.1	

Report Basis

T = Total

Job Number: 280-99146-1

Surrogate Recovery Report

8260C SIM Volatile Organic Compounds (GC/MS)

Client Matrix: Water

	DBFM	TBA
Client Sample ID	%Rec	%Rec
MW-7	99	102
MW-5	98	94
MW-12I	97	93
SW-1	100	98
SW-4	98	100
SW-6	96	94
MW-13D	98	95
SW-7	99	98
MW-14	98	101
MW-6	100	100
MW-20DD	101	107
TB1	100	100
	98	97
	96	100
	96	104
	101	112
	99	90
	MW-7 MW-5 MW-12I SW-1 SW-4 SW-6 MW-13D SW-7 MW-14 MW-6 MW-20DD	Client Sample ID %Rec MW-7 99 MW-5 98 MW-12I 97 SW-1 100 SW-4 98 SW-6 96 MW-13D 98 SW-7 99 MW-6 100 MW-20DD 101 TB1 100 98 96 96 96 101 101

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

Acceptance Limits 50-150

50-150

Quality Control Results

Job Number: 280-99146-1

Client: Aspect Consulting

Method Blank - Batch: 480-368062

Method: 8260C SIM Preparation: 5030C

Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 480-368062/8 Water 1.0 07/21/2017 1118 07/21/2017 1118 N/A	Analysis Batch: 480-368062 Prep Batch: N/A Leach Batch: N/A Units: ug/L		Lab File Initial W	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:			
Analyte			Result	Q	ual		RL	
Vinyl chloride			ND				0.0	20
Surrogate			% Re	с		Acceptance Lir	nits	
Dibromofluorome TBA-d9 (Surr)	thane (Surr)		98 97			50 - 150 50 - 150		
Lab Control S Lab Control S	ample/ ample Duplicate Recove	ery Repo	rt - Batch	: 480-368062		d: 8260C SIN ration: 5030C		
LCS Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: LCS 480-368062/5 Water 1.0 07/21/2017 1004 07/21/2017 1004 N/A	Prep I	Batch:	480-368062 N/A N/A ug/L			HP5973J J3833.D 25 mL 25 mL 25 mL	
LCSD Lab Samp Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	le ID: LCSD 480-368062/6 Water 1.0 07/21/2017 1029 07/21/2017 1029 N/A	Prep I	Batch:	480-368062 N/A N/A ug/L			HP5973J J3834.D 25 mL 25 mL 25 mL	
Analyte		<u>%</u> LCS	<u>6 Rec.</u> LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride		113	118	50 - 150	4	20		
Surrogate		L	CS % Rec	LCSD %	% Rec Accer		ptance Limits	
Dibromofluorome TBA-d9 (Surr)	ethane (Surr)	9 1	6 00	96 104			0 - 150 0 - 150	

Client: Aspect Consulting

Job Number: 280-99146-1

Laboratory Control/ Laboratory Duplicate Data Report - Batch: 480-368062

Method: 8260C SIM Preparation: 5030C

LCS Lab Sample ID:	LCS 480-368062/5	Units: ug/L	LCSD Lab Sample ID: LCSD 480-368062/6			
Client Matrix:	Water		Client Matrix:	Water		
Dilution:	1.0		Dilution:	1.0		
Analysis Date:	07/21/2017 1004		Analysis Date:	07/21/2017 1029		
Prep Date:	07/21/2017 1004		Prep Date:	07/21/2017 1029		
Leach Date:	N/A		Leach Date:	N/A		

Analyte	LCS Spike	LCSD Spike	LCS	LCSD
	Amount	Amount	Result/Qual	Result/Qual
Vinyl chloride	0.200	0.200	0.227	0.236

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 480-368062

Method: 8260C SIM Preparation: 5030C

MS Lab Sample I Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	D: 480-121263-M-8 MS Water 1.0 07/21/2017 1908 07/21/2017 1908 N/A	Pre	llysis Batch: p Batch: ch Batch:	480-368062 N/A N/A			HP5973J J3855.D 25 mL 25 mL 25 mL	
MSD Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: 480-121263-M-8 MSD Water 1.0 07/21/2017 1932 07/21/2017 1932 N/A	Pre	Ilysis Batch: p Batch: ch Batch:	480-368062 N/A N/A			HP5973J J3856.D 25 mL 25 mL 25 mL	
		%	Rec.					
Analyte		MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Vinyl chloride		129	122	50 - 150	5	20		
Surrogate			MS % Rec	MSD	% Rec	Acce	eptance Limi	ts
Dibromofluorome TBA-d9 (Surr)	thane (Surr)		101 112	99 90			0 - 150 0 - 150	

Client: Aspect Consulting

Job Number: 280-99146-1

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 480-368062

Method: 8260C SIM Preparation: 5030C

MS Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	480-121263-M-8 MS Water 1.0 07/21/2017 1908 07/21/2017 1908 N/A	Units:	ug/L		MSD Lab Sa Client Matrix: Dilution: Analysis Date Prep Date: Leach Date:	·	480-12120 Water 1.0 07/21/201 07/21/201 N/A	7 1932	
Analyte		Sample		MS Spike	MSD Spike	MS Result/C		/ISD Posult/Qual	

Analyte	Result/Qual	Amount	Amount	Result/Qual	Result/Qual
Vinyl chloride	ND	0.200	0.200	0.264	0.250

Job Number: 280-99146-1

Client: Aspect Consulting

Method Blank -	Batch: 280-380768			Method: 6020 Preparation: 3005A Total Recoverable	
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 280-380768/1-A Water 1.0 07/18/2017 0138 07/17/2017 0703 N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-381107 280-380768 N/A ug/L	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 209_BLK.d 50 mL 50 mL
Analyte		Res	ult	Qual	RL
Manganese		ND			1.0
Lab Control Sa	mple - Batch: 280-3807	768		Method: 6020 Preparation: 3005A Total Recoverable	
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	LCS 280-380768/2-A Water 1.0 07/18/2017 0141 07/17/2017 0703 N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-381107 280-380768 N/A ug/L	Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	MT_077 210_LCS.d 50 mL 50 mL
Analyte		Spike Amount	Result	% Rec. Limit	Qual
Manganese		40.0	44.2	111 85 -	117
Matrix Spike/ Matrix Spike Di	uplicate Recovery Repo	ort - Batch: 280	-380768	Method: 6020 Preparation: 3005A Dissolved	
MS Lab Sample II Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	D: 280-99146-1 Water 1.0 07/18/2017 0153 07/17/2017 0703 N/A	Analysis Batc Prep Batch: Leach Batch:	280-380768		MT_077 213SMPL.d 50 mL 50 mL
MSD Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: 280-99146-1 Water 1.0 07/18/2017 0157 07/17/2017 0703 N/A	Analysis Batc Prep Batch: Leach Batch:	280-380768		MT_077 214SMPL.d 50 mL 50 mL
A		<u>% Rec.</u>			
Analyte		MS MSD	Limit	RPD RPD Limit	MS Qual MSD Qual
Manganese		101 107	85 - 117	5 20	

Job Number: 280-99146-1

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-380768

Method: 6020 Preparation: 3005A Dissolved

MS Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	280-99146-1 Water 1.0 07/18/2017 0153 07/17/2017 0703 N/A	Units: u	ıg/L		MSD Lab Sa Client Matrix Dilution: Analysis Dat Prep Date: Leach Date:	te:	Water 1.0 07/18/20	46-1 017 0157 017 0703
Analyte Manganese		Sample Result/Qual ND		MS Spike Amount 40.0	MSD Spike Amount 40.0	MS Result/0 41.2	Qual	MSD Result/Qual 43.4

Job Number: 280-99146-1

Client: Aspect Consulting

Method Blank - Batch: 280-380837

Method: 300.0 Preparation: N/A

Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 280-380837/6 Water 1.0 07/14/2017 1037 N/A N/A	Analysis Batch: 280-380837 Prep Batch: N/A Leach Batch: N/A Units: mg/L		Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume	
Analyte		Res	ult G	Qual	RL
Chloride Sulfate		ND ND			1.0 1.0
Method Report	ting Limit Check - Batcl	h: 280-380837		Method: 300.0 Preparation: N/A	
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MRL 280-380837/3 Water 1.0 07/14/2017 0944 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380837 N/A N/A mg/L	Instrument ID: Lab File ID: Initial Weight/Volum Final Weight/Volume	
Analyte		Spike Amount	Result	% Rec. Lim	
Chloride Sulfate		2.50 2.50	ND ND) - 150) - 150
Lab Control Sa Lab Control Sa	ample/ ample Duplicate Recove	ery Report - Ba	tch: 280-380837	Method: 300.0 7 Preparation: N/A	
LCS Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: LCS 280-380837/4 Water 1.0 07/14/2017 1001 N/A N/A	Analysis Bato Prep Batch: Leach Batch: Units:	N/A	Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume	
Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	e ID: LCSD 280-380837/5 Water 1.0 07/14/2017 1019 N/A N/A	Analysis Bato Prep Batch: Leach Batch: Units: <u>% Rec.</u>	N/A N/A mg/L	Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume	e: 5 mL 25 uL
Analyte		LCS LCS			it LCS Qual LCSD Qual
Chloride Sulfate		103 104 103 103		0 10 0 10	

Client: Aspect Consulting

Job Number: 280-99146-1

Laboratory Control/	
Laboratory Duplicate Data Report - Batch:	280-380837

LCS Lab Sample ID:	LCS 280-380837/4	Units: mg/L	LCSD Lab Sample I	D: LCSD 280-380837/5
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	07/14/2017 1001		Analysis Date:	07/14/2017 1019
Prep Date:	N/A		Prep Date:	N/A
Leach Date:	N/A		Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Chloride	100	100	103	104
Sulfate	100	100	103	103

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 280-380837

Method: 300.0 Preparation: N/A

Method: 300.0 Preparation: N/A

MS Lab Sample I Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	D: 280-99146-1 Water 1.0 07/14/2017 1233 N/A N/A	Prep	ysis Batch: ⊢Batch: h Batch:	280-380837 N/A N/A			WC_lonCl 09.0000.d 5 mL 5 mL 25 uL	nrom6
MSD Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: 280-99146-1 Water 1.0 07/14/2017 1251 N/A N/A	Prep	ysis Batch: Batch: h Batch:	280-380837 N/A N/A			WC_lonCl 10.0000.d 5 mL 5 mL 25 uL	nrom6
		%	Rec.					
Analyte		MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride		109	110	80 - 120	1	20		
Sulfate		113	114	80 - 120	1	20		

Job Number: 280-99146-1

Client: Aspect Consulting

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-380837

MS Lab Sample ID:	280-99146-1	Units: mg/L	MSD Lab Sample ID:	280-99146-1
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	07/14/2017 1233		Analysis Date:	07/14/2017 1251
Prep Date:	N/A		Prep Date:	N/A
Leach Date:	N/A		Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chloride	1.6	25.0	25.0	28.9	29.2
Sulfate	4.4	25.0	25.0	32.5	32.8

