2018 Annual Monitoring Report

Olympic View Sanitary Landfill

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This 2018 Annual Monitoring Report for the Olympic View Sanitary Landfill Facility located at 10015 SW Barney White Road in Bremerton, Washington, was prepared by Sam Graber and Daniel Venchiarutti, LHG and was reviewed by Greg Helland, LHG, of SCS Engineers.

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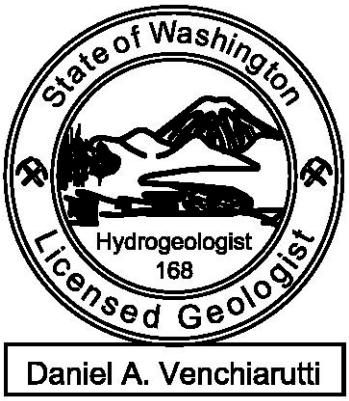

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1.0 INTRODUCTION

This report summarizes the results of the 2018 quarterly post-closure environmental monitoring conducted at the Olympic View Sanitary Landfill (OVSL), located in Bremerton, Washington. Monitoring events for the current compliance period were performed during February, May, August and November of 2018. Quarterly environmental monitoring at the OVSL includes sampling and analysis of groundwater and leachate pond leak detection liquid, and monitoring landfill gas (LFG). Leachate influent monitoring is also conducted on an annual basis.

Quarterly groundwater and LFG monitoring was performed at the facility in accordance with the OVSL *Environmental Monitoring Plan* (EMP, Engineering Management Support, Inc., 2010) and the updated site-specific *Sampling and Analysis Plan* (SAP, revision 1.1, SCS Engineers, 2017). The plans were developed in consultation with the Washington Department of Ecology (Ecology) and reflect a refined understanding of the site conditions based on the results of a Remedial Investigation/Feasibility Study (RI/FS) per WAC 173-340 (Model Toxics Control Act, MTCA). The OVSL monitoring program is also intended to meet requirements of the Criteria for Municipal Solid Waste Landfills (WAC 173-351-430) which is administered by the Kitsap County Public Health District (KPHD).

SCS Engineers (SCS) and Aspect Consulting (for landfill gas) performed quarterly environmental monitoring at the OVSL during 2018. The following information summarizes the routine monitoring activities described in this report:

- Quarterly collection and analysis of groundwater samples at select monitoring wells within the monitoring network
- Quarterly measurement of depth-to-water in groundwater monitoring wells sampled for water quality
- Measurement of depth-to-water in water table-only groundwater monitoring wells (during the second and fourth quarter monitoring events)
- Quarterly collection and analysis of a leachate pond/leak detection system sample
- Collection and analysis of a leachate influent sample (during the fourth quarter monitoring event)
- Quarterly measurement of LFG concentrations at perimeter soil gas monitoring probes and building monitoring locations

1.1 REPORT CONTENTS

The 2018 Annual Monitoring Report includes:

- A site location description and background section
- A discussion of monitoring activities including a summary of sampling techniques and locations within the groundwater and LFG monitoring network
- Construction details for groundwater monitoring wells
- A discussion of the groundwater conditions including groundwater elevations, flow direction, and flow velocity for the reporting year

- A summary of the monitoring analytical program and presentation of the analytical results and findings for the reporting year
- A summary of the LFG monitoring results for the reporting year
- A geochemical evaluation of water quality samples collected in November 2018 (fourth quarter)
- A statistical trend analysis and concentration time series plots of groundwater monitoring results
- A statistical evaluation and comparison of groundwater results to calculated prediction limits
- A comparison of groundwater monitoring results to site-specific cleanup levels and other applicable criteria
- Field documentation from the 2018 monitoring events
- The fourth quarter 2018 data validation report and associated analytical laboratory reports
- A summary of historical LFG monitoring measurements

Previously issued analytical laboratory data reports for the first three quarters of the 2018 monitoring will not be reissued with this report and can be found in the respective quarterly monitoring reports. Similarly, LFG migration monitoring results for the first three quarters of the 2018 compliance period are reported separately in their respective quarterly monitoring reports.

In order to conserve paper resources, the complete 2018 annual report is presented on an enclosed data CD attached to the rear cover of the document. However, for the convenience of the reviewer, hard copies of select materials are included in this report.

2.0 SITE DESCRIPTION

2.1 LOCATION

The closed OVSL facility is located on approximately 436 acres in Sections 3 and 10, Township 23N, Range 1W of the Willamette Meridian, in Kitsap County, Washington. The facility is situated on an upland area approximately 10 miles southwest of the city of Bremerton. The facility address is 10015 SW Barney White Road, Bremerton, Washington. A site location map is shown on Figure 1. The closed refuse fill area covers approximately 65 acres of the property. A site plan is presented on Figure 2.

2.2 BACKGROUND

The OVSL facility accepted municipal solid waste between 1967 and 2003. Landfill closure was completed in 2004, in accordance with Washington Administrative Code (WAC) 173-351. Closure activities included construction of a LFG monitoring system, an active LFG collection and treatment system, a leachate collection and treatment system, a storm water drainage control system, and a final landfill cover.

The final landfill cover consists of (top to bottom):

- 12-inches of vegetative topsoil and cover soil
- Geotextile fabric
- 12-inch drainage layer
- Geonet composite 60-mil flexible membrane liner
- 6-inch thick, low permeability soil

The active LFG collection system consists of a total of 81 well heads (69 vertical wells, 4 horizontal wells, and 8 interconnections to the leachate collection system) connected to a gas treatment flare station. The leachate collection system consists of subgrade collection piping and a leachate collection lagoon. A storm water drainage system controls storm water erosion and minimizes off-site migration of sediment-laden water (WMW, 2008). Drainage and erosion protection improvements include vegetation, a landfill toe under-drain, down chutes, culverts, and drainage ditches.

2.3 TOPOGRAPHY AND CLIMATE

The facility is located in the Southern Upland of the Kitsap Peninsula adjacent to the Union River-Gorst Creek trough. Site topography ranges from approximately 150 to 360 feet above mean sea level (MSL). The land surface generally slopes to the west-southwest towards the Union River, which is situated approximately a half mile west of the site.

Kitsap County's climate is characterized as maritime, with long, mild, wet winters and short, cool, dry summers. Climatically, and due to the local relief, there can be significant variations in total annual precipitation and average temperatures over short distances.

2.4 LOCAL AND REGIONAL HYDROGEOLOGY

The regional near-surface geology in the vicinity of the OVSL is dominated by glacio-fluvial and glacio-lacustrine deposits associated with the Vashon glaciation. A Remedial Investigation Report completed for the OVSL (Parametrix, 2007) identified the following main stratigraphic units in the vicinity of the site:

- Organic Soils and Peat (Qw)
- Alluvium (Qal)
- Vashon Recessional Outwash (Qvr)
- Vashon Lacustrine Recessional Outwash (Qvrl)
- Vashon Till (Qvt),
- Vashon Advance Outwash (Qva)
- Vashon Advance Lacustrine Deposits (Qval)
- Pre-Vashon Deposits (Qpvu)

With the exception of the Vashon Till (which has not been confirmed to be present at the site), all of these units appear to be present beneath the OVSL.

Information provided in the site conceptual model indicates that organic soils/peat, alluvium, outwash, glacio-fluvial, glacio-lacustrine, and flood plain deposits outcrop along the west-central portions of the OVSL facility. Groundwater is present beneath the site at elevations ranging between approximately 140 and 260 feet above MSL (depths-to-water ranging between near-surface and approximately 80 feet below ground surface). The groundwater flow direction beneath the landfill is generally toward the west.

3.0 2018 MONITORING ACTIVTIES

3.1 GROUNDWATER

3.1.1 Groundwater Monitoring Network

Quarterly groundwater monitoring is conducted at the OVSL in accordance with the January 2001 Agreed Order, EMP as modified through subsequent technical discussions with Ecology, and the current site-specific SAP (SCS, 2017, revision 1.1). The monitoring program also meets the post-closure landfill monitoring requirements under WAC 173-351-430.

The groundwater monitoring network at the OVSL includes four categories of monitoring wells that are sampled either quarterly or semi-annually, plus monitoring wells that are only used for water level measurements. The four well categories designated at the site include the following:

- Upgradient (background) monitoring wells are used to assess the quality of groundwater upgradient of the landfill.
- Performance monitoring wells are used to assess groundwater quality at the edge of the waste management unit.
- Compliance monitoring wells are used to assess groundwater quality at the MTCA Point-of-Compliance (POC).
- Downgradient monitoring wells are used to assess groundwater quality leaving the site.

A monitoring well identifier and type summary is provided on the table below. The locations of these groundwater monitoring wells are illustrated on Figure 2.

Exhibit 1. 2018 OVSL Groundwater Monitoring Well Network (by Type)

Upgradient	Performance	Compliance	Downgradient
MW-13A	MW-19C (S)	MW-15R	MW-29A (S)
MW-13B		MW-34A	MW-32
MW-16		MW-34C	MW-33A (S)
MW-35		MW-39	MW-33C (S)
		MW-42	MW-36A (S)
		MW-43	

(S) = semiannual monitoring locations
A indicates a shallower well completion
B indicates an intermediate well completion
C indicates a deeper well completion

Completion depths for the water quality monitoring wells range from approximately 20 to 260 feet below ground surface (bgs). Screen lengths vary from 5 to 20 feet, with a 10-foot average well screen length. Completion depth differences are differentiated using the following letter indicators: "A" is a shallower monitoring well completion, "B" indicates an intermediate well completion, and "C" indicates a deeper monitoring well completion. Construction details for both the water quality monitoring wells and the water level measurement only wells are summarized on Table 1.

Each of the groundwater monitoring wells designated for routine water quality sampling is outfitted with a dedicated sampling pump (QED Well Wizard) suitable for low-flow purging and sampling. Low-

flow sampling with dedicated pumps minimizes pump-introduced artifacts and eliminates cross contamination between wells. The dedicated bladder pumps are positioned with their inlets located within the screened interval of the well. Well construction, development, and pump installation are reported in detail in the *Report of 2005 Gas Probe and Monitoring Well Installations at OVSL* (SCS Engineers 2006), the *Remedial Investigation Report, OVSL, Kitsap County* (Parametrix, 2007) and the *Groundwater Monitoring Well Installation Report*, *OVSL* (SCS Engineers. 2009).

3.1.2 Monitoring Schedule

Groundwater monitoring was conducted on a quarterly basis in 2018, with sampling events completed in February, May, August, and November. Per the current SAP, Performance monitoring well MW-19C and Downgradient monitoring wells MW-29A, MW-33A, MW-33C and MW-36A were sampled on a semiannual basis during May and November 2018.

3.1.3 Parameters and Analytical Methods

The analytical program for groundwater quality monitoring during the 2018 reporting period included the Appendix I and II parameters summarized in Exhibit 2. In addition to the routine Appendix I/II parameter list, three year Appendix III parameters were included in the requested analyses for Performance well MW-19C and Downgradient well MW-32 during the second quarter event.

Exhibit 2. 2018 OVSL Groundwater Analytical Parameters

Analytical Program	Parameter
Field Measurements	temperature, specific conductivity, pH, dissolved oxygen, turbidity, and static water level
Geochemical Indicator and General Parameters	chloride, sulfate, nitrate, calcium, sodium, bicarbonate, alkalinity, magnesium, potassium, iron, manganese and total suspended solids
Total Metals*	antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc
Volatile Organic Compounds	as listed in WAC 173-351 Appendix I
Leachate Indicator Parameters	ammonia, total organic carbon (TOC), and total dissolved solids (TDS)
Additional Appendix III Parameters	Semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides and herbicides

* Consistent with the 2013 revisions to WAC 173-351, both dissolved and total Appendix I metals data were reported for a minimum period of eight quarters between September 2013 and December 2015. Beginning in 2016, Appendix I metals data have only been reported as a total fraction.

Laboratory methods are derived from several industry-standard publications. Methods for Chemical Analysis of Water and Wastes (MCAWW, EPA 1983) describe methods used for nitrate, nitrite, chloride, sulfate, and ammonia analyses. Standard Methods for the Examination of Water and

Wastewater (APHA 1999, revised 2014) describe the methods used for analysis of alkalinity (total and bicarbonate), TDS, total suspended solids (TSS), and TOC. Metals and VOC analyses are described in EPA publication number SW-846, Test Methods for Evaluating Solid Wastes, Physical and Chemical Methods (EPA revised 2007). The method for measuring arsenic is described in Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry (EPA 1994).

All laboratory analyses were completed by TestAmerica in Denver, Colorado and Buffalo, New York, and by Analytical Resources Incorporated in Tukwila, Washington. These laboratories are accredited in accordance with WAC 173-50, Accreditation of Environmental Laboratories.

3.1.4 Field Monitoring And Sampling Procedures

Field activities conducted at the site consisted of surveying well conditions, obtaining field measurements (depth-to-water, pH, specific conductivity, turbidity, temperature, and dissolved oxygen), collecting groundwater samples for laboratory analysis, and packaging and shipping the samples to the relevant laboratories. These activities are conducted as described in the 2017 site-specific SAP (revision 1.1).