Duplicate - Batch: 280-380837

Method: 300.0 Preparation: N/A

Method: 300.0

Preparation: N/A

Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	280-99146-1 Water 1.0 07/14/2017 1216 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-38083 N/A N/A mg/L	7	Instrument ID: Lab File ID: Initial Weight/Volume Final Weight/Volume:	-	Irom6
Analyte		Sample Result	/Qual	Result	RPD	Limit	Qual
Chloride		1.6		1.63	0.6	15	
Sulfate		4.4		4.30	1	15	

Job Number: 280-99146-1

Client: Aspect Consulting

Method Blank - Batch: 280-381062

Method: 350.1 Preparation: N/A

Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 280-381062/61 Water 1.0 07/14/2017 1644 N/A N/A	Analysis Batch Prep Batch: Leach Batch: Units:	: 280-381062 N/A N/A mg/L	Instrument ID: Lab File ID: Initial Weight/Volum Final Weight/Volume	
Analyte		Re	sult	Qual	RL
Ammonia as N		NE)		0.030
Lab Control S Lab Control S	ample/ ample Duplicate Recove	ery Report - Ba	atch: 280-38106	Method: 350.1 52 Preparation: N/A	
LCS Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: LCS 280-381062/59 Water 1.0 07/14/2017 1640 N/A N/A	Analysis Ba Prep Batch: Leach Batcl Units:	N/A	Instrument ID: Lab File ID: Initial Weight/Volum Final Weight/Volume	
LCSD Lab Samp Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	le ID: LCSD 280-381062/60 Water 1.0 07/14/2017 1642 N/A N/A	Analysis Ba Prep Batch: Leach Batcl Units:	N/A	Instrument ID: Lab File ID: Initial Weight/Volum Final Weight/Volume	
Analyte		<u>% Rec.</u> LCS LC	SD Limit	RPD RPD Lim	nit LCS Qual LCSD Qual
Ammonia as N		100 10	2 90 - 110	2 10	
Laboratory Co Laboratory Du	ntrol/ plicate Data Report - Ba	ntch: 280-3810	062	Method: 350.1 Preparation: N/A	
LCS Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	ID: LCS 280-381062/59 Water 1.0 07/14/2017 1640 N/A N/A	Units: mg	J/L	LCSD Lab Sample ID Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	: LCSD 280-381062/60 Water 1.0 07/14/2017 1642 N/A N/A
Analyte		LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia as N		2.50	2.50	2.49	2.54

Job Number: 280-99146-1

Client: Aspect Consulting

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-381062

Method: 350.1 Preparation: N/A

Dilution: Analysis Date: (Prep Date: I	280-99146-6 Water 1.0 07/14/2017 1740 N/A N/A	Analysis Ba Prep Batch Leach Batc	n:	280-381062 N/A N/A			e: 10 mL	<i>N</i> _4\071417.RS [·]
Dilution: Analysis Date: (Prep Date: I	D: 280-99146-6 Water 1.0 07/14/2017 1742 N/A N/A	Analysis Batch Prep Batch Leach Batc	n:	280-381062 N/A N/A	Lab File I Initial We		e: 10 mL	N_4\071417.RS [`]
A		<u>% Rec.</u>	-	1 : :4				
Analyte		MS MS	D	Limit	RPD	RPD Limit	MS Qua	al MSD Qual
Ammonia as N		109 110)	90 - 110	0	10		
Matrix Spike/ Matrix Spike Dun	lianta Danama Dan				Method:	350.1		
matrix opine Dup	blicate Recovery Rep	ort - Batch: 2	80-38	1062	Preparati			
MS Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	280-99146-6 Water 1.0 07/14/2017 1740 N/A N/A	o rt - Batch: 2 Units: m		1062	Preparati	on: N/A Sample ID: ix: ate:	280-99146 Water 1.0 07/14/2017 N/A N/A	

Quality Control Results

Job Number: 280-99146-1

Client: Aspect Consulting

Method Blank - Batch: 280-380956

Method: SM 2320B Preparation: N/A

Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 280-380956/31 Water 1.0 07/15/2017 0941 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380956 N/A N/A mg/L		Instrument I Lab File ID: Initial Weigh Final Weigh	t/Volume:	WC_AT2 alk 071517	Y.TXT
Analyte		Res	ult	Qua	al		RL	
Total Alkalinity Bicarbonate Alkal Carbonate Alkalir	5	ND ND ND					5.0 5.0 5.0	
Lab Control Sa	mple - Batch: 280-380	956			Method: S Preparatio			
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	LCS 280-380956/30 Water 1.0 07/15/2017 0935 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380956 N/A N/A mg/L		Instrument I Lab File ID: Initial Weigh Final Weigh	t/Volume:	WC_AT2 alk 071517	Y.TXT
Analyte		Spike Amount	Result	C	% Rec.	Limit		Qual
Total Alkalinity		200	192		96	90 -	110	
Duplicate - Bat	ch: 280-380956				Method: S Preparatio			
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	280-99119-A-4 DU Water 1.0 07/15/2017 0953 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380956 N/A N/A mg/L		Instrument I Lab File ID: Initial Weigh Final Weigh	t/Volume:	WC_AT2 alk 071517	Y.TXT
Analyte		Sample Result	/Qual	Result		RPD	Limit	Qual
Total Alkalinity		260	2	253		2	10	

Quality Control Results

Job Number: 280-99146-1

Client: Aspect Consulting

Method Blank - Batch: 280-380960

Method: SM 5310B Preparation: N/A

Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 280-380960/4 Water 1.0 07/14/2017 1447 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380960 N/A N/A mg/L		Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	WC_SHI3 071417.txt	
Analyte		Res	ult	Qua	I	RL	
Total Organic Ca	rbon - Average	ND				1.0	
Method Blank	- Batch: 280-380960				Method: SM 5310B Preparation: N/A		
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	MB 280-380960/35 Water 1.0 07/14/2017 2247 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380960 N/A N/A mg/L		Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume:	WC_SHI3 071417.txt	
Analyte		Res	ult	Qua	I	RL	
Total Organic Ca	rbon - Average	ND				1.0	

WC_SHI3

071417.txt

Method: SM 5310B Preparation: N/A

Initial Weight/Volume:

Instrument ID:

Lab File ID:

Job Number: 280-99146-1

Client: Aspect Consulting

Lab Sample ID:

Client Matrix:

Dilution:

Lab Control Sample - Batch: 280-380960

Water

1.0

LCS 280-380960/3

Analysis Batch:

Prep Batch:

Leach Batch:

280-380960

N/A

N/A

Analysis Date: Prep Date: Leach Date:	07/14/2017 1432 N/A N/A	Units:	mg/L	Final Weig	ht/Volume:	100 mL	
Analyte		Spike Amount	Result	% Rec.	Limit		Qual
Total Organic Ca	rbon - Average	25.0	23.4	93	88 -	112	
Lab Control Sa	ample - Batch: 280-380	960		Method: Preparati	SM 5310B on: N/A		
Lab Sample ID: Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	LCS 280-380960/34 Water 1.0 07/14/2017 2232 N/A N/A	Analysis Batch: Prep Batch: Leach Batch: Units:	280-380960 N/A N/A mg/L			WC_SHI3 071417.txt 100 mL	
Analyte		Spike Amount	Result	% Rec.	Limit		Qual
Total Organic Ca	rbon - Average	25.0	23.1	92	88 -	112	
Matrix Spike/ Matrix Spike D	uplicate Recovery Rep	ort - Batch: 280	-380960	Method: Preparati	SM 5310B on: N/A		
MS Lab Sample I Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	D: 280-99102-C-4 MS Water 1.0 07/14/2017 1855 N/A N/A	Analysis Batc Prep Batch: Leach Batch:	h: 280-380960 N/A N/A	-		WC_SHI3 071417.txt 50 mL	
MSD Lab Sample Client Matrix: Dilution: Analysis Date: Prep Date: Leach Date:	e ID: 280-99102-C-4 MSD Water 1.0 07/14/2017 1910 N/A N/A	Analysis Batc Prep Batch: Leach Batch:	h: 280-380960 N/A N/A	-		WC_SHI3 071417.txt 50 mL	
Analyte		<u>% Rec.</u> MS MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual

Client: Aspect Consulting

Job Number: 280-99146-1

Matrix Spike/Method: SM 5310BMatrix Spike Duplicate Recovery Report - Batch: 280-380960Preparation: N/A

MS Lab Sample ID: 280-99102-C-4 MS Units: mg/L MSD Lab Sample ID: 280-99102-C-4 MSD Client Matrix: Client Matrix: Water Water Dilution: 1.0 Dilution: 1.0 Analysis Date: 07/14/2017 1855 Analysis Date: 07/14/2017 1910 N/A Prep Date: Prep Date: N/A Leach Date: Leach Date: N/A N/A

Analyte	Sample	MS Spike	MSD Spike	MS	MSD
	Result/Qual	Amount	Amount	Result/Qual	Result/Qual
Total Organic Carbon - Average	ND	25.0	25.0	23.8	23.8

Job Number: 280-99146-1

Client: Aspect Consulting

Laboratory Chronicle

Lab ID: 280-99146-1

Client ID: MW-7

Sample Date/Time: 07/11/2017 09:05

Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-1		480-368062		07/21/2017 11:50	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-1		480-368062		07/21/2017 11:50	1	TAL BUF	RJF
P:3005A	280-99146-C-1-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-1-A		280-381107	280-380768	07/18/2017 01:45	1	TAL DEN	LMT
A:300.0	280-99146-A-1		280-380837		07/14/2017 11:58	1	TAL DEN	AFB
A:350.1	280-99146-B-1		280-381062		07/14/2017 17:14	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-1		280-380956		07/15/2017 10:34	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-1		280-380960		07/14/2017 19:39	1	TAL DEN	CCJ

Lab ID: 280-99146-1 MS

Client ID: MW-7

Sample Date/Time: 07/11/2017 09:05 Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:3005A	280-99146-C-1-B MS		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-1-B MS		280-381107	280-380768	07/18/2017 01:53	1	TAL DEN	LMT
A:300.0	280-99146-A-1 MS		280-380837		07/14/2017 12:33	1	TAL DEN	AFB

Lab ID: 280-99146-1 MSD

Client ID: MW-7

Sample Date/Time: 07/11/2017 09:05 Received Date/Time: 07/13/2017 08:45

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-99146-C-1-C MSD		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-1-C MSD		280-381107	280-380768	07/18/2017 01:57	1	TAL DEN	LMT
A:300.0	280-99146-A-1 MSD		280-380837		07/14/2017 12:51	1	TAL DEN	AFB

Lab ID: 280-99146-1 DU

Client ID: MW-7

Sample Date/Time: 07/11/2017 09:05 Received Date/Time: 07/13/2017 08:45

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-99146-A-1 DU		280-380837		07/14/2017 12:16	1	TAL DEN	AFB

Job Number: 280-99146-1

Client: Aspect Consulting

Laboratory Chronicle

Lab ID: 280-99146-2

Client ID: MW-5

Sample Date/Time: 07/11/2017 10:55

Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-2		480-368062		07/21/2017 12:14	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-2		480-368062		07/21/2017 12:14	1	TAL BUF	RJF
P:3005A	280-99146-C-2-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-2-A		280-381107	280-380768	07/18/2017 02:05	1	TAL DEN	LMT
A:300.0	280-99146-A-2		280-380837		07/14/2017 13:09	1	TAL DEN	AFB
A:350.1	280-99146-B-2		280-381062		07/14/2017 17:16	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-2		280-380956		07/15/2017 10:39	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-2		280-380960		07/14/2017 19:54	1	TAL DEN	CCJ
-								

Lab ID: 280-99146-3

Client ID: MW-12I

Sample Date/Time: 07/11/2017 12:25

Received Date/Time: 07/13/2017 08:45

		Analysis		Date Prepared /			
Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
280-99146-E-3		480-368062		07/21/2017 12:3	31	TAL BUF	RJF
280-99146-E-3		480-368062		07/21/2017 12:3	B 1	TAL BUF	RJF
280-99146-C-3-A		280-381107	280-380768	07/17/2017 07:03	31	TAL DEN	TEB
280-99146-C-3-A		280-381107	280-380768	07/18/2017 02:08	B 1	TAL DEN	LMT
280-99146-A-3		280-380837		07/14/2017 13:20	31	TAL DEN	AFB
280-99146-B-3		280-381062		07/14/2017 17:18	31	TAL DEN	KAM
280-99146-A-3		280-380956		07/15/2017 10:5	71	TAL DEN	A1D
280-99146-B-3		280-380960		07/14/2017 20:09	91	TAL DEN	CCJ
	280-99146-E-3 280-99146-E-3 280-99146-C-3-A 280-99146-C-3-A 280-99146-A-3 280-99146-B-3 280-99146-A-3	280-99146-E-3 280-99146-E-3 280-99146-C-3-A 280-99146-C-3-A 280-99146-A-3 280-99146-B-3 280-99146-A-3	Bottle IDRunBatch280-99146-E-3480-368062280-99146-E-3480-368062280-99146-C-3-A280-381107280-99146-C-3-A280-381107280-99146-A-3280-380837280-99146-B-3280-381062280-99146-A-3280-380956	Bottle IDRunBatchPrep Batch280-99146-E-3480-368062280-99146-E-3480-368062280-99146-C-3-A280-381107280-380768280-99146-C-3-A280-381107280-380768280-99146-A-3280-380837280-380762280-99146-B-3280-381062280-380956	Bottle IDRunBatchPrep BatchAnalyzed280-99146-E-3480-36806207/21/201712:38280-99146-E-3480-36806207/21/201712:38280-99146-C-3-A280-381107280-38076807/17/2017280-99146-C-3-A280-381107280-38076807/18/2017280-99146-A-3280-38083707/14/201713:20280-99146-B-3280-38106207/14/201713:20280-99146-A-3280-38106207/14/201710:55	Bottle IDRunBatchPrep BatchAnalyzedDil280-99146-E-3480-36806207/21/2017 12:381280-99146-E-3480-36806207/21/2017 12:381280-99146-C-3-A280-381107280-38076807/17/2017 07:031280-99146-C-3-A280-381107280-38076807/18/2017 02:081280-99146-A-3280-38106207/14/2017 13:261280-99146-B-3280-38106207/14/2017 17:181280-99146-A-3280-38095607/15/2017 10:571	Bottle IDRunBatchPrep BatchAnalyzedDilLab280-99146-E-3480-36806207/21/2017 12:381TAL BUF280-99146-E-3480-36806207/21/2017 12:381TAL BUF280-99146-C-3-A280-381107280-38076807/17/2017 07:031TAL DEN280-99146-C-3-A280-381107280-38076807/18/2017 02:081TAL DEN280-99146-A-3280-38083707/14/2017 13:261TAL DEN280-99146-B-3280-38106207/14/2017 17:181TAL DEN280-99146-A-3280-38095607/15/2017 10:571TAL DEN

Lab ID: 280-99146-4

Client ID: SW-1

Sample Date/Time: 07/11/2017 12:30 Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-4		480-368062		07/21/2017 13:03	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-4		480-368062		07/21/2017 13:03	1	TAL BUF	RJF
P:3005A	280-99146-C-4-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-4-A		280-381107	280-380768	07/18/2017 02:20	1	TAL DEN	LMT
A:300.0	280-99146-A-4		280-380837		07/14/2017 13:44	1	TAL DEN	AFB
A:350.1	280-99146-B-4		280-381062		07/14/2017 17:20	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-4		280-380956		07/15/2017 11:03	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-4		280-380960		07/14/2017 20:24	1	TAL DEN	CCJ

Laboratory Chronicle

Job Number: 280-99146-1

Lab ID: 280-99146-5 Client ID: SW-4

Sample Date/Time: 07/11/2017 13:15

011112011

Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-5		480-368062		07/21/2017 13:27	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-5		480-368062		07/21/2017 13:27	1	TAL BUF	RJF
P:3005A	280-99146-C-5-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-5-A		280-381107	280-380768	07/18/2017 02:23	1	TAL DEN	LMT
A:300.0	280-99146-A-5		280-380837		07/14/2017 14:02	1	TAL DEN	AFB
A:350.1	280-99146-B-5		280-381062		07/14/2017 17:22	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-5		280-380956		07/15/2017 11:09	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-5		280-380960		07/14/2017 21:12	1	TAL DEN	CCJ

Lab ID: 280-99146-6

Client ID: SW-6

Sample Date/Time: 07/11/2017 14:00 Received Da

Received Date/Time: 07/13/2017 08:45

		Analysis		Date Prepared /			
Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
280-99146-E-6		480-368062		07/21/2017 13:51	1	TAL BUF	RJF
280-99146-E-6		480-368062		07/21/2017 13:51	1	TAL BUF	RJF
280-99146-C-6-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
280-99146-C-6-A		280-381107	280-380768	07/18/2017 02:27	1	TAL DEN	LMT
280-99146-A-6		280-380837		07/14/2017 14:20	1	TAL DEN	AFB
280-99146-B-6		280-381062		07/14/2017 17:24	1	TAL DEN	KAM
280-99146-A-6		280-380956		07/15/2017 11:14	1	TAL DEN	A1D
280-99146-B-6		280-380960		07/14/2017 21:27	1	TAL DEN	CCJ
	280-99146-E-6 280-99146-E-6 280-99146-C-6-A 280-99146-C-6-A 280-99146-A-6 280-99146-B-6 280-99146-A-6	280-99146-E-6 280-99146-E-6 280-99146-C-6-A 280-99146-C-6-A 280-99146-A-6 280-99146-B-6 280-99146-A-6	Bottle IDRunBatch280-99146-E-6480-368062280-99146-E-6480-368062280-99146-C-6-A280-381107280-99146-C-6-A280-381107280-99146-A-6280-380837280-99146-B-6280-381062280-99146-A-6280-380956	Bottle IDRunBatchPrep Batch280-99146-E-6480-368062280-99146-E-6480-368062280-99146-C-6-A280-381107280-380768280-99146-C-6-A280-381107280-380768280-99146-A-6280-380837280-380768280-99146-B-6280-381062280-381062280-99146-A-6280-380956280-380956	Bottle IDRunBatchPrep BatchAnalyzed280-99146-E-6480-36806207/21/2017 13:51280-99146-E-6480-36806207/21/2017 13:51280-99146-C-6-A280-381107280-38076807/17/2017 07:03280-99146-C-6-A280-381107280-38076807/18/2017 02:27280-99146-A-6280-38083707/14/2017 14:20280-99146-B-6280-38106207/14/2017 17:24280-99146-A-6280-38095607/15/2017 11:14	Bottle IDRunBatchPrep BatchAnalyzedDil280-99146-E-6480-36806207/21/2017 13:511280-99146-E-6480-36806207/21/2017 13:511280-99146-C-6-A280-381107280-38076807/17/2017 07:031280-99146-C-6-A280-381107280-38076807/18/2017 02:271280-99146-A-6280-38106207/14/2017 14:201280-99146-B-6280-38106207/14/2017 17:241280-99146-A-6280-38095607/15/2017 11:141	Bottle IDRunBatchPrep BatchAnalyzedDilLab280-99146-E-6480-36806207/21/2017 13:511TAL BUF280-99146-E-6480-36806207/21/2017 13:511TAL BUF280-99146-C-6-A280-381107280-38076807/17/2017 07:031TAL DEN280-99146-C-6-A280-381107280-38076807/18/2017 02:271TAL DEN280-99146-A-6280-38083707/14/2017 14:201TAL DEN280-99146-B-6280-38106207/14/2017 17:241TAL DEN280-99146-A-6280-38095607/15/2017 11:141TAL DEN

Lab ID: 280-99146-6 MS

Client ID: SW-6

Sample Date/Time: 07/11/2017 14:00 Received Date/Time: 07/13/2017 08:45

Method	Bottle ID	Analysis Run Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:350.1	280-99146-B-6 MS	280-38106	62	07/14/2017 17:4	01	TAL DEN	KAM
Lab ID:	280-99146-6 MSD	Client ID: SW-6 Sample Date/Time:	07/11/2017 14:0	00 Received Da	te/Time:	07/13/2017 ()8:45
Method	Bottle ID	Analysis Run Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:350.1	280-99146-B-6 MSD	280-38106	62	07/14/2017 17:4	21	TAL DEN	KAM