As part of the routine groundwater monitoring program, static water levels were initially measured and recorded in the water quality wells being sampled that quarter prior to initializing any well purging or groundwater collection procedures. As part of the second (May) and fourth (November) quarter events, static water levels were measured at all 16 water quality monitoring wells, and from the 14 additional site wells that are only used for the semi-annual determination of the potentiometric groundwater surface. Depth-to-water measurements (measured to the nearest 0.01 ft.) were obtained using an electronic water level indicator. Static water level measurements were recorded and documented on field sampling and measurement forms included in Appendix A (for November 2018).

Prior to sample collection, groundwater monitoring wells were purged in order to ensure representative groundwater conditions at each location. Both purging and sampling of the monitoring wells were conducted using low-flow/low-volume well sampling techniques. Once the pumping was initiated, flow rates were confirmed by volumetric discharge measurements (by measuring the total volume discharged per cycle using a graduated cylinder and verifying the number of pump cycles per minute specified by the controller). Field measurements for pH, temperature, specific conductivity, dissolved oxygen, and turbidity were conducted using a closed, in-line flow-through cell and a portable turbidity meter. When water quality parameters stabilized and there had been no change in the pumping water level, sample collection would begin. Field parameters were measured as described in Standard Methods for the Examination of Water and Wastewater (APAH 2014).

Before initiating the purge process, the multiparameter field meters were calibrated in accordance with manufacturer's guidelines. Field data obtained during the well purging procedure was recorded on field sampling and measurement forms included in Appendix A (for November 2018).

Non-disposable sampling equipment that was exposed to well water (e.g., electronic water level tape) was decontaminated between wells as outlined in the SAP. Decontamination of equipment was completed before leaving each well, thereby minimizing potential cross contamination. Disposable sampling equipment and disposable personal protective equipment (PPE) were removed and disposed of after each use and prior to leaving each well.

3.2 LEACHATE

Leachate generated from three separate closed municipal waste storage cells is collected and pumped to an arterial force main that discharges to a one-acre leachate pond situated near the western end of the landfill (refer to Figure 2). The force main outfall is located on the north end of the leachate lagoon. Accumulated leachate is treated by aeration. When the leachate elevation in the pond approaches the elevation of the former pond outlet, leachate is removed via pumping and is hauled to nearby wastewater treatment plants.

3.2.1 Leachate Monitoring Locations

Per the EMP and SAP, leachate monitoring is performed at three locations at the facility. Influent leachate sampling station L-INF is situated immediately downstream of the force main outfall on the north end of the leachate collection pond. The OBWL-TD sampling station is located at the Old Barney White Landfill Toe Drain collection sump, which subsequently connects to the leachate pond. Sampling station LP-LCD is located at the pump discharge outlet which periodically returns any accumulated liquids that collect beneath the leachate pond liner system back into the main lagoon.

The locations of the leachate monitoring stations are illustrated on Figure 2.

3.2.2 Monitoring Schedule

The current SAP provides for annual monitoring of the L-INF and OBWL-TD stations and quarterly monitoring of the LP-LCD station. Leachate samples were collected from L-INF and OBWL-TD during the fourth quarter of 2018. The LP-LCD was sampled quarterly throughout 2018.

3.2.3 Parameters and Analytical Methods

A summary of the analyzed parameters for the leachate samples collected at the OVSL is presented in Exhibit 3. In addition to the routine Appendix I/II parameter list, the annual L-INF and OBWL-TD samples collected during the fourth quarter event were also analyzed for the three-year Appendix III parameter suite.

Exhibit 3. 2018 OVSL Leachate Analytical Parameters

Quarterly LP-LCD Analytical Program	Parameter
Field Measurements	temperature, specific conductivity, pH, dissolved oxygen, and turbidity
Geochemical Indicator Parameters	chloride, sulfate, nitrate/nitrite, calcium, sodium, bicarbonate, alkalinity, magnesium, potassium, iron, and manganese
Leachate Indicator Parameters	ammonia, TOC, and TDS

Annual L-INF and OBWL-TD Analytical Program	Parameter
Field Measurements	temperature, specific conductivity, pH, dissolved oxygen, and turbidity
Geochemical Indicator Parameters	chloride, sulfate, nitrate/nitrite, calcium, sodium, bicarbonate, alkalinity, magnesium, potassium, iron, and manganese
Total Metals	antimony, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc
Volatile Organic Compounds	as listed in WAC 173-351 Appendix I
Leachate Indicator Parameters	ammonia, total organic carbon (TOC), and total dissolved solids (TDS)
Additional Appendix III Parameters	Semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides and herbicides

Laboratory methods are the same methods used for groundwater samples. All laboratory analyses for the leachate samples were completed by TestAmerica labs in Denver, Colorado and Buffalo, New York.

3.2.4 Leachate Monitoring Field Procedures

Field activities consisted of obtaining field parameter measurements, collecting leachate samples for laboratory analysis, and packaging and shipping the samples to the laboratory. The L-INF and OBWL-TD samples consisted of individual grab samples that were collected directly from their respective sampling stations using a peristatic pump. New disposable plastic tubing was used during the collection of each sample, and was subsequently discarded between sampling locations. The LP-LCD sample was obtained from an inline sampling port attached to the liquid return line that drains back into the leachate pond. All the leachate samples were collected directly into pre-labeled laboratory containers suitable for the chemical parameters being analyzed. Field instruments were calibrated in accordance with manufacturer's guidelines.

Field-measured parameters including temperature, specific conductivity, pH, and dissolved oxygen were measured as described in Standard Methods for the Examination of Water and Wastewater (APAH 2014). Field information obtained during leachate sampling was recorded on Field Information Forms included in Appendix A (for November 2018).

3.3 LANDFILL GAS

Landfill gas monitoring activities at the OVSL consist of obtaining field measurements of primary gas composition (methane, carbon dioxide, and oxygen) at 10 subsurface soil gas detection probes (several with multiple screened intervals) and six locations inside four onsite structures on or immediately adjacent to the landfill.

LFG monitoring is conducted to provide an assessment of the subsurface soil gas conditions at the OVSL and monitor compliance with regulatory criteria for subsurface methane concentrations. At the

subsurface gas detection probes (LFG probes) relative soil gas pressure was also measured in the field. LFG monitoring procedures are detailed in the 2017 SAP.

3.3.1 Landfill Gas Monitoring Network

Monitoring is conducted at 10 perimeter LFG probes (GP-7 through GP-16) and four onsite structures (Scale House, South Slope Well House, Electrical Shed and Office) as illustrated on Figure 3. Five of the LFG probes (GP-9 through GP-13) consist of multiple, vertically-discrete, monitoring zones. Probes with dual monitoring zones are designated with an "S" for the shallow zone, and a "D" for the deep zone. Probes with three monitoring zones are designated with an "S" for the shallow zone, "M" for the middle zone, and "D" for the deep zone. Data are not reported for probes where the screened interval is found to be submerged by groundwater. Details of all the LFG probes and boring logs can be found in Report of *2005 Gas Probe and Monitoring Well Installations at OVSL* (SCS Engineers 2006).

3.3.2 Monitoring Schedule

Monitoring at the LFG probes and facility structures was conducted during March, May, September, and late October (for probes)/early November (for structures) 2018. LFG monitoring results are reported in Section 4.

3.3.3 Landfill Gas Monitoring Field Procedures and Instrumentation

Field monitoring was conducted in accordance with the 2017 SAP. The LFG probes and building locations were monitored in the field (for all parameters) using a GEM-2000 portable multi-gas analyzer. This portable gas analyzer measures methane and carbon dioxide with a dual wavelength infrared cell with a reference channel. Oxygen is measured with an electro-chemical cell. Pressure was measured with a transducer.

The gas analyzer was calibrated prior to each monitoring event. LFG monitoring activities are documented in the Field and Calibration Logs included in Appendix A.

3.3.4 Field Conditions

General weather conditions were noted during and preceding each quarterly LFG monitoring event. Atmospheric pressure fluctuations can influence gas concentrations and pressure in LFG probes. To assist in interpreting the monitoring data, barometric conditions were recorded during and prior to monitoring. The barometric trends for October 2018 are included in this report.

4.0 2018 MONITORING RESULTS

4.1 GROUNDWATER

4.1.1 Groundwater Elevation and Flow

All of the monitoring wells in the current compliance program were accessible for the collection of water table elevation information during 2018. Recorded depth-to-water levels are summarized in field documentation included in Appendix A.

Depth-to-water measurements collected through 2018 were used to calculate groundwater elevations in feet relative to MSL. The 2018 records have been compiled and are presented on Table 3. Groundwater elevation surface maps (derived from static depth-to-water measurements collected at the OVSL monitoring wells) for the second (May) and fourth quarter (November) 2018 are presented in Figures 4A and 4B. A hydrograph showing the past 10 years of recorded groundwater elevations is presented on Figure 5. Groundwater elevations at the OVSL ranged from 141.31 (MW-30A in November) to 244.61 (MW-13A in February) ft. MSL over the 2018 reporting period. Groundwater elevations remained relatively stable throughout the year. The potentiometric groundwater elevation surface across the OVSL does not show significant seasonal fluctuations. These results remain consistent with data reported during previous compliance years.

The groundwater flow direction during the reporting period was consistent with that previously reported at the site. Locally, the groundwater flow direction is to the west/northwest. The average hydraulic gradient across the site remained fairly consistent between the wet and dry seasons

Exhibit 4. Calculated 2018 Hydraulic Gradient and Flow Velocities

East Side of OVSL Facility		
	Q2	**Q4**
Well Pair	MW-35/MW-24	
Hydraulic Gradient (ft./ft.)	0.0326	0.0340
Flow Velocity (ft./day)	2.82	2.94
West Side of OVSL Facility		
	Q2	**Q4**
Well Pair	MW-20/MW-33A	
Hydraulic Gradient (ft./ft.)	0.0140	0.0127
Flow Velocity (ft./day)	7.21	6.52

Eastern Hydraulic Conductivity = 26 ft/day (Parametrix 2007)
Western Hydraulic Conductivity = 154 ft/day (Parametrix 2007)
Porosity = 30% (Parametrix 2007)

4.1.2 Groundwater Quality

4.1.2.1 Chemical Analysis

Water quality data for the OVSL are summarized in Tables 4A through 4D. These tables present the data results, segregated by well type, for detected analytes and measured field parameters from all four quarters of 2018. Each table presents the data for a monitoring well category (Compliance, Performance, Downgradient, and Upgradient). A table (4E) summarizing the detected analytes and field parameters for the annual L-INF and OBWL-TD leachate and the quarterly LP-LCD leak detection monitoring stations is also provided. Appendix III parameter detections for select groundwater and leachate samples are summarized on Table 4F. In addition, a summary table of VOC detections in groundwater and leachate is presented as Table 5.

As summarized on Table 4F, four Appendix III parameters (chlorobenzene, cis-1,2 dichlorobenzene, trichloroethene and total cyanide) were reported in the May 2018 groundwater sample collected from Downgradient well MW-32. Trichloroethene was the only Appendix III parameter detected in Performance well MW-19C. Excepting for 0.02 mg/L total cyanide reported in MW-32, all of these low-level detections were J-flagged (estimated results less than the laboratory reporting limit). None of the Appendix III detections approached state groundwater protection levels.

4.1.2.2 Data QA/QC

Analytical data from the TestAmerica and ARI laboratories were subjected to a quality assurance/quality control (QA/QC) review. The review included field and in-house components. The field portion consisted of the collection and analysis of trip blanks, field replicates, and matrix spike/matrix spike duplicates. The in-house evaluation provided a detailed examination of laboratory data which included sample handling, analysis hold times, and laboratory performance analyses (duplicates, blanks, matrix spikes, matrix spike duplicates and surrogate recoveries).

For the second quarter data set, the laboratory reported a number of low-level blank detections (less than the reporting limit) for dissolved calcium, iron and manganese. The blank detections did not appear to be related to any anomalous second quarter detections for these parameters. During the third quarter event, the LP-LCD leachate station had to be resampled for five parameters (alkalinity, ammonia, chloride, sulfate and total dissolved solids), due to the laboratory misplacing several sample containers.

An express shipment delay for the fourth quarter LP-LCD leachate sample resulted in the BOD analysis being performed slightly outside the recommended 48 hour holding time. The sample results were reported with a hold time data qualifier. Also, a low-level (less than the reporting limit) acetone detection was reported in the trip blank accompanying the L-INF leachate sample. This sample reported a low-level acetone detection that Test America identified as a suspect laboratory artifact. In addition, low-level, laboratory blank detections were reported for several dissolved metals (barium, manganese and nickel) associated with the November 2018 L-INF and OBWL-TD sample batch. All of the above noted anomalies are detailed in their associated laboratory data reports.

Notwithstanding the above reported laboratory data qualifiers, the 2018 data set was determined to be acceptable for the intended purposes. Appendix B contains the data validation report and the analytical laboratory data reports for the November 2018 monitoring event.