Laboratory Chronicle

Job Number: 280-99146-1

Lab ID: 280-99146-7

Client ID: MW-13D

Sample Date/Time: 07/11/2017 15:00

00 Received Date/Time: 07/13/2017 08:45

Bottle ID							
	Run	Batch	Prep Batch	Analyzed	D	il Lab	Analyst
280-99146-E-7		480-368062		07/21/2017 14:1	51	TAL BUF	RJF
280-99146-E-7		480-368062		07/21/2017 14:1	51	TAL BUF	RJF
280-99146-C-7-A		280-381107	280-380768	07/17/2017 07:0	31	TAL DEN	TEB
280-99146-C-7-A		280-381107	280-380768	07/18/2017 02:3	1 1	TAL DEN	LMT
280-99146-A-7		280-380837		07/14/2017 14:3	71	TAL DEN	AFB
280-99146-B-7		280-381062		07/14/2017 17:4	4 1	TAL DEN	KAM
280-99146-A-7		280-380956		07/15/2017 11:2	0 1	TAL DEN	A1D
280-99146-B-7		280-380960		07/14/2017 21:4	1 1	TAL DEN	CCJ
	280-99146-E-7 280-99146-C-7-A 280-99146-C-7-A 280-99146-A-7 280-99146-B-7 280-99146-A-7	280-99146-E-7 280-99146-C-7-A 280-99146-C-7-A 280-99146-A-7 280-99146-B-7 280-99146-A-7	280-99146-E-7480-368062280-99146-C-7-A280-381107280-99146-C-7-A280-381107280-99146-A-7280-380837280-99146-B-7280-381062280-99146-A-7280-380956	280-99146-E-7 480-368062 280-99146-E-7 480-368062 280-99146-C-7-A 280-381107 280-380768 280-99146-C-7-A 280-381107 280-380768 280-99146-A-7 280-380837 280-99146-B-7 280-99146-A-7 280-381062 280-99146-A-7	280-99146-E-7 480-368062 07/21/2017 14:1 280-99146-E-7 480-368062 07/21/2017 14:1 280-99146-E-7 280-381107 280-380768 07/17/2017 14:1 280-99146-C-7-A 280-381107 280-380768 07/17/2017 07:0 280-99146-C-7-A 280-381107 280-380768 07/18/2017 02:3 280-99146-A-7 280-380837 07/14/2017 14:3 280-99146-B-7 280-381062 07/14/2017 17:4 280-99146-A-7 280-380956 07/15/2017 11:2	280-99146-E-7480-36806207/21/201714:151280-99146-E-7480-36806207/21/201714:151280-99146-C-7-A280-381107280-38076807/17/201707:031280-99146-C-7-A280-381107280-38076807/18/201702:311280-99146-A-7280-38083707/14/201714:371280-99146-B-7280-38106207/14/201717:441280-99146-A-7280-38095607/15/201711:201	280-99146-E-7480-36806207/21/201714:151TAL BUF280-99146-E-7480-36806207/21/201714:151TAL BUF280-99146-C-7-A280-381107280-38076807/17/201707:031TAL DEN280-99146-C-7-A280-381107280-38076807/18/201702:311TAL DEN280-99146-A-7280-38083707/14/201714:371TAL DEN280-99146-B-7280-38106207/14/201717:441TAL DEN280-99146-A-7280-38095607/15/201711:201TAL DEN

Lab ID: 280-99146-8

Client ID: SW-7

Sample Date/Time: 07/11/2017 15:30 Recei

Received Date/Time: 07/13/2017 08:45

		Analysis		Date Prepared /			
Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
280-99146-E-8		480-368062		07/21/2017 14:40	1	TAL BUF	RJF
280-99146-E-8		480-368062		07/21/2017 14:40	1	TAL BUF	RJF
280-99146-C-8-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
280-99146-C-8-A		280-381107	280-380768	07/18/2017 02:35	1	TAL DEN	LMT
280-99146-A-8		280-380837		07/14/2017 20:58	1	TAL DEN	AFB
280-99146-B-8		280-381062		07/14/2017 17:46	1	TAL DEN	KAM
280-99146-A-8		280-380956		07/15/2017 11:25	1	TAL DEN	A1D
280-99146-B-8		280-380960		07/14/2017 21:56	1	TAL DEN	CCJ
	280-99146-E-8 280-99146-E-8 280-99146-C-8-A 280-99146-C-8-A 280-99146-A-8 280-99146-B-8 280-99146-A-8	280-99146-E-8 280-99146-E-8 280-99146-C-8-A 280-99146-C-8-A 280-99146-A-8 280-99146-B-8 280-99146-A-8	Bottle IDRunBatch280-99146-E-8480-368062280-99146-E-8480-368062280-99146-C-8-A280-381107280-99146-C-8-A280-381107280-99146-A-8280-380837280-99146-B-8280-381062280-99146-A-8280-380956	Bottle IDRunBatchPrep Batch280-99146-E-8480-368062280-99146-E-8480-368062280-99146-C-8-A280-381107280-380768280-99146-C-8-A280-381107280-380768280-99146-A-8280-380837280-380768280-99146-B-8280-381062280-381062280-99146-A-8280-380956280-380956	Bottle IDRunBatchPrep BatchAnalyzed280-99146-E-8480-36806207/21/201714:40280-99146-E-8480-36806207/21/201714:40280-99146-C-8-A280-381107280-38076807/17/2017280-99146-C-8-A280-381107280-38076807/18/2017280-99146-A-8280-38083707/14/201720:58280-99146-B-8280-38106207/14/201717:46280-99146-A-8280-38095607/15/201711:25	Bottle IDRunBatchPrep BatchAnalyzedDil280-99146-E-8480-36806207/21/2017 14:401280-99146-E-8480-36806207/21/2017 14:401280-99146-C-8-A280-381107280-38076807/17/2017 07:031280-99146-C-8-A280-381107280-38076807/18/2017 02:351280-99146-A-8280-38106207/14/2017 17:461280-99146-B-8280-38106207/14/2017 17:461280-99146-A-8280-38095607/15/2017 11:251	Bottle IDRunBatchPrep BatchAnalyzedDilLab280-99146-E-8480-36806207/21/2017 14:401TAL BUF280-99146-E-8480-36806207/21/2017 14:401TAL BUF280-99146-C-8-A280-381107280-38076807/17/2017 07:031TAL DEN280-99146-C-8-A280-381107280-38076807/18/2017 02:351TAL DEN280-99146-A-8280-38083707/14/2017 20:581TAL DEN280-99146-B-8280-38106207/14/2017 17:461TAL DEN280-99146-A-8280-38095607/15/2017 11:251TAL DEN

Lab ID: 280-99146-9

Client ID: MW-14

Sample Date/Time: 07/11/2017 18:50 Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-9		480-368062		07/21/2017 15:04	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-9		480-368062		07/21/2017 15:04	1	TAL BUF	RJF
P:3005A	280-99146-C-9-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-9-A		280-381107	280-380768	07/18/2017 02:39	1	TAL DEN	LMT
A:300.0	280-99146-A-9		280-380837		07/14/2017 21:16	1	TAL DEN	AFB
A:350.1	280-99146-B-9		280-381062		07/14/2017 17:48	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-9		280-380956		07/15/2017 11:30	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-9		280-380960		07/14/2017 22:15	1	TAL DEN	CCJ

Job Number: 280-99146-1

Client: Aspect Consulting

Laboratory Chronicle

Lab ID: 280-99146-10

Sample Date/Time: 07/11/2017 19:40

Client ID: MW-6

Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-10		480-368062		07/21/2017 15:28	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-10		480-368062		07/21/2017 15:28	1	TAL BUF	RJF
P:3005A	280-99146-C-10-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-10-A		280-381107	280-380768	07/18/2017 02:42	1	TAL DEN	LMT
A:300.0	280-99146-A-10		280-380837		07/14/2017 21:34	1	TAL DEN	AFB
A:350.1	280-99146-B-10		280-381062		07/14/2017 17:50	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-10		280-380956		07/15/2017 11:36	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-10		280-380960		07/14/2017 23:31	1	TAL DEN	CCJ

Lab ID: 280-99146-11

Client ID: MW-20DD

Sample Date/Time: 07/11/2017 00:00 Received Date/Time: 07/13/2017 08:45

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-E-11		480-368062		07/21/2017 15:53	1	TAL BUF	RJF
A:8260C SIM	280-99146-E-11		480-368062		07/21/2017 15:53	1	TAL BUF	RJF
P:3005A	280-99146-C-11-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	280-99146-C-11-A		280-381107	280-380768	07/18/2017 02:46	1	TAL DEN	LMT
A:300.0	280-99146-A-11		280-380837		07/14/2017 21:51	1	TAL DEN	AFB
A:350.1	280-99146-B-11		280-381062		07/14/2017 17:52	1	TAL DEN	KAM
A:SM 2320B	280-99146-A-11		280-380956		07/15/2017 11:41	1	TAL DEN	A1D
A:SM 5310B	280-99146-B-11		280-380960		07/14/2017 23:16	1	TAL DEN	CCJ

Lab ID: 280-99146-12

Client ID: TB1

Sample Date/Time: 07/11/2017 00:00 Received Date/Time: 07/13/2017 08:45

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-99146-C-12		480-368062		07/21/2017 16:17	1	TAL BUF	RJF
A:8260C SIM	280-99146-C-12		480-368062		07/21/2017 16:17	1	TAL BUF	RJF

Laboratory Chronicle

Lab ID: MB

Job Number: 280-99146-1

		Sample Date/Time: N/A			Received Date	N/A		
Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	MB 480-368062/8		480-368062		07/21/2017 11:18	1	TAL BUF	RJF
A:8260C SIM	MB 480-368062/8		480-368062		07/21/2017 11:18	1	TAL BUF	RJF
P:3005A	MB 280-380768/1-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	MB 280-380768/1-A		280-381107	280-380768	07/18/2017 01:38	1	TAL DEN	LMT
A:300.0	MB 280-380837/6		280-380837		07/14/2017 10:37	1	TAL DEN	AFB
A:350.1	MB 280-381062/61		280-381062		07/14/2017 16:44	1	TAL DEN	KAM
A:SM 2320B	MB 280-380956/31		280-380956		07/15/2017 09:41	1	TAL DEN	A1D
A:SM 5310B	MB 280-380960/4		280-380960		07/14/2017 14:47	1	TAL DEN	CCJ
A:SM 5310B	MB 280-380960/35		280-380960		07/14/2017 22:47	1	TAL DEN	CCJ

Lab ID: LCS

Client ID: N/A

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Received Date/Time: N/A

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	LCS 480-368062/5		480-368062		07/21/2017 10:04	1	TAL BUF	RJF
A:8260C SIM	LCS 480-368062/5		480-368062		07/21/2017 10:04	1	TAL BUF	RJF
P:3005A	LCS 280-380768/2-A		280-381107	280-380768	07/17/2017 07:03	1	TAL DEN	TEB
A:6020	LCS 280-380768/2-A		280-381107	280-380768	07/18/2017 01:41	1	TAL DEN	LMT
A:300.0	LCS 280-380837/4		280-380837		07/14/2017 10:01	1	TAL DEN	AFB
A:350.1	LCS 280-381062/59		280-381062		07/14/2017 16:40	1	TAL DEN	KAM
A:SM 2320B	LCS 280-380956/30		280-380956		07/15/2017 09:35	1	TAL DEN	A1D
A:SM 5310B	LCS 280-380960/3		280-380960		07/14/2017 14:32	1	TAL DEN	CCJ
A:SM 5310B	LCS 280-380960/34		280-380960		07/14/2017 22:32	1	TAL DEN	CCJ

Lab ID: LCSD

Client ID: N/A

Sample Date/Time: N/A

			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	LCSD 480-368062/6		480-368062		07/21/2017 10:29	1	TAL BUF	RJF
A:8260C SIM	LCSD 480-368062/6		480-368062		07/21/2017 10:29	1	TAL BUF	RJF
A:300.0	LCSD 280-380837/5		280-380837		07/14/2017 10:19	1	TAL DEN	AFB
A:350.1	LCSD 280-381062/60		280-381062		07/14/2017 16:42	1	TAL DEN	KAM

Lab ID: MRL

Client	ID:	N/A

		Sample	e Date/Time: N	I/A	Received Date	/Time:	N/A	
Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-380837/3		280-380837		07/14/2017 09:44	1	TAL DEN	AFB

Laboratory Chronicle

Job Number: 280-99146-1

Lab ID: MS		Client I	D: N/A					
		Sample	Date/Time: 0	7/18/2017 17:2	25 Received Date	/Time:	07/19/2017 0	9:30
			Analysis		Date Prepared /			
Method	Bottle ID	Run	Batch	Prep Batch	Analyzed	Dil	Lab	Analyst
P:5030C	480-121263-M-8 MS		480-368062		07/21/2017 19:08	1	TAL BUF	RJF
A:8260C SIM	480-121263-M-8 MS		480-368062		07/21/2017 19:08	1	TAL BUF	RJF
A:SM 5310B	280-99102-C-4 MS		280-380960		07/14/2017 18:55	1	TAL DEN	CCJ
Lab ID: MSD		Client I	D: N/A					
		Chenti						
				7/18/2017 17:2	25 Received Date	/Time:	07/19/2017 0	9:30
			Date/Time: 0 Analysis		Date Prepared /	/Time:	07/19/2017 0	9:30
	Bottle ID		Date/Time: 0	7/18/2017 17:2 Prep Batch		/Time: Dil	07/19/2017 0 Lab	9:30 Analyst
Method	Bottle ID 480-121263-M-8 MSD	Sample	Date/Time: 0 Analysis		Date Prepared /			
Method P:5030C	2011.012	Sample Run	Date/Time: 0 Analysis Batch		Date Prepared / Analyzed	Dil	Lab	Analyst
Method P:5030C A:8260C SIM	480-121263-M-8 MSD	Sample Run	Date/Time: 0 Analysis Batch 480-368062		Date Prepared / Analyzed 07/21/2017 19:32	Dil	Lab TAL BUF	Analyst RJF
Method P:5030C A:8260C SIM A:SM 5310B	480-121263-M-8 MSD 480-121263-M-8 MSD	Sample Run	Date/Time: 0 Analysis Batch 480-368062 480-368062		Date Prepared / Analyzed 07/21/2017 19:32 07/21/2017 19:32	Dil 1 1	Lab TAL BUF TAL BUF	Analyst RJF RJF
Method P:5030C A:8260C SIM A:SM 5310B	480-121263-M-8 MSD 480-121263-M-8 MSD	Sample Run Client I	Date/Time: 0 Analysis Batch 480-368062 480-368062 280-380960 D: N/A		Date Prepared / Analyzed 07/21/2017 19:32 07/21/2017 19:32 07/14/2017 19:10	Dil 1 1	Lab TAL BUF TAL BUF TAL DEN	Analyst RJF RJF CCJ
Method P:5030C A:8260C SIM A:SM 5310B	480-121263-M-8 MSD 480-121263-M-8 MSD	Sample Run Client I	Date/Time: 0 Analysis Batch 480-368062 480-368062 280-380960 D: N/A Date/Time: 0 Analysis	Prep Batch	Date Prepared / Analyzed 07/21/2017 19:32 07/21/2017 19:32 07/14/2017 19:10 45 Received Date Date Prepared / 10	Dil 1 1	Lab TAL BUF TAL BUF TAL DEN	Analyst RJF RJF CCJ
Method P:5030C A:8260C SIM A:SM 5310B	480-121263-M-8 MSD 480-121263-M-8 MSD	Sample Run Client I	Date/Time: 0 Analysis Batch 480-368062 480-368062 280-380960 D: N/A Date/Time: 0	Prep Batch	Date Prepared / Analyzed 07/21/2017 19:32 07/21/2017 19:32 07/14/2017 19:10	Dil 1 1	Lab TAL BUF TAL BUF TAL DEN	Analyst RJF RJF CCJ

Lab References:

TAL BUF = TestAmerica Buffalo TAL DEN = TestAmerica Denver



20 July 2017

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

RE: Hansville

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

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

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

Associated Work Order(s) 17G0123 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 reqirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

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

Analytical Resources, Inc.

Sil Both

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

TootAmorics Dantor							101	. Tukula	-112
4955 Yarrow Street 170 001 23 23 736-0100 Fax (303) 736-0100 Fax (303) 431-7171		Chi	Chain of Custody Record	Istody	Rec	ord	Z Z Z	THE LEADER IN ENVI	IESTAMENCO
Client Information	Sampler: AHP		Lab PM: Sara, Betsy A	A		Carrier Tracking No(s)		COC No: 280-23414-6845.1	
Client Contact, Pruitt	Phone: ZCC-595	-6615	E-Mail: betsy.sara@testamericainc.com	testameric	ainc.com			Page:	
Company: Aspect Consulting, LLC					Ana	Analysis Requested		Job #:	
Address: 350 Madison Ave N	Due Date Requested:								
City: Bainbridge Island	TAT Requested (days):							A - HUL B - NaOH C - Zn Acetate	M - Hexane N - None O - AsNaO2
State. Zip: W.A, 98110									- Na204S 2 - Na2SO3
Phone:	ase Order not re	equired	(0	(olsì		(184			 Na2S2SU3 H2SO4 TSP Dodecahvdrate
Email: apruite @ aspectersulting, con	WO #:			tu8 AT	(pe				J - Acetone / - MCAA
e: Hansville Landfill	Project #:skip sites/events 28006013 - 2Q/3Q/4Q 5	Sampling) əbirc	15.16		100000000000		W - ph 4-5 Z - other (specify)
Site: Washington	SSOW#:					D) eoin		Other:	
	•••	Sample Type (C=comp,	Matrix (w=water, s=solid, o=wasterioil, eld Filltered	riv - MIS 209	tho-phospha ks/CI/SO4/NC	estA bevloze	otal Number		
A Sample Identification	Sample Date Time	G=grab)				1010	×1×	Special Inst	Special Instructions/Note:
t-SW ge 7	504 E1/11/E		E I			XXX		Short Holds Orthoph	Short Holds: NO3/NO2(IC), Orthophosphate (IC)
	1055	10				XrX			
	1225				×			Dissolved Arsenic	Dissolved Arsenic subbed direct to ARI
5	0221				X	XX			
5W - 4	1315	(0)	_		+	XX			
52-6	1400			-		XXX			
MW-13D	1500	2			7	XX			
たいか	1530	0			×	K K			
MW-14	1850	5				7 7 7			
MW-6	191	40			6	メイメ			
MUSCOD	1	Ĩ				XX			
Possible Hazard Identification	Poison B Unknown	□ Radiological	San	Teturn To Client	sal (A fe	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) — Return To Client — Disposal By Lab — Archive For Mon	amples are retained I ab Archive	ed longer than 1 r ive For	ronth) Months
ested: I, II, III, IV, Other (specify)			Spe	cial Instruc	tions/QC F	Special Instructions/QC Requirements:			
Empty Kit Relinquished by:	Date:		Time;			Method o	Method of Shipment:		
Relinquished by: Acr 72	Date/Time:	Company	7 200 4	Received by:	AN	XTA /	Date/Time:	7 11:56	Company AR1
Relinquished by:	Date/Time: ' I	Company	-	Received by:			Date/Time:		Company
Relinquished by:	Date/Time:	Company		Received by:			Date/Time:		Company
Custody Seals Intact: Custody Seal No.:				Cooler Tempe	erature(s) °C	Cooler Temperature(s) °C and Other Remarks:			

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07/24/2017

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Analytical Resources, Incorporated Analytical Chemists and Consultants

Cooler Receipt Form

No. 1					
ARI Client: TestAmer	rica	Project Name: Hansu	sile.		
COC No(s):	NA	Delivered by: Fed-Ex UPS Cour		vered Other:	
Assigned ARI Job No: 176	0123	Tracking No:			2
Preliminary Examination Phase:					14/
Were intact, properly signed and	dated custody seals attached to	o the outside of to cooler?		YES	NO
Were custody papers included wi	th the cooler?	*****		YES	NO
Were custody papers properly fille Temperature of Cooler(s) (°C) (re Time:				YES	NO
If cooler temperature is out of con	npliance fill out form 00070F	Part of the second seco	Temp Gun ID	#: D0052	de
Cooler Accepted by:	BF	Date: 7/12/2017 Time:	11:56	-0414	
	Complete custody forms	and attach all shipping documents			
Log-In Phase:					
Was sufficient ice used (if appropriation of the second seco	vas used? Bubble Wra riate)?	p Wetlog Gel Packs Baggies Foam I	Block Paper (NA	YES Dther: YES	NO NO
Were all bottles sealed in individu				YES	NO
Did all bottles arrive in good cond				YES	NO
				YES	NO
		ber of containers received?		YES	NO
				YES	NO
Were all bottles used correct for the				YES	NO
		eservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bub			NA	YES	NO
Was sufficient amount of sample s			-	YES	NO
Was Sample Split by ARI : NA			NA		
Web Campie Opic by Arth.	YES Date/Time:	Equipment:		Split by:	
Samples Logged by:P	S.HDate	: _7/12/17 Time:	13:0	6	
		er of discrepancies or concerns **			
	19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 -			TXXIX -CHARGE PERSON	
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sam	ple ID on CC	C

Sample ID on	Dottie	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
		x		
		۱	-	- 1997 -
	2)	5. 5		0
ditional Notes, I	Discrepancies, & R	Resolutions:		
lumber of	container	is not given	\circ .	8
	~	0		20 (1)
r. B.H.	Date:	11217		
Small Air Bubbles	Peabubbles'	LARGE Air Bubbles	Small \rightarrow "sm" (<2 mm)	
:6	2-4 mm	>4 mm	Peabubbles \rightarrow "pb" (2 to < 4 mm)	
۲. s	000	000	Large \Rightarrow "lg" (4 to < 6 mm)	2
s 8 - ²			Headspace → "hs" (>6 mm)	