4.1.3 Spatial Distribution and Temporal Trends

4.1.3.1 Parameter Distribution

As noted in prior monitoring reports, the influence of past waste disposal activities on groundwater quality at the OVSL is observed in the groundwater VOC detections, general chemistry, inorganics, and field parameter results. The elevated concentrations of parameters adjacent to the landfill are typically characteristic of influence from either landfill leaching, transport from LFG, or increased mobilization of naturally occurring constituents as a result of the landfill's presence.

Several key parameters (arsenic, iron, manganese, and vinyl chloride) are routinely monitored for their spatial distribution each quarter by plotting concentrations on the landfill base map.

Exhibit 5. Spatial Distribution of Key OVSL Groundwater Parameters

Total Arsenic (mg/L) - November 2018 (Figure 6A)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	0.000112	0.00276 *MW-19C*	<0.00004	0.000532
Locations	*MW-35*		*MW-43*	*MW-36A*
High	0.000452		0.00968	0.00984
Locations	*MW-16*		*MW-34C*	*MW-32*

Total Iron (mg/L) – November 2018 (Figure 6B)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	<0.06	0.15 *MW-19C*	<0.06	<0.06
Locations	*MW-13A, MW-13B MW-35*		*MW-34A*	*MW-36A*
High	0.22		35	3.6
Location	MW-16		*MW-39*	*MW-29A*

Total Manganese (mg/L) – November 2018 (Figure 6C)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	<0.001	1.1 *MW-19C*	0.0014	0.0016
Locations	*MW-13B, MW-35*		*MW-34A*	*MW-36A*
High	0.025		3.8	2.6
Locations	*MW-16*		*MW-42*	*MW-32*

Vinyl Chloride (µg/L) – November 2018 (Figure 6D)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	<0.02	0.038 *MW-19C*	<0.02	<0.02
Locations	*MW-13A MW-13B, MW-16, MW-35*		*MW-15R, MW-39, MW-43*	*MW-29A, MW-33A, MW-33C, MW-36A*
High	*NA*		0.062	0.33
Locations			*MW-42*	*MW-32*

Similar to previous reporting years, groundwater impacts are observed in each category of monitoring wells at the site.

The highest concentrations of arsenic, total iron and total manganese (0.000452, 0.22 and 0.025 mg/L, respectively) that were detected in Upgradient (background) monitoring wells during the fourth quarter monitoring event occurred in MW-16. Vinyl chloride was not reported in any of the Upgradient wells throughout 2018.

Detectable concentrations of arsenic, total iron and total manganese (0.00276, 0.15 and 1.1 mg/L, respectively) were reported during the fourth quarter in Performance monitoring well MW-19C. In addition, 0.038 µg/L of vinyl chloride was reported in this well during the fourth quarter event.

The highest fourth quarter concentrations of primary parameters in the Compliance monitoring wells were reported in MW-34C (0.00968 arsenic), MW-39 (35 mg/L iron) and MW-42 (3.8 mg/L manganese and 0.062 µg/L vinyl chloride).

These same parameters were highest in the Downgradient monitoring wells MW-32 (0.00984 mg/L arsenic, 2.6 mg/L manganese and 0.33 µg/L vinyl chloride) and MW-29A (3.6 mg/L iron).

4.1.3.2 Temporal Trends

Time series graphs and statistical trend analyses were completed for all Upgradient, Performance, Compliance, and Downgradient monitoring wells using the DUMPStat software package. The statistical data set includes analytical results obtained between 2005 through the present reporting year (2018). This evaluation was conducted for parameters listed in Appendices I and II of WAC 173-351-990 which are organized into two groups: "Trend Test A" and "Trend Test B". The "Trend Test A" time series includes all organic parameters in Appendices I and II that have been detected above the practical quantification limit (PQL) during at least one sampling event in any of the wells since 2005 (currently 25 VOCs). The "Trend Test B" time series includes Appendix I and II inorganic and groundwater quality parameters (currently 32 parameters). To facilitate review of the statistically significant trends, time series sets were developed to show those well/parameter combinations exhibiting either increasing or decreasing trends. These time series graphs are presented in Appendix C along with the other statistical evaluation results. A summary of those parameters showing significant increasing or decreasing concentration trends grouped by well type is provided on Table 6A, and a more detailed summary of parameter trends in specific wells can be found in Table 6B.

Similar to past recent reporting years, the dominant data trend observed for the majority of water quality parameters monitored at the OVSL continues to be that of generally decreasing concentrations. This is predominantly observed in the Compliance and Downgradient monitoring wells. However, significant decreases are noted in all well groups for as many as 15 inorganic parameters and two VOCs (Tables 6A/6B). Significant increasing trends were also noted for several field monitored and inorganic parameters in several of the Upgradient, Compliance and Downgradient wells, although the overall number of parameters with increasing trends remains low.

Significant parameter trends calculated for the Compliance monitoring wells are summarized in the following exhibit.

Exhibit 6. Significant Temporal Trends in Compliance Wells (2005-2018)

Increasing		Decreasing	
Parameter	**Wells**	**Parameter**	**Wells**
Arsenic	MW-42	Alkalinity, Total	MW-15R, MW-34A, MW-34C, MW-42
Chloride	MW-39	Ammonia	MW-43
pH	MW-34C, MW-42	Barium	MW-15R
Potassium, Dissolved	MW-42	Bicarbonate Alkalinity	MW-15R, MW-34A, MW-34C, MW-42
Temperature	MW-15R, MW-34A, MW-34C	Calcium	MW-15R, MW-34A, MW-34C, MW-43
		Chloride	MW-15R, MW-34A, MW-34C
		Magnesium	MW-15R, MW-34A, MW-34C, MW-42
		Nickle	MW-15R, MW-42
		pH	MW-34A
		Sodium	MW-15R, MW-34A, MW-34C, MW-42, MW-43
		Specific Conductivity	MW-15R, MW-34A, MW-34C
		Sulfate	MW-42, MW-43
		Total Dissolved Solids	MW-15R, MW-34C, MW-34A
		Vanadium	MW-34A
		Vinyl Chloride	MW-34C

4.1.4 Groundwater Geochemistry

The geochemical character of the groundwater, LP-LCD, OBWL-TD and L-INF samples was evaluated by plotting and comparing geochemical parameters using a Piper diagram for the November 2018 analytical results. Water quality samples collected during November 2018 were of similar geochemical water type with clear differences seen between the groundwater and leachate derived samples.

Similar to previous reporting years, the positions of the sampled wells on the diagram indicate that the dominant anion in site groundwater remains bicarbonate, with cations being dominated by calcium and magnesium. The leachate derived samples continue to report significantly higher sodium, calcium and potassium concentrations than groundwater, as well as higher chloride and bicarbonate levels. Once again, the November 2018 OBWL-TD sample reported relatively elevated sulfate levels with respect to the other leachate samples. The Piper diagram for November 2018 can be found in Appendix D. Previous Piper diagrams for the first, second, and third quarters of the current compliance year can be found in their corresponding quarterly monitoring reports.

In addition to the Piper diagram, groundwater cation/anion balance calculations were also used to assess geochemical character. Ideally, after the major anions and cations present in a sample are determined, the sum of the positive cations (in milliequivalents per liter [meq/L]) should approximately equal the sum of the negative anions (Hem 1986). All natural waters should be electroneutral. However, differences can arise between dissolved cations and anions in groundwater as measured by an analytical laboratory due to a number of factors including: presence of colloidal fractions, systematic error in preparation and analysis of samples, malfunction of/poorly calibrated equipment, major species omitted from analysis, the presence of unusually high concentrations of cations/anions, and not all ions present in water are included in the balance calculation. Due to these potential issues, differences in the ion balance can be difficult to assess for imbalances due to groundwater impacts.

The range of the sum of ions and balance of ions observed at the site for the November 2018 monitoring event are summarized in the exhibit below. Positive balance values indicate that the sum of the cations is greater than the sum of the anions. As stated in WAC 173-351-430-5(a), a relative percent difference (RPD) in the charge-balance (ion balance) of greater than five to ten percent (depending on the concentrations of ions in solution) could potentially indicate impacted groundwater conditions.

Exhibit 7. Cation-Anion Ranges for Groundwater (November 2018)

Well Group	Upgradient	Performance	Compliance	Downgradient
Sum of Cations (meq/L)	1.16 – 1.78	1.59	0.49 – 4.2	0.78 – 3.6
Sum of Anions (meq/L)	1.12 – 1.76	1.64	0.45 – 4.4	0.79 – 3.4
Balance (%)	-0.39 – 1.74	-1.66	-14.6 – 4.1	-0.57 – 2.2

Ion balances observed at the site during the November 2018 event were typically within or very close to this threshold. One well (MW-39) reported balances outside this range (-14.6 percent). This well has historically reported relatively low ion balances. It's suspected that results outside the (+/-) 5 to 10% ion balance threshold are due to possible errors associated with analytical limitations in these measurements (as previously discussed) or potential low level impacts from human activities at the site.

4.1.5 Statistical Predication Limit Evaluation

Statistical prediction limits using data from the upgradient monitoring wells are calculated at the end of each monitoring year to provide updated background concentrations for all Appendix I and II inorganic detection monitoring and groundwater quality parameters (a total of 32 parameters). These updated background prediction limit concentrations are used for comparison purposes for compliance and downgradient monitoring wells.

For the fourth quarter of 2018, prediction limits for inorganic parameters were exceeded at least once in four of the Compliance (MW-34A, MW-34C, MW-39 and MW-42) monitoring wells and in all of the Downgradient (MW-29A, MW-32, MW-33A, MW-33C and MW-36A) monitoring wells. Compliance well MW-42 (16 exceedances) and Downgradient well MW-32 (13 exceedances) reported the largest number of prediction limit exceedances during this quarter. A summary of the latest prediction limit exceedances for the November 2018 Compliance and Downgradient well results are presented on Table 7. Prediction limit calculations for 2018 are presented in Appendix C.

As summarized on Tables 6A and 6B, the following Upgradient monitoring wells exhibited statistically significant (increasing or decreasing) trends over the period for which background prediction limits are calculated: MW-13A (chloride and sulfate), MW-13B (bicarbonate/total alkalinity, specific conductance, chloride and sulfate), MW-16 (bicarbonate/total alkalinity, calcium, chloride, magnesium, sodium and sulfate) and MW-35 (bicarbonate/total alkalinity, chloride, nitrate specific conductance, and temperature). Parameter trends in Upgradient monitoring wells are noted because they can impart a bias on the calculated prediction limit for the affected monitoring parameters which, in turn, can affect the number of exceedances identified for those monitoring parameters in Compliance and Downgradient wells.

For bicarbonate/total alkalinity, nitrate, specific conductance and temperature, their apparent increasing trends in the some of the upgradient wells could impart a positive bias on the calculated prediction limits for these parameters. However, visual examination of the time series graphs presented in Appendix C indicates that the increasing trends noted for these parameters remains relatively slight. Therefore, any bias to the prediction limit would be expected to be nominal and not significantly change the number of exceedances within this parameter subset.

4.1.6 Point of Compliance and Cleanup Level Exceedances

4.1.6.1 Point of Compliance (POC)

The solid waste regulations (WAC 173-351-300[6]), specify that groundwater quality compliance must be established at a POC located on the landfill property no more than one hundred fifty meters (four hundred ninety two feet) from the waste management unit boundary. At the OVSL, the POC is established as a line of wells located within 150 meters of the landfill waste management unit boundary. As illustrated on Figure 2, the Compliance monitoring wells are colored red and lie west/northwest of the downslope boundary of the landfill.

4.1.6.2 Cleanup Level Exceedances

Site Specific MTCA Cleanup Level

Ten organic and inorganic parameters are regulated under the OVSL Cleanup Action Plan (CAP, Ecology 2010) and have site-specific MTCA cleanup levels. Analytical results are used to calculate an upper confidence limit (95% UCL) of the mean concentration for each parameter for each well for Compliance and Downgradient monitoring wells to assess compliance with their respective cleanup level.

The UCLs are calculated using a three-year moving data window for the ten site-specific chemicals of concern (COC). The UCLs are calculated using MTCAStat; calculation details are presented in Appendix C. The following exhibit and Table 8 summarize the COCs and their 2018 UCL exceedances in the Compliance and Downgradient monitoring wells.

Exhibit 8. 2018 MTCA Exceedances for Chemicals of Concern

Chemicals of Concern	Units	Site-specific MTCA Cleanup Level	Exceedances in 2018 (95% UCL)
1,1-Dichloroethane	µg/L	50	No
1,4-Dichlorobenzene	µg/L	2	No
Ammonia	mg/L	0.19	Yes
Arsenic	mg/L	0.000462	Yes
Cis-1,2-Dichloroethene	µg/L	35	No
Ethyl ether	µg/L	50	No
Iron	mg/L	0.3	Yes
Manganese	mg/L	0.05	Yes
Trichloroethene	µg/L	1	No
Vinyl Chloride	µg/L	0.2	Yes

Blue indicates this COC reported a 95% UCL exceedance of its site-specific MTCA Cleanup Levels in at least one Compliance or Downgradient well during 2018.

Stable to improving groundwater quality at the OVSL continued to be observed during the 2018 reporting year. Similar to previous years, the 95% UCL for vinyl chloride remained below the cleanup level in all Compliance wells and all Downgradient wells except MW-32. It remains important to note that minor variations in parameter concentrations observed from year to year can cause exceedances to arise or vanish between reporting periods. This is largely a result of the UCLs hovering very near their site cleanup levels and not an indication of meaningful changes to overall groundwater conditions.

Statistically significant COC trends are also noted on Table 8 in order to provide additional information regarding the status of the UCL relative to the cleanup standard. Trend information may be particularly useful if the calculated UCL value is very close to the cleanup standard (e.g., within 10%). In such cases, trend information may be useful in predicting a change in status of the UCL versus the cleanup level in the relative near term.

Exceedances of the site-specific MTCA cleanup levels were reported in five of the six Compliance well locations (refer to Table 8): MW-34A (arsenic); MW-34C (arsenic, iron, manganese); MW-39 (ammonia, arsenic, iron, and manganese); MW-42 (ammonia, arsenic, iron, manganese); and MW-43 (iron and manganese). However, also noted in 2018 were statistically significant decreasing trends in several compliance wells for vinyl chloride (in MW-34C), manganese (in MW-42); and ammonia (in MW-43). The 95% UCLs for the VOC COCs remained below the site-specific MTCA cleanup levels in all of the Compliance monitoring wells during 2018.

Exceedances of at least one of the site-specific MTCA cleanup levels continue to be reported in all five Downgradient well locations (refer to Table 8): MW-29A (arsenic, iron, and manganese); MW-32 (arsenic, iron, manganese, and vinyl chloride); MW-33A (ammonia, arsenic, and iron); MW-33C (arsenic and manganese); and MW-36A (arsenic). However, significant decreasing trends were once again reported at MW-29A (for ammonia) and MW-32 (for vinyl chloride). With the sole exception of vinyl chloride in MW-32, all of the 95% UCLs for the select VOCs remained below the site-specific MTCA cleanup levels in all of the Downgradient monitoring wells.

Also notable, trichloroethene, which had periodically exceeded its site-specific MTCA cleanup level in MW-19C during past compliance years, remained below its respective cleanup standard throughout 2018.

Other Criteria Comparison (Federal MCLs, WAC 173-200, and MTCA)

In addition to the site-specific MTCA cleanup levels, groundwater at the OVSL is also compared to WAC 173-200 Groundwater Quality Protection Standards and State/Federal Primary and Secondary Maximum Contaminant Levels (MCLs). For comparison purposes, site-specific MTCA cleanup levels are also included.

The WAC 173-200 and MCL exceedances for the 2018 reporting period by parameter and well are summarized on Table 9. Criteria for the following six analytes were exceeded:

- pH
- ammonia
- arsenic
- iron
- manganese
- vinyl chloride

These same parameters were noted to have exceeded their respective regulatory standards during the previous four (2015 through 2018) compliance years.

4.2 LEACHATE MONITORING RESULTS

4.2.1 Leachate Quality

The results of the fourth quarter 2018 leachate influent (L-INF) and Old Barney White Landfill Toe Drain (OBWL-TD) sample analyses are presented on Table 4E. Samples were also obtained from the LP-LCD monitoring station and submitted for selected Appendix II parameter and total metals analysis during all four quarters of 2018 (refer to Table 4E).

During 2018, the L-INF sample reported relatively elevated concentrations of the typical leachate parameters, including total/bicarbonate alkalinity, ammonia, calcium, chloride, magnesium, sulfate, sodium, COD, TDS and TOC. In addition, low but detectable levels of several VOCs (1,4-dichlorobenzene, acetone, acetonitrile, benzene, chlorobenzene, methylene chloride, tert-butyl alcohol and tetrahydrofuran) were reported in the November 2018 sample. The OBWL-TD sample reported generally lower leachate indicator results than the leachate influent. No VOCs were detected in the annual OBWL-TD sample. Compared to the L-INF sample, the 2018 quarterly LP-LCD samples generally reported lower alkalinity, ammonia, COD and TOC concentrations.

The results of the three-year Appendix III analysis for the L-INF and OBWL-TD are summarized on Table 4F. Five VOCs (1,4-dichlorobenzene, acetone, acetonitrile, benzene, and chlorobenzene), dinoseb, total nickel and BOD were detected in the November 2018 L-INF sample. Total nickel and BOD were also reported in the OBWL-TD sample. It should be noted that the majority of these low-level detections were flagged with either a J (estimated result less than the laboratory reporting limit) or B (detected in the laboratory method blank) data qualifier.

4.2.2 Leachate Generation Rates

Leachate volumes generated at the OVSL have been recorded on a weekly basis since 2008. During the course of the 2018 reporting period, approximately 779,605 gallons of leachate were pumped into the leachate collection pond. A total of 52.79 inches of rainfall was recorded at the OVSL weather station during 2018.

Over the decade, leachate production at the OVSL has significantly declined. Prior to 2013, the facility typically produced over 2 million gallons annually. Between 2013 and 2017, annual leachate generation ranged from 1,106,803 gallons (in 2014) to 681,901 gallons (in 2016). The leachate volume calculated for 2018 remained in this reduced range, and continues to indicate that ongoing improvements to site maintenance and existing infrastructure are reducing leachate generation rates at the OVSL. Annualized rainfall totals at the OVSL and the volumes of leachate produced on a quarterly and annual basis over the last eleven years are presented on Figure 7.

In addition, the liner leak collection/detection system is checked regularly for the presence of any accumulated liquids beneath the OVSL leachate pond. If liquids are present, they are pumped out of the collection system, pass through the LP-LCD monitoring station, and are returned to the leachate pond. The volumes of liquid pumped out of the liner leakage collection system during 2018 are presented on Table 10. A total of 5,345 gallons of liquid were removed from the collection system during 2018. This is a larger LP-LCD volume than was reportedly pumped (1,730 gallons) during the preceding year (2017).

4.3 LANDFILL GAS MONITORING RESULTS

LFG monitoring results for the OVSL are discussed in terms of detected methane and/or carbon dioxide (at concentrations of both gases at levels greater than 0.3 percent by volume) and depressed oxygen (less than 20.3 percent by volume). The detection of these gases, as well as elevated gas pressures within the perimeter probes, are indicative of the potential presence of LFG. The reported values represent measurements under stabilized conditions (after purging at least one probe volume from each sampling zone).

Perimeter LFG probes and surface structure locations were monitored quarterly for the presence of LFG. The fourth quarter 2018 results are summarized in Table 11. A summary of the LFG probe results over the entire 2018 compliance period is also provided on Table 12. In addition, LFG extraction rates and major gas component results for the 2018 operational period are summarized in Appendix E (on Table E-4). Over 2018, an estimated 134 million cubic feet of LFG were collected at the OVSL flare inlet, with an annualized average concentration of 26.48 percent methane (by volume).

4.3.1 Perimeter Gas Probes

For the November 2018 monitoring event, methane was not detected in any of the LFG perimeter monitoring probes. Carbon dioxide was measured in all the LFG probes with screens exposed to the vadose zone at concentrations ranging from 0.1 (GP-8) to 10.0 percent by volume (GP-7). Depressed oxygen levels (less than 20.3 percent by volume) were reported at the majority of LFG probes, ranging from 5.4 (GP-15) to 20.1 percent by volume (GP-10D). Three LFG probes (GP-8, GP-10S and GP-11D) reported oxygen levels that were not depressed. Representative relative (static) pressure readings in the perimeter gas probes ranged from -0.16 (GP-9S) to 0.55 (GP-11D) inches of water column.

Overall LFG production on the closed OVSL has and will continue to decline over time. As noted in previous reporting years, the observed declines in methane and carbon dioxide levels in the OVSL gas monitoring probes (as well as the increases in oxygen levels) likely also reflect changes in the LFG extraction system components (e.g., replacement of gas flares and blower station and the installation of six new LFG wells during October 2011 in the Barney White area) and more recent changes to LFG extraction system operations implemented by Waste Management.

Appendix E includes tables and time-series plots of the historical concentrations of methane, carbon dioxide, and oxygen in the currently monitored gas probes, from March 2008 through the end of the 2018 monitoring year.

4.3.2 Structure Monitoring

The fourth quarter 2018 monitoring results did not detect methane in any of the four monitored structures (Scale House, South Slope Well House, Electrical Shed and Office). The regulatory standard for methane in structures on or near the landfill is 25% of the lower explosive limit (LEL). Carbon dioxide was also not detected in any of these structures. Oxygen levels reported in these structures were all ambient, ranging between 21.3 and 21.5 percent by volume.

4.3.3 Barometric Pressure Conditions

LFG concentrations and pressures are influenced by fluctuating barometric pressure. Relative to time, the highest LFG concentrations and depressed oxygen concentrations tend to occur shortly after a significantly falling barometric trend. This is due to the effects of the landfill pressures trying to stabilize with the fluctuation in atmospheric (barometric) pressure and the associated lag time for stabilization.

To assist in interpreting data, barometric conditions were recorded prior to and during LFG monitoring. The atmospheric trends over the fourth quarter 2018 LFG monitoring event are presented on Figure 8. On October 23, LFG probe measurement were recorded during a period of generally stable barometric pressure conditions.

5.0 SUMMARY AND CONCLUSIONS

The 2018 groundwater quality results, LFG concentrations and leachate production levels reported for the OVSL remain consistent with the on-going stabilization of the closed landfill and an overall improvement of environmental site conditions. Groundwater quality data collected over the past decade indicate that historically detected contaminants in groundwater are generally declining, with fewer exceedances of site-specific MTCA cleanup levels reported at POC monitoring wells and downgradient of the site. Leachate generation volumes for 2018 were lower than those reported for the preceding year, and remain significantly lower than pre-2015 levels, demonstrating the effectiveness of the improved engineering controls being implemented at the facility. The OVSL will continue to explore opportunities to minimize any remaining above ground contribution to leachate volumes to ensure that the long-term trend of diminishing leachate generation is maintained.

LFG production at the facility continues to gradually decline, with flow rates decreasing to several orders of magnitude below their modeled production high as the natural depletion of methane and other landfill gases continues at the site. It is anticipated that on-going operations and maintenance (O&M) efforts at the OVSL will continue to show improving environmental conditions and increased landfill stability.

5.1 GROUNDWATER

5.1.1 Groundwater Quality

Certain VOCs, general chemistry parameters, inorganic analytes, and field parameters continued to be reported at elevated concentrations in the monitoring wells adjacent to the OVSL. During 2018, site specific MTCA cleanup levels, groundwater protection standards and/or federal MCLs were exceeded for six analytes: pH, total arsenic, total iron, total manganese, ammonia and vinyl chloride. These results are generally consistent with those reported over the past several years, with overall trends showing that the majority of analyte concentrations are decreasing.

As noted for previous reporting years, arsenic was the only OVSL parameter to exceed a primary MCL during 2018 compliance period. These exceedances continue to be reported in two wells: MW-32 (0.0108, 0.0106 and 0.0112 mg/L in February, May and August, respectively) and MW-34C (0.0307 mg/L in February). It should be noted that these are total arsenic results that were obtained from unfiltered groundwater samples. The primary MCL for vinyl chloride was not exceeded during the current reporting period and has not been exceeded since 2006.

Over the current reporting year, 95% UCL MTCA cleanup goal exceedances were reported at ten of eleven Compliance and Downgradient monitoring wells at the OVSL. Compliance wells MW-15R did not report any exceedances. With the exception of vinyl chloride in MW-32, the only parameters that exceeded the site specific MTCA cleanup levels were ammonia, arsenic, iron, and manganese.

The majority of parameter exceedances were reported in Compliance wells MW-34C, MW-39 and MW-42 and Downgradient well MW-32. However, an analysis of the 95% UCL for the ten site COCs relative to their respective cleanup levels suggests a continued overall improvement in groundwater quality through 2018. In addition, with the sole exception of arsenic in MW-42, the only statistically significant trends calculated for these COCs in 2018 were decreasing ones.

Prediction limits for inorganic parameters were exceeded in nine groundwater monitoring wells over the reporting period. Significantly increasing concentrations trends (using Sen's Non-Parametric Test for Trend) were reported for at least one inorganic parameter at nine well locations, while

significantly decreasing trends also occurred at fifteen well locations. Significantly decreasing concentration trends were reported for trichloroethene (MW-19C) and vinyl chloride in Performance wells MW-19C, MW-32 and MW-34C.

Overall, the groundwater analytical data, statistical and graphical analyses, and comparison to water quality standards though 2018 continue to indicate similar, but improving conditions to those previously documented at the OVSL, with on-going evidence that natural attenuation continues to be improving the groundwater quality at the site.

5.1.2 Evidence of Natural Attenuation

Natural attention includes a variety of physical, chemical and biological processes that act without human intervention to reduce mass, toxicity, mobility, volume, or concentration of contaminants. Examples of these processes can include biodegradation, dispersion, dilution, sorption, volatilization, chemical transformation, and contaminant destruction. At solid waste landfills, natural attenuation processes are largely controlled by and associated with changes in groundwater chemistry. Typically, for landfills, pathways for aerating subsurface soils and groundwater are impeded, resulting in increasingly anaerobic and reducing conditions. In turn, these conditions promote microbial communities that can degrade organic compounds resulting in the dechlorination of solvents and their daughter products.