, e 1

Revision 014



Analytical Resources, Incorporated Analytical Chemists and Consultants

Cooler Temperature Compliance Form

10	GOI	27
1 1	00	00

Cooler#:	1	_ Tem	perature(°C): 7.2	t :
Sample ID			Bottle Count	Bottle Type
	For enjoy	above 6°C	i i i i i i i i i i i i i i i i i i i	
Samples	TECETVES	above to t		~
and the second second second				
	2			(x)
÷				
		-		
	250			(a) (
Genter #		7		
Cooler#:		1em]	perature(°C): Bottle Count	
Sample ID			Bottle Count	Bottle Type
		*		a more transformed and the second
				×
	21	8		
Cooler#:			perature(°C):	
Sample ID		10111	Bottle Count	D-44 7
		· · · · · · · · · · · · · · · · · · ·		Bottle Type
-			- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
				-
	6			
				100
11 X20	с ¹⁴ н			8
Cooler#:		Temp	perature(°C):	1
Sample ID	5		Bottle Count	Bottle Type
	******			I motoro Iypo
		1		
	-			5
			3 ¹⁶	



WORK ORDER

17G0123

Client: Test America - Denver

Project Manager: Amanda Volgardsen

Project: Hansville

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

Preservation Confirmation

Container ID	Container Type	рН
17G0123-01 A	Miscellaneous Container	
17G0123-01 B	Miscellaneous Container	
17G0123-01 C	Miscellaneous Container	HNO3 22 Pass
17G0123-02 A	Miscellaneous Container	
17G0123-02 B	Miscellaneous Container	8
17G0123-02 C	Miscellaneous Container	HNO3 22 Pass
17G0123-03 A	Miscellaneous Container	
17G0123-03 B	Miscellaneous Container	
17G0123-03 C	Miscellaneous Container	HNO3 L2 Pass
17G0123-04 A	Miscellaneous Container	
17G0123-04 B	Miscellaneous Container	
17G0123-04 C	Miscellaneous Container	HNO3 22 Pass
17G0123-05 A	Miscellaneous Container	
17G0123-05 B	Miscellaneous Container	
17G0123-05 C	Miscellaneous Container	HNO3 22 Pass
17G0123-06 A	Miscellaneous Container	
17G0123-06 B	Miscellaneous Container	
17G0123-06 C	Miscellaneous Container	HNO3 62 Pass
17G0123-07 A	Miscellaneous Container	
17G0123-07 B	Miscellaneous Container	
17G0123-07 C	Miscellaneous Container	HNO3 22 Pass
17G0123-08 A	Miscellaneous Container	
17G0123-08 B	Miscellaneous Container	
17G0123-08 C	Miscellaneous Container	HNO3 22 Pass
17G0123-09 A	Miscellaneous Container	
17G0123-09 B	Miscellaneous Container	a de la companya de la
17G0123-09 C	Miscellaneous Container	HNO3 22 Pass
17G0123-10 A	Miscellaneous Container	
17G0123-10 B	Miscellaneous Container	
17G0123-10 C	Miscellaneous Container	HNO3 22 Pass
17G0123-11 A	Miscellaneous Container	

Reviewed By

71 12 Date

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07/24/2017



WORK ORDER

		170	G0123	
Client: Test Ame	rica - Denver		Project Ma	nager: Amanda Volgardsen
Project: Hansville			Project Nu	nber: 28006013- 2Q/3Q/4Q Sampling
17G0123-11 B	Miscellaneous Container			
17G0123-11 C	Miscellaneous Container	HNO3	12	Pass

Preservation Confirmed By

<u>-7/12/17</u> Date

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Reviewed By

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71 121

Date Page 79 of 112 07/24/2017

Test America - DenverProject:Hansville4955 Yarrow StreetProject Number:28006013- 2Q/3Q/4Q SamplingReported:Arvada CO, 80002Project Manager:Betsy Sara20-Jul-2017 16:24ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-7	17G0123-01	Water	11-Jul-2017 09:05	12-Jul-2017 11:56
MW-5	17G0123-02	Water	11-Jul-2017 10:55	12-Jul-2017 11:56
MW-12I	17G0123-03	Water	11-Jul-2017 12:25	12-Jul-2017 11:56
SW-1	17G0123-04	Water	11-Jul-2017 12:30	12-Jul-2017 11:56
SW-4	17G0123-05	Water	11-Jul-2017 13:15	12-Jul-2017 11:56
SW-6	17G0123-06	Water	11-Jul-2017 14:00	12-Jul-2017 11:56
MW-13D	17G0123-07	Water	11-Jul-2017 15:00	12-Jul-2017 11:56
SW-7	17G0123-08	Water	11-Jul-2017 15:30	12-Jul-2017 11:56
MW-14	17G0123-09	Water	11-Jul-2017 18:50	12-Jul-2017 11:56
MW-6	17G0123-10	Water	11-Jul-2017 19:40	12-Jul-2017 11:56
MW-20DD	17G0123-11	Water	11-Jul-2017 00:00	12-Jul-2017 11:56

Analytical Resources, Inc.

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



Analytical Report

Test America - Denver 4955 Yarrow Street Arvada CO, 80002 Project: Hansville Project Number: 28006013- 2Q/3Q/4Q Sampling Project Manager: Betsy Sara

Reported: 20-Jul-2017 16:24

Case Narrative

Dissolved Metals - EPA Method 200.8

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

Initial and continuing calibrations were within method requirements.

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

The LCS percent recoveries were within control limits.

Wet Chemistry

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

Initial and continuing calibrations were within method requirements.

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

The LCS percent recoveries were within control limits.

Analytical Resources, Inc.

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Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	MW-7	
	17G0123-01 (Water)	

Metals and Metallic (Compounds (dissolved)						
Method: EPA 200.8 UCT	'-KED				S	ampled: 07/	11/2017 09:05
Instrument: ICPMS1					An	alyzed: 14-J	ul-2017 12:30
Sample Preparation:	Preparation Method: REN EPA 600/4-	79-020 4.1.4 HNO3 matri	x				
	Preparation Batch: BFG0248	Sample Size: 2	5 mL				
	Prepared: 13-Jul-2017	Final Volume: 2	25 mL				
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.000200	0.00110	mg/L	

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.



	MXX 7	
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Test America - Denver	Project: Hansville	

MW-7

17G0123-01 (Water)

Wet Chemistry Method: EPA 300.0					S	ampled: 07/1	1/2017 09:05
Instrument: DX500					Ar	nalyzed: 12-Ju	ul-2017 18:13
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume:					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.555	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

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.



Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	MW-5	
	17G0123-02 (Water)	

Metals and Metallic (Compounds (dissolved)						
Method: EPA 200.8 UCT	-KED				S	ampled: 07/	11/2017 10:55
Instrument: ICPMS1					An	alyzed: 14-J	Jul-2017 11:29
Sample Preparation:	Preparation Method: REN EPA 600/4- Preparation Batch: BFG0248 Prepared: 13-Jul-2017	79-020 4.1.4 HNO3 matrix Sample Size: 25 Final Volume: 25	mL				
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.000200	0.00199	mg/L	

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	MW 5	
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Test America - Denver	Project: Hansville	

MW-5

17G0123-02 (Water)

Wet Chemistry Method: EPA 300.0					S	Sampled: 07/	11/2017 10:55
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 19:04
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume:					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	1.01	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

Analytical Resources, Inc.

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



20-Jul-2017 16:24
20-Jul-201 / 16:24
20

Metals and Metallic	Compounds (dissolved)		S	ampled: 07/	/11/2017 12:25	
Instrument: ICPMS1						Jul-2017 11:32
Sample Preparation:	Preparation Method: REN EPA 600/4- Preparation Batch: BFG0248 Prepared: 13-Jul-2017	79-020 4.1.4 HNO3 matrix Sample Size: 25 mL Final Volume: 25 mL				
Analyte		CAS Number Dilutio	Reporting n Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2 1	0.000200	0.00228	mg/L	

Analytical Resources, Inc.

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



Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24

MW-12I

17G0123-03 (Water)

Wet Chemistry Method: EPA 300.0					S	Sampled: 07/1	1/2017 12:25
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 19:20
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume:					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	2.18	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U



Test America - Denver	Project: Hansville			
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:		
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24		
	SW-1			
17G0123-04 (Water)				

Metals and Metallic (Method: EPA 200.8 UCT		S	ampled: 07/	11/2017 12:30			
Instrument: ICPMS1							ul-2017 11:35
Sample Preparation:	Preparation Method: REN EPA 600/4-	79-020 4.1.4 HNO3 matri	ix				
	Preparation Batch: BFG0248	Sample Size: 2	25 mL				
	Prepared: 13-Jul-2017	Final Volume:	25 mL				
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.000200	0.00156	mg/L	

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.



		SW/ 1	
	Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	Reported:
	Test America - Denver	Project: Hansville	
- 1			

SW-1

17G0123-04 (Water)

Method: EPA 300.0					S	ampled: 07/1	1/2017 12:30
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 19:37
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume: :					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	1.55	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

Analytical Resources, Inc.

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



Test America - Denver	Project: Hansville			
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	Reported:		
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24		
	SW-4			
17G0123-05 (Water)				

Metals and Metallic	Compounds (dissolved)						
Method: EPA 200.8 UCT	-KED				S	ampled: 07/	11/2017 13:15
Instrument: ICPMS1					An	alyzed: 14-J	Jul-2017 11:38
Sample Preparation:	Preparation Method: REN EPA 600/4-	79-020 4.1.4 HNO3 matrix	x				
	Preparation Batch: BFG0248	Sample Size: 2:	5 mL				
	Prepared: 13-Jul-2017	Final Volume: 2	25 mL				
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.000200	0.00197	mg/L	

Analytical Resources, Inc.

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Test America - Denver	Project: Hansville	
4955 Yarrow Street Arvada CO, 80002	Project Number: 28006013- 2Q/3Q/4Q Sampling Project Manager: Betsy Sara	Reported: 20-Jul-2017 16:24
	SW 4	

SW-4

17G0123-05 (Water)

Method: EPA 300.0					S	ampled: 07/1	1/2017 13:15
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 19:54
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume: :					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.931	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

Analytical Resources, Inc.

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



Test America - Denver	Project: Hansville			
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	Reported:		
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24		
	SW-6			
17G0123-06 (Water)				

Metals and Metallic	Compounds (dissolved)						
Method: EPA 200.8 UCT	ſ-KED				S	ampled: 07/	/11/2017 14:00
Instrument: ICPMS1					An	alyzed: 14-J	Jul-2017 12:12
Sample Preparation:	Preparation Method: REN EPA 600/4- Preparation Batch: BFG0248 Prepared: 13-Jul-2017	1					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.000200	0.00811	mg/L	

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.



Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	SW 6	

SW-6

17G0123-06 (Water)

Wet Chemistry Method: EPA 300.0					S	ampled: 07/1	1/2017 14:00
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 20:44
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume: :					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.218	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

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.



	17G0123-07 (Water)	
	MW-13D	
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Test America - Denver	Project: Hansville	

Metals and Metallic Compounds (dissolved) Sampled: 07/11/2017 15:00 Method: EPA 200.8 UCT-KED Instrument: ICPMS1 Analyzed: 14-Jul-2017 12:15 Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix Sample Preparation: Preparation Batch: BFG0248 Sample Size: 25 mL Prepared: 13-Jul-2017 Final Volume: 25 mL Reporting CAS Number Dilution Limit Units Notes Analyte Result Arsenic, Dissolved 7440-38-2 1 0.000200 0.00437 mg/L

Analytical Resources, Inc.