Gradual, yet consistent, improvements to water quality continue to be observed at the OVSL. This is illustrated by the overall stability and/or decreasing trends observed in the calculated 95% UCLs for site COCs and through their improving comparison with their respective site-specific MTCA cleanup levels. These data support the conclusion that natural attention is occurring as expected at the OVSL. It has also been previously noted that significant areas across and immediately downgradient of the OVSL waste cells exhibit a pronounced anaerobic and/or reducing geochemistry. As a result, dissolved oxygen (DO) levels are significantly reduced in the groundwater immediately beneath and downgradient of the unlined Barney White waste cell. The presence of organic rich wetlands northwest of this waste cell is also suspected be contributing to the locally anoxic groundwater conditions.

These geochemical conditions remain prevalent at well locations showing the most elevated contaminant concentrations (e.g., MW-19C, MW-34C and MW-42 with elevated total iron, vinyl chloride and other redox sensitive parameters). The presence of vinyl chloride beneath the west-central portions of the site is consistent with the ongoing reductive dechlorination of parent compounds (PCE, TCE and DCE isomers). However, further downgradient, along the far western margins of the site (MW-33A and MW-36A) groundwater geochemistry becomes increasingly less reductive and more oxidative, which in turn is increasingly supportive of the degradation of vinyl chloride. This was once again demonstrated during 2018 by the absence of VOCs, including vinyl chloride, in downgradient wells MW-29A, MW-33A, MW-33C and MW-36A. These geochemical conditions (high redox/low dissolved oxygen) have been consistently observed at the OVSL during post-closure monitoring.

The number of decreasing parameter trends reported for the OVSL provides additional evidence supporting this ongoing and expected natural attenuation. Given the current data and historical trends, natural attenuation at the OVSL can be anticipated to continue throughout the post-closure period and beyond.

5.2 LEACHATE

As noted in previous compliance years, a comparison between the 2018 groundwater and L-INF field and water quality results indicate that parameters measured and analyzed in the L-INF leachate are elevated relative to groundwater. These parameters include total/bicarbonate alkalinity, ammonia, calcium, chloride, magnesium, sulfate, sodium, COD, TDS and TOC. Low but detectable levels of 1,4-dichlorobenzene, acetone, acetonitrile, benzene, chlorobenzene, methylene chloride, tert-butyl alcohol and tetrahydrofuran) were also reported in the November 2018 sample. The OBWL-TD sample reported generally lower leachate indicator results than the landfill influent, but slightly higher metals data. In addition, low levels of 2-butanone, acetone, tert-butyl alcohol, tetrahydrofuran and vinyl chloride were reported in the OBWL-TD sample.

The LP-LCD monitoring station was sampled in all four quarters of 2018. These samples continued to report elevated specific conductivity, alkalinity, calcium, chloride, sodium, sulfate, TDS and TOC compared to the groundwater results.

Approximately 779,605 gallons of leachate were generated from the OVSL during the course of the 2018 reporting year. This volume was lower than that reported for the preceding year (1,100,000 gallons), and remains well below past annual totals (over 2 million gallons) reported prior to the implementation of site maintenance and infrastructure improvements initiated in 2013. Liquid volumes recorded at the LP-LCD monitoring station for the leachate pond leakage collection system indicate that approximately 5,345 gallons of liquid were captured and returned to the pond in 2018. The LP-LCD volume remained relatively low, and continues to suggest that leakage through the leachate pond liner system is well controlled.

5.3 LANDFILL GAS

Methane was not detected above state regulatory standards in any of the LFG monitoring probes or in any of the landfill structures during 2018. Perimeter LFG probe monitoring results continue to demonstrate that the facility is in compliance with respect to subsurface landfill soil gas migration criteria (less than 5% by volume of methane in soil at the property boundary). Methane was not detected in any of the onsite structures that were monitored over the reporting period.

LFG extraction rates and major gas component results for the 2018 operational period are summarized in Appendix E. Over 2018, an estimated 134 million cubic feet of LFG were collected at the OVSL flare inlet, with an annualized average concentration of 26.48 percent methane (by volume). Improvements (discussed above and in previous reports) to the OVSL LFG extraction system and associated infrastructure have reduced and or stabilized LFG levels at both perimeter soil gas probe and structural monitoring locations. The LFG collection system will continue to be monitored and optimized to enhance its performance.

6.0 REFERENCES

American Public Health Association (APHA), American Water Works Association, Water Environment Federation, revised 2014. *Standard Methods for the Examination of Water and Wastewater*.

Engineering Management Support, December 2010, Environmental Monitoring Plan, Olympic View Sanitary Landfill, Port Orchard, WA.

Gibbons, Robert D., and Discerning Systems, Inc. Copyright 1994-2005. *DUMPStat Version 2.1.8.*

Parametrix, Inc. 2007 *Draft Final Remedial Investigation Report, Olympic View Sanitary Landfill.*

SCS Engineers. June 2006. *Report of the 2005 Gas Probe and Groundwater Monitoring Well Installation at the Olympic View Sanitary Landfill*.

SCS Engineers. April 2009. G*roundwater Monitoring Well Installation Report, Olympic View Sanitary Landfill*.

SCS Engineers. 2017*. Sampling and Analysis Plan, Olympic View Sanitary Landfill, (OVSL)* (Revision 1.1).

SCS Engineers. March 2018*. 2017 Annual Monitoring Report, Olympic View Sanitary Landfill*.

SCS Engineers. May 2018*. First Quarter 2018 Monitoring Report, Olympic View Sanitary Landfill*.

SCS Engineers. August 2018*. Second Quarter 2018 Monitoring Report, Olympic View Sanitary Landfill*.

SCS Engineers. November 2018*. Third Quarter 2018 Monitoring Report, Olympic View Sanitary Landfill*.

USEPA 1994. *Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry*, Revision 5.4 EMMC Version. Environmental Monitoring Systems Laboratory, Office of Research and Development.

USEPA revised 2007. *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods,* Third Ed., Environmental Monitoring Systems Laboratory, Office of Research and Development.

Washington Department of Ecology. October 2010*. Cleanup Action Plan, Olympic View Sanitary Landfill, Kitsap County, Washington.*

Washington Department of Ecology. January 2017*. Periodic Review, Olympic View Sanitary Facility Site ID# 79649975,10015 SW Barney White Road, Port Orchard, Washington.*

Washington, Attorney General. January 31, 2001. *Agreed Order No. DE 00SWFAPNR-1729*.

Tables

Figures

Appendix A

Fourth Quarter 2018 Field Documentation

Appendix B

Fourth Quarter 2018 Data Validation & Analytical Data Reports

Appendix C

2018 Annual Time Series, Trend Test, & Predication Limit Evaluation

Appendix D

Fourth Quarter 2018 Groundwater Geochemical Evaluation

Appendix E

Landfill Gas Monitoring Results

Tables

Table 1. Groundwater Well Construction Details
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Well ID	Northing	Easting	Measuring Point Elevation (ft. MSL)	Well Depth (ft. bgs)	Top of Screen Elevation (ft. MSL)	Bottom of Screen Elevation (ft. MSL)	Screen Length (ft.)
Water Quality Monitoring Wells							
MW-13A	188233.33	1159346.53	288.74	155	141	131	10
MW-13B	188223.33	1159346.53	288.66	260	36	26	10
MW-15R	189905.03	1157711.29	180.66	33	157	147	10
MW-16	190804.53	1159350.37	240.01	70	178	168	10
MW-19C	188520.03	1157025.96	196.96	90	111	106	5
MW-29A	188570.27	1156121.60	160.21	25	140	135	5
MW-32	188908.88	1156388.52	152.36	21	135	130	5
MW-33A	189304.18	1155636.34	147.68	20	140	125	15
MW-33C	189284.18	1155636.34	147.59	65	89	79	10
MW-34A	189391.16	1156929.63	197.95	48	168	148	20
MW-34C	189391.16	1156943.77	199.89	98	114	99	15
MW-35	188917.42	1159762.03	302.69	149	161	151	10
MW-36A	189754.10	1156935.20	192.68	50	147	142	5
MW-39	190362.60	1158325.32	189.92	25	174	164	10
MW-42	188690.50	1156617.90	187.43	33	159	154	5
MW-43	188407.60	1156636.60	186.42	30	161	156	5
Water Level Measurement Only Wells							
MW-2B1	189232.23	1157544.63	172.94	18	163	153	10
MW-2A1	189242.23	1157544.63	174.22	38	143	133	10
MW-4	188298.52	1156887.57	175.78	34	149	139	10
MW-10	188737.81	1156265.18	155.12	17.5	142	137	5
MW-20	188850.01	1157062.68	198.41	49	165	150	15
MW-21	188737.81	1156245.18	156.03	15	150	140	10
MW-23A	189485.84	1158085.12	182.28	23	172	157	15
MW-24	189795.14	1158383.22	208.24	42	176	161	15
MW-29C	188479.36	1156072.97	156.92	50	111	106	5
MW-30A	188623.50	1155612.45	166.74	35	136	131	5
MW-36	189751.87	1156955.77	189.39	100	99	89	10
MW-41A	188106.83	1157522.05	199.43	35.7	168	163	5
MW-41B	188104.34	1157530.68	200.64	79	126	121	5
MW-41C	188101.13	1157541.93	199.67	117	87	82	5

Table 2. Summary of Analytical Parameters
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Well	Volatile Organic Compounds		Geochemical Indicator Parameters**	Leachate Indicator Parameters			Field Parameters	Metals* and Nitrate		Appendix III Parameters [c]
	WAC 173-351 Appendix I	Vinyl Chloride (SIM)	Cl, Fe, Mn, SO_4, Ca, Mg, Na, K, Alkalinity	Ammonia	TOC, TDS	BOD***, COD	Dissolved Oxygen, ORP, pH, Specific Conductivity, Temperature, Turbidity	As, Sb, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, V, Zn, NO_3	TSS	VOCs, SVOCs, PCBs, Pest/Herb, Hg, Sn
Compliance Monitoring Locations										
MW-15R	✓	✓	✓	✓	✓		✓	✓	✓	
MW-34A										
MW-34C										
MW-39										
MW-42										
MW-43										
Performance Monitoring Locations										
MW-19C[a]	✓	✓	✓	✓	✓		✓	✓	✓	✓
Downgradient Monitoring Locations										
MW-29A[a]	✓	✓	✓	✓	✓		✓	✓	✓	✓
MW-32										
MW-33A[a]										
MW-33C[a]										
MW-36A[a]										
Upgradient Monitoring Locations										
MW-13A	✓	✓	✓	✓	✓		✓	✓	✓	
MW-13B										
MW-16										
MW-35										
Leachate Monitoring Locations										
L-INF [b]	✓	✓	✓	✓	✓	✓	✓	✓		✓
LP-LCD			✓	✓	✓	✓	✓			
OBWL-TD [b]	✓	✓	✓	✓	✓	✓	✓	✓		✓

Notes

✓ Indicates wells were sampled for selected parameters

* The Appendix I metals in the groundwater samples were analyzed for only total metals fractions.

** Only Iron and Manganese were analyzed for both total and dissolved fractions.

*** BOD only analyzed at LP-LCD

[a] Sampled semi-annually in May and November 2018.

[b] Sampled annually (Q4 2018).

[c] Appendix III parameters were run for select groundwater samples (MW-19C and MW-32) during Q2 2018 and leachate (L-INF and OBWL-TD) during Q4 2018,

Table 3. Groundwater Elevations
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Location ID	Measuring Point Elevation (ft. MSL)	Q1 February 2018		Q2 May 2018		Q3 August 2018		Q4 November 2018	
		DTW	WLE	DTW	WLE	DTW	WLE	DTW	WLE
Water Quality Monitoring Wells									
MW-13A	288.74	44.13	244.61	44.85	243.89	46.20	242.54	46.99	241.75
MW-13B	288.66	56.91	231.75	57.52	231.14	59.32	229.34	60.55	228.11
MW-15R	180.66	18.20	162.46	18.53	162.13	19.43	161.23	19.63	161.03
MW-16	240.01	55.31	184.70	55.50	184.51	58.63	181.38	60.93	179.08
MW-19C	196.96	--	--	32.87	164.09	--	--	25.21	171.75
MW-29A	160.21	--	--	13.52	146.69	--	--	14.61	145.60
MW-32	152.36	1.07	151.29	1.34	151.02	2.14	150.22	2.01	150.35
MW-33A	147.68	--	--	5.39	142.29	--	--	5.60	142.08
MW-33C	147.59	--	--	2.24	145.35	--	--	2.78	144.81
MW-34A	197.95	38.82	159.13	39.20	158.75	40.47	157.48	40.72	157.23
MW-34C	199.89	40.58	159.31	41.02	158.87	42.26	157.63	42.51	157.38
MW-35	302.69	70.11	232.58	71.08	231.61	72.18	230.51	72.68	230.01
MW-36A	192.68	--	--	30.82	161.86	--	--	32.10	160.58
MW-39	189.92	18.56	171.36	19.55	170.37	22.25	167.67	22.59	167.33
MW-42	187.43	26.86	160.57	27.50	159.93	28.85	158.58	27.90	159.53
MW-43	186.42	23.76	162.66	24.46	161.96	26.02	160.40	25.98	160.44
Water Level Measurement Only Wells (Semi-Annual)									
MW-2A1	174.22	--	--	7.21	167.01	--	--	9.24	164.98
MW-2B1	172.94	--	--	6.15	166.79	--	--	8.03	164.91
MW-4	175.78	--	--	13.92	161.86	--	--	12.82	162.96
MW-10	155.12	--	--	4.19	150.93	--	--	5.10	150.02
MW-20	198.41	--	--	35.12	163.29	--	--	37.32	161.09
MW-21	156.03	--	--	5.41	150.62	--	--	6.26	149.77
MW-23A	182.28	--	--	11.03	171.25	--	--	11.72	170.56
MW-24	208.25	--	--	30.40	177.85	--	--	34.28	173.97
MW-29C	156.92	--	--	11.75	145.17	--	--	13.25	143.67
MW-30A	166.74	--	--	23.87	142.87	--	--	25.43	141.31
MW-36	189.39	--	--	30.90	158.49	--	--	32.23	157.16
MW-41A	199.43	--	--	22.78	176.65	--	--	26.21	173.22
MW-41B	200.64	--	--	23.03	177.61	--	--	26.60	174.04
MW-41C	199.67	--	--	24.58	175.09	--	--	27.75	171.92

Notes:
DTW = Depth to Water (ft)
WLE = Water level elevation
Elevations, ft. MSL
-- = Water level not measured during sampling event

Table 4A. Detections and Field Measurements - Compliance Monitoring Wells
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-15R 2/21/2018	MW-15R 5/17/2018	MW-15R 8/22/2018	MW-15R 11/12/2018	MW-34A 2/21/2018	MW-34A 5/15/2018	MW-34A 8/20/2018	MW-34A 11/12/2018	MW-34C 2/21/2018	MW-34C 5/15/2018	MW-34C 8/20/2018	MW-34C 11/12/2018	MW-39 2/20/2018	MW-39 5/16/2018	MW-39 8/22/2018	MW-39 11/12/2018	MW-42 2/21/2018	MW-42 5/15/2018	MW-42 8/22/2018	MW-42 11/12/2018	MW-43 2/21/2018	MW-43 5/15/2018	MW-43 8/23/2018	MW-43 11/14/2018
Field Parameter																									
Dissolved Oxygen	mg/L	0.58	0.83	1.4	1.5	3.14	5.39	3.88	0.92	0.46	0.33	0.19	1.79	0.24	0.25	0.23	0.38	0.10	0.21	0.14	0.24	2.27	1.06	0.89	1.13
Oxidation Reduction Potential	mV	319.6	196.6	132.9	261.8	336.5	188.0	245.5	309.9	70.1	37.8	21.3	295.4	-27.3	-23.8	-30.9	-39.4	-68.8	-53.9	-46.8	-22.9	180.5	127.0	201.4	323.6
pH	pH	**6.45**	6.59	**6.42**	**6.42**	**5.69**	**5.98**	**5.89**	**5.80**	6.69	6.78	6.61	**6.47**	**6.26**	**6.40**	**6.11**	**6.17**	6.62	6.75	**6.44**	6.52	**5.63**	**6.31**	**5.60**	**4.81**
Specific Conductivity	umhos/cm	154	156	160	171	124	107	121	178	225	224	236	240	260	267	262	267	496	524	528	531	31	41	46	51
Temperature	deg C	9.9	10.2	10.3	10.1	11.7	12.6	12.4	12.1	12.6	13.2	13.8	11.4	9.9	10.1	11.4	11.4	11.8	12.1	12.3	11.9	7.9	9.1	9.9	10.7
Turbidity	NTU	2.3	0.0	0.5	0.0	2.2	4.6	0.5	1.2	276.0	60.4	111.0	181.7	3.6	3.1	4.0	12.0	3.1	0.4	1.2	0.2	5.0	0.0	2.0	0.4
General Chemistry																									
Alkalinity, Bicarbonate (As CaCO3)	mg/L	72	73	70	73	60	48	54	79	110	96	110	110	100	91	110	100	210	190	210	180	12	13	15	18
Alkalinity, Total (As CaCO3)	mg/L	72	73	70	73	60	48	54	79	110	96	110	110	100	91	110	100	210	190	210	180	12	13	15	18
Ammonia (as N)	mg/L	--	--	--	--	--	0.031	--	--	--	--	--	--	**0.42**	**0.65**	**0.48**	**0.51**	**4.5**	**4.7**	**8.4**	**4.0**	--	0.052	--	--
Calcium, Dissolved	mg/L	13 B	13	14	14	11 B	9.2 B	10	14	22 B	20 B	22	23	12 B	11 B	12	12	38 B	39 B	41	39	2.6 B	3.3 B	3.9	4.1
Chloride	mg/L	2.7	2.8	2.6	2.5	2.5	1.2	1.6	3.5	4.8	5.2	6.9	5.7	5.5	5.8	6.0	5.5	15.0	23.0	18.0	20.0	1.1	--	2.1	1.9
Iron, Dissolved	mg/L	--	0.045 J	--	--	0.024 J	0.054 J B	--	--	**0.58**	**0.60 B**	0.034 J	**0.65**	**33**	0.14 B	**34**	**36**	**23**	**24 B**	**25**	**23**	0.20	0.18 B	0.052 J	0.035 J
Iron, Total	mg/L	--	--	--	0.023 J	--	0.092	--	--	**35**	**13**	**5.7**	**22**	**33**	**36**	**35**	**35**	**23**	**24**	**25**	**24**	**0.7**	**3.5**	**2.7**	0.14
Magnesium, Dissolved	mg/L	7.9	8.3	8.8	8.6	4.8	4.0	4.9	6.5	9.7	8.4	9.6	9.4	7.0	6.2	7.1	7.0	13	13	13	14 B	1.1	1.3	1.6	1.8
Manganese, Dissolved	mg/L	0.00098 J	0.002	0.00095 J	0.0019 B	0.0007 J	0.0010 B	0.0019	0.0013 B	**0.49**	**0.51 B**	**0.56**	**0.58 B**	**0.39**	**0.40 B**	**0.46**	**0.47 B**	**3.7**	**4.1 B**	**4.5**	**3.9 B**	0.039	0.037 B	0.016	0.024
Manganese, Total	mg/L	0.0012	0.0013	0.0012 B	0.0026	0.0012	0.0029	0.00076 J	0.0014	**5.3**	**0.66**	**3.0**	**1.1**	**0.45**	**0.42**	**0.43**	**0.45**	**3.8**	**3.6**	**4.2 B**	**3.8**	0.044	**0.11**	0.038	0.028
Nitrate (As N)	mg/L	0.11	0.2 H	0.34	0.37	0.20	0.28	0.15	0.23	--	--	--	--	--	--	--	--	--	--	--	--	0.20	0.28	0.31	0.38
Potassium, Dissolved	mg/L	0.38 J	0.72 J	0.85 J	0.82 J	--	0.63 J	0.62 J	0.74 J	0.71 J	0.93 J	1.0	1.1	--	0.35 J	0.29 J	0.40 J	7.0	8.0	8.3	8.5	--	0.50 J	0.60 J	0.71 J
Sodium, Dissolved	mg/L	5.3	5.0	5.0	5.3	7.5	6.5	7.4	9.2	10.0	8.7	10.0	10.0	7.5	6.9	7.8	8.7	17	16	16	17	1.6	1.6	1.8	2.5
Sulfate	mg/L	5.4	5.6	4.7	5.0	4.5	3.4	2.7	2.8	5	5.0	5.4	5.4	--	--	--	--	6.9	7.5	9.0	12.0	1.5	1.2	1.5	1.7
Total Dissolved Solids (TDS)	mg/L	96	90	120 B	100	100	110	310	120	170	170	180	160	140	130	160 B	150	260	270	270 B	270	29	33	41 B	41
Total Organic Carbon (TOC)	mg/L	--	--	--	--	--	--	--	--	1.7	1.0	--	1.1	2.5	2.4	2.2	2.1	6.9	6.7	6.4	6.1	1.0	1.6	1.1	--
Total Suspended Solids (TSS)	mg/L	--	--	--	--	--	--	--	--	82	46	20	33	--	31	4.8	8	24	20	--	16	--	--	--	--
Metals																									
Antimony, Total	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0006 J
Arsenic, Total	mg/L	**0.000269**	**0.000217**	**0.000225**	**0.000193**	**0.000476**	**0.000475**	**0.000488**	**0.000411**	**0.0307**	**0.00765**	**0.00475**	**0.00968**	**0.00143**	**0.00181**	**0.00187**	**0.00197**	**0.00172**	**0.00165**	**0.00184**	**0.00183**	--	**0.000087**	**0.000108**	--
Barium, Total	mg/L	0.0038	0.0041	0.0042	0.0043	0.0037	0.0030	0.0029	0.0042	0.150	0.051	0.042	0.095	0.012	0.012	0.012	0.018	0.099	0.094	0.110	0.099	0.0022	0.0039	0.0031	0.0037
Beryllium, Total	mg/L	--	--	--	--	--	--	--	--	0.00013 J	--	--	0.00008 J	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Total	mg/L	--	0.0011 J	--	--	0.0046	0.0047	0.0055	0.0035	0.00066 J	--	--	0.00055 J	0.00067 J	0.00083 J	0.00087 J	0.0010 J	0.00051 J	--	0.00064 J	0.00066 J	--	--	--	--
Cobalt, Total	mg/L	--	--	--	--	--	--	--	--	0.0090	--	0.0028 J	--	0.0067	0.0064	0.0066	0.0064	0.0017 J	0.0014 J	0.0015 J	0.0014 J	--	--	--	--
Copper, Total	mg/L	--	--	--	--	--	--	--	--	0.0044	0.0020	0.00087 J	0.0019 J	--	--	--	--	--	--	--	--	--	0.0013 J	--	--
Lead, Total	mg/L	--	--	--	--	--	--	--	--	--	0.00032 J	--	0.0010	0.00022 J	--	--	0.00026 J	0.00035 J	--	--	--	0.00019 J	--	--	--
Nickel, Total	mg/L	0.0012 J	0.0013 J	0.0011 J	0.0011 J	0.0035 J	0.0022 J	0.0021 J	0.0028 J	0.0010 J	--	0.0012 J	0.0009 J	0.0027 J	0.0023 J	0.0022 J	0.0026 J	0.0011 J	0.00055 J	0.0013 J	0.0014 J	--	--	--	--
Silver, Total	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.000033 J	--	--
Vanadium, Total	mg/L	0.0037	0.0034	0.0028	0.0026	0.0044	0.0025	0.0040	0.0033	0.0037	--	0.0010 J	0.0018 J	--	0.00071 J	0.00089 J	0.0016 J	0.00089 J	--	0.0013 J	0.00082 J	--	0.0033	0.0043	--
Zinc, Total	mg/L	--	--	0.0029 J B	0.0020 J	--	--	0.0023 J B	0.0032 J	0.0030 J	--	0.0026 J B	0.0077	--	0.0021 J	--	0.0038 J	--	0.0023 J	--	0.0037 J	--	0.0027 J	--	--
Volatile Organic Compounds																									
Acetone	ug/L	--	--	5.1 J	--	--	3.3 J	6.2 J	--	--	4.7 J	--	--	--	--	6.7 J	--	--	3.8 J	10	--	--	3.8 J	4.6 J	--
Butyl alcohol, tert-	ug/L	--	--	--	--	--	--	--	--	--	--	3.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.51 J	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47 J	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	0.0067 J	**0.037**	**0.055**	**0.034**	**0.040**	--	--	--	--	0.014 J	**0.029**	**0.043**	**0.062**	--	--	--	--

Notes:

$CaCO_3$ = Calcium carbonate
deg-C = Degrees Celcius
J = Concentration is estimated
µmhos/cm = Microhms per centimeter
µg/L = Micrograms per liter
mg/L = Miligrams per liter
mV = Milivolts
N = Nitrogen
NTU = Nephelometric turbidity units
SU = Standard units
-- = Parameter not detected above the project-specific reporting limit
NM = Not Measured, see field notes
Parameters not listed above were not detected at any of the above listed sample locations during the reporting year
B = Analyte detected in sample blank
Bold = Anaylte excceds a water quality standard.
H = Hold time expired. Concentration is estimate based on method 353.2