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



Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24

MW-13D

17G0123-07 (Water)

Wet Chemistry Method: EPA 300.0					S	ampled: 07/1	1/2017 15:00
Instrument: DX500					Ar	nalyzed: 12-Ju	ul-2017 21:01
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume:					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	0.10	mg-P/L	

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.



Test America - Denver	Project: Hansville				
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	Reported:			
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24			
	SW-7				
17G0123-08 (Water)					

Metals and Metallic	Compounds (dissolved)							
Method: EPA 200.8 UCT	Method: EPA 200.8 UCT-KED				Sampled: 07/11/2017 1			
Instrument: ICPMS1				Analyzed: 14				
Sample Preparation:	Preparation Method: REN EPA 600/4-							
	Preparation Batch: BFG0248	Sample Size: 25 mL						
	Prepared: 13-Jul-2017	Final Volume: 25 mL						
			Reporting					
Analyte		CAS Number Dilution	Limit	Result	Units	Notes		
Arsenic, Dissolved		7440-38-2 1	0.000200	0.00158	mg/L			

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.



Test America - Denver 4955 Yarrow Street	Project: Hansville Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24

SW-7

17G0123-08 (Water)

Method: EPA 300.0					S	Sampled: 07/1	1/2017 15:30
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 21:18
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume: :					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.763	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

Analytical Resources, Inc.

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Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	MW-14	
	17G0123-09 (Water)	

Metals and Metallic	Compounds (dissolved)						
Method: EPA 200.8 UCT-KED Instrument: ICPMS1				Sampled: 07/11/2017 18			
					alyzed: 14-J	ul-2017 12:21	
Sample Preparation:	Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix						
	Preparation Batch: BFG0248	Sample Size: 25 mL					
	Prepared: 13-Jul-2017	Final Volume: 25 ml	L				
				Reporting			
Analyte		CAS Number Dile	ution	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.000200	0.0150	mg/L	

Analytical Resources, Inc.

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



Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Test America - Denver	Project: Hansville	

MW-14

17G0123-09 (Water)

Wet Chemistry Method: EPA 300.0					S	Sampled: 07/1	1/2017 18:50
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 21:35
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume:					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.224	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	0.12	mg-P/L	

Analytical Resources, Inc.

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Test America - Denver	Project: Hansville			
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:		
Arvada CO, 80002	Arvada CO, 80002 Project Manager: Betsy Sara			
	MW-6			
	17G0123-10 (Water)			

Metals and Metallic O Method: EPA 200.8 UCT	Compounds (dissolved) KED			S	ampled: 07/	/11/2017 19:40
Instrument: ICPMS1						Jul-2017 12:24
Sample Preparation:	Preparation Method: REN EPA 600/4-	79-020 4.1.4 HNO3 matrix				
	Preparation Batch: BFG0248	Sample Size: 25 mL				
	Prepared: 13-Jul-2017	Final Volume: 25 mL				
			Reporting			
Analyte		CAS Number Dilution	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2 1	0.000200	0.00216	mg/L	

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.



	Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
	Test America - Denver	Project: Hansville	
- 1			

MW-6

17G0123-10 (Water)

Wet Chemistry Method: EPA 300.0					S	Sampled: 07/1	1/2017 19:40
Instrument: DX500					Ar	nalyzed: 12-J	ul-2017 21:51
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume:					
Analyte		CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	1.37	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.355	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	ND	mg-P/L	U

Analytical Resources, Inc.

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



Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
	MW-20DD	

17G0123-11 (Water)

Metals and Metallic (Compounds (dissolved)					
Method: EPA 200.8 UCT	-KED			S	ampled: 07/	/11/2017 00:00
Instrument: ICPMS1				Ar	nalyzed: 14	Jul-2017 12:27
Sample Preparation:	Preparation Method: REN EPA 600/4- Preparation Batch: BFG0248 Prepared: 13-Jul-2017	79-020 4.1.4 HNO3 matrix Sample Size: 25 mL Final Volume: 25 mL				
Analyte		CAS Number Dilut	Reporting ion Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	0.000200	0.0144	mg/L	

Analytical Resources, Inc.

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Test America - Denver	Project: Hansville
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling
Arvada CO, 80002	Project Manager: Betsy Sara

Reported: 20-Jul-2017 16:24

MW-20DD

17G0123-11 (Water)

Wet Chemistry							
Method: EPA 300.0					S	ampled: 07/	11/2017 00:00
Instrument: DX500					Ar	alyzed: 12-J	ul-2017 22:08
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BFG0234 Prepared: 12-Jul-2017	Sample Size: 5 Final Volume: :					
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.230	mg-N/L	
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	ND	mg-N/L	U
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	0.12	mg-P/L	

Analytical Resources, Inc.

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



Test America - Denver 4955 Yarrow Street Arvada CO, 80002 Project: Hansville Project Number: 28006013- 2Q/3Q/4Q Sampling Project Manager: Betsy Sara

Reported: 20-Jul-2017 16:24

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BFG0248 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS1 Analyst: CC

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFG0248-BLK1)				Prepa	ared: 13-Jul-	2017 Anal	yzed: 14-J	ul-2017 11:2	3		
Arsenic, Dissolved	75a	ND	0.000200	mg/L							U
LCS (BFG0248-BS1)				Prepa	ared: 13-Jul-	2017 Anal	yzed: 14-J	ul-2017 11:5	0		
Arsenic, Dissolved	75a	0.0253	0.000200	mg/L	0.0250		101	80-120			
Duplicate (BFG0248-DUP1)		Source	: 17G0123-01	Prepa	ared: 13-Jul-	2017 Anal	yzed: 14-J	ul-2017 11:4	1		
Arsenic, Dissolved	75a	0.00101	0.000200	mg/L		0.00110			8.81	20	
Matrix Spike (BFG0248-MS1)		Source	e: 17G0123-01	Prepa	ared: 13-Jul-	2017 Anal	yzed: 14-J	ul-2017 11:4	7		
Arsenic, Dissolved	75a	0.0265	0.000200	mg/L	0.0250	0.00110	102	75-125			

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

Analytical Resources, Inc.

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Analytical Report

Test America - DenverProject: Hansville4955 Yarrow StreetProject Number: 28006013- 2Q/3Q/4Q SamplingArvada CO, 80002Project Manager: Betsy Sara

Reported: 20-Jul-2017 16:24

Wet Chemistry - Quality Control

Batch BFG0234 - No Prep Wet Chem

Instrument: DX500 Analyst: KK

		Reporting		Spike	Source		%REC		RPD	
QC Sample/Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Blank (BFG0234-BLK1)			Prepa	red: 12-Jul-	2017 Ana	lyzed: 12-J	ul-2017 17:4	10		
Nitrate-N	ND	0.100	mg-N/L							U
Nitrite-N	ND	0.100	mg-N/L							U
Orthophosphorus	ND	0.10	mg-P/L							U
LCS (BFG0234-BS1)			Prepa	red: 12-Jul-	2017 Ana	lyzed: 12-J	ul-2017 17:5	56		
Nitrate-N	1.52	0.100	mg-N/L	1.50		101	75-125			
Nitrite-N	1.48	0.100	mg-N/L	1.50		98.9	75-125			
Orthophosphorus	1.57	0.10	mg-P/L	1.50		105	75-125			
Duplicate (BFG0234-DUP1)	Source:	17G0123-01	Prepa	red: 12-Jul-	2017 Ana	lyzed: 12-J	ul-2017 18:3	30		
Nitrate-N	0.553	0.100	mg-N/L		0.555			0.36	20	
Nitrite-N	ND	0.100	mg-N/L		ND					U
Orthophosphorus	ND	0.10	mg-P/L		ND					U
Matrix Spike (BFG0234-MS1)	Source:	17G0123-01	Prepa	red: 12-Jul-	2017 Ana	lyzed: 12-J	ul-2017 18:4	17		
Nitrate-N	2.61	0.200	mg-N/L	2.00	0.555	103	75-125			D
Nitrite-N	1.98	0.200	mg-N/L	2.00	ND	98.8	75-125			D
Orthophosphorus	2.11	0.20	mg-P/L	2.00	ND	105	75-125			D

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

Analytical Resources, Inc.

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



Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24

Certified Analyses included in this Report

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

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	09/01/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2018
WADOE	WA Dept of Ecology	C558	06/30/2018
WA-DW	Ecology - Drinking Water	C558	06/30/2018

Analytical Resources, Inc.

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



Analytical Report

Test Aı	nerica - Denver	Project: Hansville	
4955 Y	arrow Street	Project Number: 28006013- 2Q/3Q/4Q Sampling	Reported:
Arvada	CO, 80002	Project Manager: Betsy Sara	20-Jul-2017 16:24
		Notes and Definitions	
U	This analyte is not detected above the applic	able reporting or detection limit.	
J	Estimated concentration value detected belo	w the reporting limit.	
D	The reported value is from a dilution		
DET	Analyte DETECTED		