Table 4B. Detections and Field Measurements - Performance Monitoring Wells
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-19C 5/16/2018	MW-19C 11/12/2018
Field Parameter			
Dissolved Oxygen	mg/L	0.96	0.31
Oxidation Reduction Potential	mV	-15.0	124.5
pH	pH	8.07	6.62
Specific Conductivity	umhos/cm	153	170
Temperature	deg C	10.7	10.3
Turbidity	NTU	1.6	0.2
General Chemistry			
Alkalinity, Bicarbonate (As CaCO3)	mg/L	68	75
Alkalinity, Total (As CaCO3)	mg/L	68	75
Ammonia (as N)	mg/L	**0.43**	**0.47**
Calcium, Dissolved	mg/L	13 B	14
Chloride	mg/L	2.7	2.7
Iron, Dissolved	mg/L	0.15 B	0.13
Iron, Total	mg/L	0.17	0.15
Magnesium, Dissolved	mg/L	6.5	6.9
Manganese, Dissolved	mg/L	**0.92 B**	**1.1 B**
Manganese, Total	mg/L	**0.93**	**1.1**
Nitrate (As N)	mg/L	--	--
Potassium, Dissolved	mg/L	1.3	1.4
Sodium, Dissolved	mg/L	4.9	5.6
Sulfate	mg/L	4.0	4.2
Total Dissolved Solids (TDS)	mg/L	100	110
Total Organic Carbon (TOC)	mg/L	--	--
Total Suspended Solids (TSS)	mg/L	--	--
Metals			
Antimony, Total	mg/L	--	--
Arsenic, Total	mg/L	**0.00247**	**0.00276**
Barium, Total	mg/L	0.0033	0.0038
Beryllium, Total	mg/L	--	--
Chromium, Total	mg/L	--	--
Cobalt, Total	mg/L	--	--
Copper, Total	mg/L	--	--
Lead, Total	mg/L	--	--
Nickel, Total	mg/L	--	0.00046 J
Silver, Total	mg/L	--	--
Thallium, Total	mg/L	--	--
Vanadium, Total	mg/L	--	--
Zinc, Total	mg/L	--	--
Volatile Organic Compounds			
Acetone	ug/L	4.3 J	--
Trichloroethene	ug/L	--	1.0
Vinyl chloride	ug/L	0.012 J	**0.038**

Notes:

$CaCO_3$ = Calcium carbonate

Bold = Anaylte excceds a water quality standard.

deg-C = Degrees Celcius

B = Analyte detected in sample blank

H = Hold time expired. Concentration is estimate based on method 353.2

J = Concentration is estimated

µmhos/cm = Microhms per centimeter

µg/L = Micrograms per liter

mg/L = Miligrams per liter

Parameters not listed above were not detected at any of the above listed sample locations during the reporting year

Table 4C. Detections and Field Measurements - Downgradient Monitoring Wells
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-29A 5/16/2018	MW-29A 11/12/2018	MW-32 2/21/2018	MW-32 5/16/2018	MW-32 8/23/2018	MW-32 11/14/2018	MW-33A 5/16/2018	MW-33A 11/14/2018	MW-33C 5/16/2018	MW-33C 11/14/2018	MW-36A 5/16/2018	MW-36A 11/12/2018
Field Parameter													
Dissolved Oxygen	mg/L	0.25	0.37	0.15	2.92	0.31	0.36	0.49	0.51	0.42	0.25	2.45	3.95
Oxidation Reduction Potential	mV	23.8	56.8	1.5	-38.0	37.0	63.4	10.0	205.6	62.9	18.1	174.3	250.5
pH	pH	**6.43**	**6.10**	6.88	8.05	6.85	6.51	8.13	6.70	7.52	7.47	**6.21**	**5.98**
Specific Conductivity	umhos/cm	95	90	258	259	307	356	136	141	167	162	137	135
Temperature	deg C	8.4	10.8	11.4	11.7	11.7	11.7	8.9	9.5	9.1	9.0	9.7	9.6
Turbidity	NTU	0.9	1.0	2.4	3.0	1.1	0.2	2.9	6.2	0.5	0.7	0.5	0.0
General Chemistry													
Alkalinity, Bicarbonate (As CaCO3)	mg/L	37	36	110	100	120	140	58	61	66	69	60	59
Alkalinity, Total (As CaCO3)	mg/L	37	36	110	100	120	140	58	61	66	69	60	59
Ammonia (as N)	mg/L	0.19	0.062	--	0.12	0.037	0.048	0.13	--	0.04	--	--	0.031
Calcium, Dissolved	mg/L	5.8 B	5.6	24 B	21 B	28	31	13 B	14	15 B	17	9.1 B	9.9
Chloride	mg/L	1.5	1.9	9.1	11.0	12.0	14.0	2.8	2.9	3.2	2.8	1.3	1.8
Iron, Dissolved	mg/L	**3.9 B**	**3.3**	**0.61**	0.056 J B	**0.60**	**0.71**	0.08 B	--	0.057 J B	0.055 J	0.049 J B	--
Iron, Total	mg/L	**4.1**	**3.6**	**0.67**	**0.73**	**0.67**	**0.81**	**0.69**	**2.4**	0.073	0.091	0.17	--
Magnesium, Dissolved	mg/L	3.1	3.4 B	12	10	14	16	5.6	6.5	6.0	6.9	5.8	6.5
Manganese, Dissolved	mg/L	**1.2 B**	**1.2 B**	**1.8**	**1.7 B**	**2.0**	**2.4**	0.0042 B	0.0017	**0.14 B**	**0.14**	0.0013 B	0.00063 J B
Manganese, Total	mg/L	**1.2**	**1.2**	**1.9**	**1.7**	**2.0**	**2.6**	0.0092	0.010	**0.14**	**0.18**	0.0024	0.0016
Nitrate (As N)	mg/L	--	--	--	--	--	--	--	--	--	--	0.54	0.61
Potassium, Dissolved	mg/L	0.37 J	0.30 J	0.65 J	0.92 J	1.1	1.2	0.77 J	0.89 J	1.2	1.4	0.89 J	0.97 J
Sodium, Dissolved	mg/L	2.7	3.4	11	9.2	12	13	3.2	3.9	3.6	4.2	5.8	6.3
Sulfate	mg/L	--	1.1	7.9	8.5	9.1	12	4.3	4.6	8.6	8.2	2.1	2.4
Total Dissolved Solids (TDS)	mg/L	54	54	190	180	210 B	230	87	83	100	100	100	96
Total Organic Carbon (TOC)	mg/L	1.3	1.6	1.1	--	1.4	1.6	--	--	--	--	--	--
Total Suspended Solids (TSS)	mg/L	6.4	--	--	--	--	--	--	13	--	--	--	--
Metals													
Antimony, Total	mg/L	--	--	--	--	--	--	--	0.0013	--	--	--	--
Arsenic, Total	mg/L	**0.00202**	**0.00219**	**0.0108**	**0.0106**	**0.0112**	**0.00984**	**0.000217**	**0.000607**	**0.00259**	**0.00277**	**0.000591**	**0.000532**
Barium, Total	mg/L	0.0063	0.0081	0.0047	0.0042	0.0051	0.0061	0.0014	0.0030	0.0044	0.0045	0.0022	0.0025
Beryllium, Total	mg/L	--	--	--	--	--	--	--	0.00013 J	--	--	0.00011 J	--
Chromium, Total	mg/L	--	--	--	--	--	--	--	0.0012 J	--	--	0.0093	0.0092
Cobalt, Total	mg/L	0.0024 J	0.0021 J	--	--	--	--	--	--	--	--	--	--
Copper, Total	mg/L	0.00072 J	0.00073 J	0.00061 J	--	--	--	--	0.0014 J	--	--	--	--
Lead, Total	mg/L	--	--	--	--	--	--	--	0.00044 J	--	--	--	--
Nickel, Total	mg/L	0.0022 J	0.0017 J	0.00086 J	0.00061 J	0.00082 J	0.00072 J	--	0.00038 J	--	--	0.00049 J	0.0016 J
Silver, Total	mg/L	--	--	--	--	--	--	--	0.000038 J	--	--	--	--
Thallium, Total	mg/L	--	--	--	--	--	--	--	0.000077 J	--	--	--	--
Vanadium, Total	mg/L	--	--	--	--	--	--	0.0014 J	0.0049	--	--	0.0012 J	0.0022
Zinc, Total	mg/L	--	0.0034 J	--	--	--	0.002 J	--	0.0052	0.0032 J	--	0.002 J	0.0022 J
Volatile Organic Compounds													
Acetone	ug/L	--	--	--	--	3.3 J	--	--	--	--	--	--	--
Butyl alcohol, n-	ug/L	--	--	--	--	9.8 J	--	--	--	--	--	--	--
Butyl alcohol, tert-	ug/L	--	--	--	--	3.6 J	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	0.46 J	0.71 J	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	**0.29**	**0.32**	**0.24**	**0.33**	--	--	--	--	--	--

Notes:

$CaCO_3$ = Calcium carbonate

deg-C = Degrees Celcius

J = Concentration is estimated

µmhos/cm = Microhms per centimeter

µg/L = Micrograms per liter

mg/L = Miligrams per liter

mV = Milivolts

N = Nitrogen

NTU = Nephelometric turbidity units

SU = Standard units

-- = Parameter not detected above the project-specific reporting limit

NM = Not Measured, see field notes

B = Analyte detected in sample blank

Bold = Anaylte excceds a water quality standard.

H = Hold time expired. Concentration is estimate based on method 353.2

Parameters not listed above were not detected at any of the above listed sample locations during the reporting year

Table 4D. Detections and Field Measurements - Upgradient Monitoring Wells
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-13A 2/20/2018	MW-13A 5/15/2018	MW-13A 8/21/2018	MW-13A 11/12/2018	MW-13B 2/20/2018	MW-13B 5/15/2018	MW-13B 8/21/2018	MW-13B 11/12/2018	MW-16 2/20/2018	MW-16 5/17/2018	MW-16 8/22/2018	MW-16 11/12/2018	MW-35 2/20/2018	MW-35 5/17/2018	MW-35 8/22/2018	MW-35 11/12/2018
Field Parameter																	
Dissolved Oxygen	mg/L	4.59	7.21	7.63	8.45	4.90	7.46	8.03	8.82	4.60	7.36	5.56	6.04	4.65	7.80	6.35	6.43
Oxidation Reduction Potential	mV	308.6	184.6	297.7	207.9	299.4	158.0	265.2	159.1	308.5	233.4	272.9	198.8	326.1	224.0	275.8	175.2
pH	pH	6.87	6.91	6.88	7.02	7.35	7.35	7.31	7.65	**6.11**	**6.27**	**6.10**	**6.34**	6.93	6.95	7.06	7.40
Specific Conductivity	umhos/cm	170	170	171	169	170	171	175	174	95	97	106	112	161	164	160	164
Temperature	deg C	9.1	9.6	9.6	9.5	8.8	10.0	10.1	10.0	8.9	9.4	9.9	9.6	9.5	10.1	10.5	10.3
Turbidity	NTU	1.7	0.0	0.2	0.4	1.7	0.0	0.3	0.2	1.5	0.5	0.7	1.7	1.8	1.5	0.3	0.7
General Chemistry																	
Alkalinity, Bicarbonate (As CaCO3)	mg/L	87	78	79	81	86	78	81	83	46	43	51	53	82	80	48	80
Alkalinity, Total (As CaCO3)	mg/L	87	78	79	81	86	78	81	83	46	43	51	53	82	80	48	80
Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	0.031	--	--	--	--	--	--
Calcium, Dissolved	mg/L	14 B	15 B	15	15	16 B	17 B	18	17	7.5 B	7.9	8.8	9.7	13 B	14	14	15
Chloride	mg/L	2.1	1.8	1.8	1.9	2.2	1.9	1.9	2.0	1.6	1.1	1.7	1.4	2.1	1.9	2.1	1.9
Iron, Dissolved	mg/L	--	--	--	--	0.024 J	0.088 B	--	0.028 J	--	--	--	--	--	--	--	--
Iron, Total	mg/L	--	--	--	--	0.053 J	--	--	--	0.067	0.035 J	--	0.220	--	--	--	--
Magnesium, Dissolved	mg/L	8.2	8.5	8.3	8.3	8.2	7.8	8.6	8.2	4.3	4.3	4.6	5.2	8.2	8.4	8.6	8.6
Manganese, Dissolved	mg/L	--	--	--	0.0007 J B	--	0.00047 J B	0.00073 J	0.00041 J B	--	0.00046 J	0.00036 J	0.00052 J B	--	--	--	0.00038 J B
Manganese, Total	mg/L	--	--	--	0.00057 J	0.0018	0.00081 J	--	--	0.013	0.0033	0.002 B	0.025	--	--	--	--
Nitrate (As N)	mg/L	0.41	0.48	0.39	0.38	0.43	0.43	0.45	0.40	0.32	0.62 H	0.17	0.28	0.44	0.44 H	0.42	0.41
Potassium, Dissolved	mg/L	0.34 J	0.64 J	0.70 J	0.70 J	0.33 J	0.65 J	0.69 J	0.71 J	0.33 J	0.56 J	0.67 J	0.75 J	0.31 J	0.50 J	0.58 J	0.66 J
Sodium, Dissolved	mg/L	4.6	4.8	4.9 B	5.2	5.0	4.6	5.1	5.3	4.2	4.2	4.4	5.1	4.8	4.8	4.8	5.2
Sulfate	mg/L	2.1	2.0	1.8	2.1	3.0	3.1	2.9	3.0	2.2	2.3	2.1	1.6	2.3	2.2	2.6	2.3
Total Dissolved Solids (TDS)	mg/L	110	110	110	98	99	100	110	110	80	65	100 B	81	98	92	110 B	100
Total Organic Carbon (TOC)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Suspended Solids (TSS)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony, Total	mg/L	--	--	--	--	0.00041 J	0.00058 J	--	--	--	--	--	0.00052 J	0.00067 J	0.00057 J	0.00064 J	--
Arsenic, Total	mg/L	**0.000199**	**0.000183**	**0.000199**	**0.000189**	**0.000366**	**0.000342**	**0.000377**	**0.000337**	**0.000446**	**0.000367**	**0.000173**	**0.000452**	**0.000120**	**0.000111**	**0.000126**	**0.000112**
Barium, Total	mg/L	0.0025	0.0027	0.0027	0.0028	0.0035	0.0033	0.0031	0.0034	0.0027	0.0032	0.0033	0.0038	0.002600	0.0032	0.0033	0.0032
Beryllium, Total	mg/L	--	--	--	--	0.00043 J	--	0.000093 J	--	0.000087 J	--	--	0.00016 J	--	--	--	--
Chromium, Total	mg/L	0.0018 J	0.0018 J	0.0020 J	0.0021 J	0.0031	0.0024 J	0.0031	0.0030	0.0072	0.0091	0.0070	0.0092	0.0023 J	0.0024 J	0.0047	0.0025 J
Copper, Total	mg/L	0.00065 J	--	--	--	0.00057 J	--	--	--	--	--	--	--	--	--	--	--
Lead, Total	mg/L	0.00047 J	--	--	--	0.00038 J	--	--	--	0.00036 J	--	--	0.0003 J	--	--	--	--
Nickel, Total	mg/L	--	--	--	--	--	--	--	--	0.0019 J	0.0023 J	0.0020 J	0.0031 J	--	--	0.0014 J	--
Silver, Total	mg/L	--	--	--	--	0.000049 J	--	--	--	--	--	--	--	--	--	--	--
Thallium, Total	mg/L	--	--	--	--	0.000098 J	0.000055 J	--	--	--	--	--	0.000053 J	--	--	--	--
Vanadium, Total	mg/L	0.0026	0.0019 J	0.0041	0.0039	0.0045	0.0029	0.0058	0.0054	0.0029	0.0037	0.0034	0.0047	0.0032	0.0044	0.0042	0.0042
Zinc, Total	mg/L	--	--	--	--	--	0.0025 J	0.0022 J B	0.0022 J	--	--	0.0028 J B	0.0020 J	--	--	--	--
Volatile Organic Compounds																	
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	4.3 J	--	--	4.9 J	--	--
Butyl alcohol, tert-	ug/L	--	--	--	--	--	--	4.4 J	--	--	--	3.4 J	--	--	--	--	--
Methylene Chloride	ug/L	--	--	0.67 J B	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