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

Phone (303) 736-0100 Fax (303) 431-7171										A THE REPORT OF A DATE	THE LEADER IN ENVIRONMENTAL TESTING
Client Information	Sampler.			Lab PM: Sara, B	Lab PM: Sara, Betsy A			Carrie	Carrier Tracking No(s):	COC No: 280-23414-6845	1.3
Client Contact: Acron Tour it	Phone: 206 -595	122-20	2	E-Mail: betsy.s	ara@testa	mericainc	Com			Page:	
							Analys	Analysis Requested	ted	Job #:	
Address: 350 Madison Ave N	Due Date Requested:	÷		PIE AU			_			Preservation Codes	des:
City Bainbridge Island State. Zpc. WA, 98110	TAT Requested (days):	(3):								B - Nach B - Nach C - Zh Acetate D - Nitric Acid E - NaHSO4	N - Nore 0 - AsNaO2 P - Na2045 0 - Na2203
Phone:	PO #: Purchase Order not required	not required		(ON	36/13	_		(ISA c		G - Amchlor H - Ascorbic Acid L - Ice	S - H2SO4 T - TSP Dodecahydrate
aprente a cspertionalture	C				(ON		(pə.	a) due		_	V - MCAA
Project Name: Hansville Landfill Site:	Project #:skip sites/events 28006013 - 20/30/40 Sampling SSOW#:	Vents 30/40 Sam	pling	-V) elomet	SD (Yes or	5		: toeria) eoi		0 -2	w - pn +-0 Z - other (specify)
	Samula Data	Sample	Sample Type (C=comp,	Matrix (werester, secold, Oewnstelol, defended	Seec sim WS/W	Ammonia/TOC	yika ortho a phos photo ortho	nezıA bevlozziC		rotal Number o	Snarial Instructions Motor
		X	Preserva	110.00	XA	5	10mg	10	ALL ALL AND ALL ALL ALL ALL ALL ALL ALL ALL ALL AL		
t-MW	4/11/2	905		3	×	××	×			Short H	Short Holds: NO3/NO2(IC), Orthophosphate (IC)
- MM - 5	1-	1055			Y	XX	X				
TOFAN		Seci			×	XX	X			Dissolved Ars	Dissolved Arsenic subbed direct to ARI
Sw - 1		1330			×	XX	X			0-phes	4 NO3/NO2
Sw-4		1315		_	×	XX	×			e le	ART
5.W -6		1400			X	XX	×				
MW-13D	_	1500		_	×	XX	×	_			
54 -7	-	1530		~	×	XX	×	_	-		
אורי - וה		:350			×	XX	×	-	-		
MW-6		1940			*	×	×		-	280-99146 Chain of Custory	(note
MW-20DD	-				*	X	×	_	-		
ant	Poison B Unknown	nwon	Radiological	al	Sample	le Disposal (A f Return To Client	al (A fee Client	may be asse	assessed if sample: Disposal By Lab	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mor	1 1 month) Months
Deliverable Requested: 1, 11, 11, 1V, Other (specify)					specia	Instructio	H DD/SUG	special instructions/UC Kequirements:	10.000		
Empty Kit Relinquished by: Relinquished by:	Date/Time:	Late:		Company	I Ime:	Received by:	R	1	Meutod of Shipment. Date/Time:	ine:	Company . (
Relinquished by:	+	Lirei	0021	Company	H	Received	1		Date/Time	13/17 0846	
Reinquished by:	Date/Time:			Company	Rec	Received by:			Date/Time	Time:	Company

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07/24/2017

TestAmerica Denver 4955 Yarrow Street Arvada, CO 80002 Phonor 2003 736 410 555 7373 434 7474	С	Chain o	f Cust	of Custody Record	ecord				Testa The Leader IN	THE LEADER IN ENVIRONMENTAL TESTING
× 1	Sampler:			Lab PM:			Carrier Tracking No(s):	ig No(s):	COC No:	
Client Information (Sub Contract Lab)	Dhono:			Sara,	Sara, Betsy A		State of Origin		260-405825.1	
chen contact. Shipping/Receiving				bets	sara@testa	betsy.sara@testamericainc.com	Washington		Page 1 of 2	
.company: TestAmerica Laboratories, Inc.					Accreditations State Progra	Accreditations Required (See note): State Program - Washington			Jo≎#: 280-99146-1	
Address: 10 Hazelwood Drive,	Due Date Requested: 7/25/2017					Analy	Analysis Requested		Preservation Codes:	odes: M University
City: Amherst State, Zp: NV 4, Zp. 2708	TAT Requested (days):								B - NOL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4	M - Nexane N - None O - AsNa02 P - Na2045 Q - Na2S03
ит, тедо 2200 Рионе: 716-691-2600(Тец) 716-691-7991(Fax)	PO#:								F - MeOH G - Amchlor H - Ascorbic Acid	
	:# OM				(on					
Project Name: Hansville Landfill	Project #: 28006013				es or l				K - EDTA L - EDA	W - pH 4-5 Z - other (specify)
Site: Hansville	SSOW#:				Y) asi				of col	
				Matrix (w=water, S=solid, O=waste/oil,	ield Filtered erform MS/W 260C_SIM/503				nedmuN leto 	
Sample Identification - Client ID (Lab ID)	Sample Uate		Preservation Code;	BT=Tissue, A=Air) tion Code;	dX					Special Instructions/Note:
01 MW-7 (280-99146-1)	7/11/17	09:05 Pacific		Water	×				3	
MW-5 (280-99146-2)	71/11/7	10:55 Pacific		Water	×				e	
MW-12I (280-99146-3)	71/11/7	12:25 Pacific		Water	×				3	
SW-1 (280-99146-4)	71/11/7	12:30 Pacific		Water	×				3	
SW-4 (280-99146-5)	71/11/7	13:15 Pacific		Water	×				3	
SW-6 (280-99146-6)	71/11/7	14:00 Pacific		Water	×				3	
MW-13D (280-99146-7)	71/11/2	15:00 Pacific		Water	×				3	
SW-7 (280-99146-8)	71/11/7	15:30 Pacific		Water	×				3	
MW-14 (280-99146-9)	7/11/7	18:50 Pacific	-	Water	×				3	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories. Inc. places the ownership of method, analyle & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under c1 ain-of-custody. If the laboratory does not currently miniain accreditation in the State of Origin listed above for analysis/lestSimatrix being analyzed, the samples due to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation is atus should be brought to TestAmerica Laboratory or other instructions will be provided. Any changes to accreditation is atus should be brought to TestAmerica Laboratories, inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, inc.	rratories, Inc. places the ow ests/matrix being analyzed, rent to date, return the sign	nership of me the samples ed Chain of 0	ethod, analyte must be ship Custody attest	& accreditatio ped back to the ing to said com	n compliance up TestAmerica Is plicance to Tes	pon out subcontract lat aboratory or other instri America Laboratories,	oratories. This sample sh uctions will be provided. A Inc.	ipment is forwarded iny changes to accre	under chain-of-custody. aditation s atus should be	If the laboratory does not brought to TestAmerica
Possible Hazard Identification					Sample	le Disposal (A fee I	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	samples are re	tained tonger than	1 month)
Deliverable Requested: I, II, II, IV, Other (specify)	Primary Deliverable Rank: 2	le Rank: 2			Special	Special Instructions/QC Requirements:	equirements:		HINE LOI	MUNUS
Empty Kit Relinquisted by: Dr //		Date:			Time:		Method	Method of Shipment:		
Relinquished or May May	Daterrale	18/ 0	30	Company	Rece	Received by	N	Date/Time:	17 09:40	Company
Relinquished by:	Date/Time:			Company	Rece	Received by:		Date/Time:		Company
Relinquished by:	Date/Time:			Company	Rece	Received by:		Date/Time:		Сотрапу
Custody Seals Intact: Custody Seal No.:					Coole	er Temperature(s) °C a	Cooler Temperature(s) °C and Other Remarks:	CH 1	°)	

TestAmerica Denver 4955 Yarrow Street Arvada, CO 80002 Phone (303) 736-0100 Fax (303) 431-7171	0	Chain o	of Cust	n of Custody Record	ecord	-			THE LEADER IN ENVIRONMENTAL TEST	TestAmerica THE LEADER IN ENVIRONMENTAL TESTING
Client Information (Sub Contract Lab)	Sampler:			Lab PM: Sara, I	Lab PM: Sara, Betsy A		Carrier Tracking No(s)		COC No: 280-405825.2	
	Phone:			E-Mail: betsy.	.sara@te	E-Mail: betsy.sara@(estamericainc.com	State of Origin: Washington	-	Page: Page 2 of 2	
Company: TestAmerica Laboratories, Inc.					Accreditatio State Pro	Accreditations Required (See note): State Program - Washington			Jeb #: 23.]-99146-1	
Address: 10 Hazelwood Drive,	Due Date Requested: 7/25/2017					Analysis	Analysis Requested		Proservation Codes	S: M - Hovano
City: Amherst State, Zip:	TAT Requested (days):	:(s)							B - NaOH C - Zn Acetate D - Nitric Acid	N - None N - None P - Nascos
NY, 14228-2298 Phone: 	PO #:									R - Na2S203 S - H2SO4
/ 10-091-2000(1 tt) / 10-091-/ 391(rdx) Email:	:# OM				(0)					T - TSP Dodecahydrate U - Acetone V - MCAA
Project Name: Hansville Landfill	Project #: 28006013				ss or h			រ <u>ទករៃ</u> នា		W - pH 4-5 Z - other (specify)
site: Hansville	SSOW#:				er) as			Contraction of the local	Other:	
Samule Identification - Client ID (I ab ID)	Samule Date	Sample Time	Sample Type (C=comp,	Matrix (w=water, s=solid, 0=waste/oil, BT-Tiano A-Air)	sield Filtered : Perform MS/M 2260C_SIM/5030			Total Number	Snecial Ins	Snecial Instructions/Note:
and the owner where the party is not the party of the par		X	0 1	Preservation Code:	X					
MW-6 (280-99146-10)	71/11/2	19:40 Pacific		Water		×		3		
MW-20DD (280-99146-11)	71/1/7	Pacific		Water		×		0		
TB1 (280-99146-12)	71/11/7	Pacific		Water		×		3		
					+					
					+				1	
					-					
Note: Since laboratory accreditations are subject to change, TestAmerica Labora	atories, Inc. places the	ownership of m	lethod, analyte	e & accreditation	i compliance	e upon out subcontract laborat	ories. This sample shipm	ent is forwarded under	chain-of-custody. If t	he laboratory does not
currently maintain accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratory or other instructions will be provided. Any changes to accreditations status should be brought to TestAmerica Laboratories, inc.	ests/matrix being analyze ent to date, return the si	ed, the sample gned Chain of	s must be ship Custody attes!	ped back to the ting to said com	TestAmeric plicance to	ca laboratory or other instructio TestAmerica Laboratories, Inc	ins will be provided. Any	changes to accreditatic	on status should be br	ought to TestAmerica
Possible Hazard Identification Unconfirmed					Sam	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mon	y be assessed if san	mples are retaine	stained longer than 1 Archive For	month) Months
Deliverable Requested: I, II, II, IV, Other specify)	Primary Deliverable Rank: 2	ble Rank: 2			Speci	Special Instructions/QC Requirements:	irements:			
Empty Kit Relinquished by:	0 1	Date:			Time:		Method of Shipment:	Shipment:		
Aurora	Dater Mer 1/1-	1	6:30	Company	<u>a</u>	Received by	R	Date/Time:	0460	Comparty But.
Relinquished by:	Date/Time:			Company	<u>æ</u>	Received by:		Date/Time:		Company
Relinquished by:	Date/Time:			Company	æ	Received by:		Date/Time:		Company
Custody Seals Intact: Custody Seal No.:					0	Cooler Temperature(s) °C and Other Remarks:	Other Remarks:	1 / #	1.30	

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07/24/2017

Client: Aspect Consulting

Login Number: 99146 List Number: 1 Creator: Parrott, Gregg S

Job Number: 280-99146-1

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	No: Received Trip Blank(s) not listed on COC.
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	False	No: Headspace larger than 1/4" in 1 or more vial; at least one vial w/o headspace.
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Client: Aspect Consulting

Login Number: 99146 List Number: 2 Creator: Hulbert, Michael J

Job Number: 280-99146-1

List Source: TestAmerica Buffalo List Creation: 07/14/17 03:35 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	