$CaCO_3$ = Calcium carbonate
deg-C = Degrees Celcius
J = Conentration is estimated
µmhos/cm = Microhms per centimeter
µg/L = Micrograms per liter
mg/L = Miligrams per liter
mV = Milivolts
N = Nitrogen
NTU = Nephelometric turbidity units
SU = Standard units
-- = Parameter not detected above the project-specific reporting limit
NM = Not Measured, see field notes
B = Analyte detected in sample blank
Bold = Anaylte excceds a water quality standard.
H = Hold time expired. Concentration is estimate based on method 353.2
Parameters not listed above were not detected at any of the above listed sample locations during the reporting year

Table 4E. Detections and Field Measurements - Leachate and Leak Detection Locations
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	L-INF 5/15/2018	L-INF 11/13/2018	OBWL-TD 11/13/2018	LP-LCD 2/21/2018	LP-LCD 5/15/2018	LP-LCD 8/23/2018	LP-LCD 11/13/2018
Field Parameter								
Dissolved Oxygen	mg/L	0.89	7.04	6.30	4.77	6.43	6.21	6.98
Oxidation Reduction Potential	mV	-121.8	229.5	242.0	300.6	264.1	163.5	275.7
pH	pH	7.60	7.22	6.94	6.96	7.12	7.57	7.36
Specific Conductivity	umhos/cm	6,157	6,578	243	3,190	3,070	3,489	3,586
Temperature	deg C	16.2	13.6	10.4	4.4	15.5	23.2	9.0
Turbidity	NTU	11.3	10.0	2.6	17.4	7.6	6.3	6.1
General Chemistry								
Alkalinity, Bicarbonate (As CaCO3)	mg/L	N/A	2,100	50	670	480	640	630
Alkalinity, Total (As CaCO3)	mg/L	N/A	2,100	50	670	480	700	630
Ammonia (as N)	mg/L	N/A	190	--	1.7	1.8	0.18	0.52
Biochemical Oxygen Demand	mg/L	N/A	29 B	7.2 B	--	--	--	22 H
Calcium, Dissolved	mg/L	N/A	160	25	N/A	N/A	N/A	N/A
Calcium, Total	mg/L	N/A	N/A	N/A	60	70	72	95
Chemical Oxygen Demand	mg/L	N/A	410	21	140	250	110	130
Chloride	mg/L	N/A	1,100	--	500	490	500	540
Iron, Dissolved	mg/L	N/A	0.72	--	N/A	N/A	N/A	N/A
Iron, Total	mg/L	N/A	N/A	N/A	0.52	0.62	0.5	0.24
Magnesium, Dissolved	mg/L	N/A	110	12	N/A	N/A	N/A	N/A
Magnesium, Total	mg/L	N/A	N/A	N/A	37 B	40	42	57
Manganese, Dissolved	mg/L	N/A	2.8 B	0.0031 B	N/A	N/A	N/A	N/A
Manganese, Total	mg/L	N/A	N/A	N/A	0.55 B	0.33 B	0.35	0.37
Nitrate (As N)	mg/L	N/A	0.056	2.1	N/A	N/A	31	32
Nitrate/Nitrite, Total	mg/L	N/A	0.056	2.1	N/A	N/A	N/A	32
Potassium, Dissolved	mg/L	N/A	120	1.1	N/A	N/A	N/A	N/A
Potassium, Total	mg/L	N/A	N/A	N/A	64	66	84	78
Sodium, Dissolved	mg/L	N/A	840	1.3	N/A	N/A	N/A	N/A
Sodium, Total	mg/L	N/A	N/A	N/A	630	510	630	620
Sulfate	mg/L	N/A	250	62	200	200	240	230
Total Dissolved Solids (TDS)	mg/L	N/A	3,400	150	2,000	1,900	2,300	2,200
Total Organic Carbon (TOC)	mg/L	N/A	130	4.1	44	42	41	40
Metals								
Antimony, Dissolved	mg/L	N/A	--	0.021	N/A	N/A	N/A	N/A
Arsenic, Total	mg/L	0.00564	0.0037	0.00584	--	0.0101	0.0121	0.0102
Barium, Dissolved	mg/L	N/A	0.25 B	0.059 B	N/A	N/A	N/A	N/A
Chromium, Dissolved	mg/L	N/A	0.0075	0.0035	N/A	N/A	N/A	N/A
Cobalt, Dissolved	mg/L	N/A	0.0097	--	N/A	N/A	N/A	N/A
Copper, Dissolved	mg/L	N/A	--	0.0053	N/A	N/A	N/A	N/A
Nickel, Dissolved	mg/L	N/A	0.078 B	0.14 B	N/A	N/A	N/A	N/A
Nickel, Total	mg/L	N/A	0.08	0.16	N/A	N/A	N/A	N/A
Selenium, Dissolved	mg/L	N/A	0.00072 J	--	N/A	N/A	N/A	N/A
Vanadium, Dissolved	mg/L	N/A	0.0099	0.00078 J	N/A	N/A	N/A	N/A
Zinc, Dissolved	mg/L	N/A	0.0036 J	0.014	N/A	N/A	N/A	N/A
Volatile Organic Compounds								
1,4-Dichlorobenzene	ug/L	N/A	0.68 J	--	N/A	N/A	N/A	N/A
Acetone	ug/L	N/A	11	--	N/A	N/A	N/A	N/A
Acetonitrile	ug/L	N/A	90	--	N/A	N/A	N/A	N/A
Benzene	ug/L	N/A	0.19 J	--	N/A	N/A	N/A	N/A
Butyl alcohol, tert-	ug/L	N/A	210	--	N/A	N/A	N/A	N/A
Chlorobenzene	ug/L	N/A	0.34 J	--	N/A	N/A	N/A	N/A
Methylene Chloride	ug/L	N/A	7.8 J	--	N/A	N/A	N/A	N/A
Tetrahydrofuran	ug/L	N/A	77	--	N/A	N/A	N/A	N/A

Notes:

$CaCO_3$ = Calcium carbonate

deg-C = Degrees Celcius

J = Concentration is estimated

µmhos/cm = Microhms per centimeter

µg/L = Micrograms per liter

mg/L = Miligrams per liter

H = Analyzed beyond hold time

N/A = Not Analyed

mV = Milivolts

N = Nitrogen

NTU = Nephelometric turbidity units

SU = Standard units

-- = Parameter not detected above the project-specific reporting limit

NM = Not Measured, see field notes

B = Analyte detected in sample blank

Parameters not listed above were not detected at any of the above listed sample locations during the reporting year.

Table 4F. Detected Analytical Results for Appendix III Parameters
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-19C 5/16/2018	MW-32 5/16/2018	L-INF 11/13/2018	OBWL-TD 11/13/2018
Volatile Organic Compounds					
1,4-Dichlorobenzene	µg/L	--	--	0.68 J	--
Acetone	µg/L	--	--	11	--
Acetonitrile	µg/L	--	--	90	--
Benzene	µg/L	--	--	0.19 J	--
Chlorobenzene	µg/L	--	0.33 J	0.34 J	--
cis-1,2-Dichloroethene	µg/L	--	0.44 J	--	--
Trichloroethene	µg/L	0.82 J	0.43 J	--	--
Additional Parameters					
Biochemical Oxygen Demand	mg/L	--	--	29 B	7.2 B
Cyanide, Total	mg/L	--	0.02	--	--
Dinoseb	ug/L	--	--	20	--
Nickel, Total	mg/L	--	--	0.08	0.16

Notes:

Results presented are detections for the Appendix III parameters. Analytes by Appendix I or II are presented on Table 4.

B = Analyte detected in sample blank

Dinoseb: Parameter included in method 8151A-Herbicides

J = Concentration is estimated

-- = Parameter not detected above the project-specific reporting limit

Table 5. 2018 Groundwater and Leachate VOC Detections
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	Event	Well Type	Well	Result
1,4-Dichlorobenzene	ug/L	Q418	System	L-INF	0.68 J
Acetone	ug/L	Q218	Compliance	MW-34C	4.7 J
			Upgradient	MW-35	4.9 J
			Compliance	MW-34A	3.3 J
			Compliance	MW-43	3.8 J
			Performance	MW-19C	4.3 J
			Compliance	MW-42	3.8 J
		Q318	Compliance	MW-15R	5.1 J
			Compliance	MW-42	10.0
			Downgradient	MW-32	3.3 J
			Compliance	MW-43	4.6 J
			Upgradient	MW-16	4.3 J
			Compliance	MW-34A	6.2 J
			Compliance	MW-39	6.7 J
		Q418	System	L-INF	11.0
Acetonitrile	ug/L	Q418	System	L-INF	90
Benzene	ug/L	Q418	System	L-INF	0.19 J
Butyl alcohol, n-	ug/L	Q318	Downgradient	MW-32	9.8 J
Butyl alcohol, tert-	ug/L	Q318	Compliance	MW-34C	3.3 J
			Upgradient	MW-16	3.4 J
			Downgradient	MW-32	3.6 J
			Upgradient	MW-13B	4.4 J
		Q418	System	L-INF	210
Chlorobenzene	ug/L	Q218	Downgradient	MW-32	0.33 J
		Q418	System	L-INF	0.34 J
cis-1,2-Dichloroethene	ug/L	Q218	Downgradient	MW-32	0.44 J
Methylene Chloride	ug/L	Q318	Upgradient	MW-13A	0.67 J B
		Q418	Compliance	MW-34C	0.51 J
			System	L-INF	7.8 J
Tetrahydrofuran	ug/L	Q418	System	L-INF	77
Trichloroethene	ug/L	Q218	Downgradient	MW-32	0.43 J
			Performance	MW-19C	0.82 J
		Q318	Downgradient	MW-32	0.46 J
		Q418	Downgradient	MW-32	0.71 J
			Performance	MW-19C	1.0
			Compliance	MW-42	0.47 J
Vinyl chloride	ug/L	Q118	Compliance	MW-42	0.014 J
			Downgradient	MW-32	0.29
			Compliance	MW-34C	0.037
		Q218	Performance	MW-19C	0.012 J
			Compliance	MW-42	0.029
			Downgradient	MW-32	0.32
			Compliance	MW-34C	0.055
		Q318	Compliance	MW-34C	0.034
			Downgradient	MW-32	0.24
			Compliance	MW-42	0.043
		Q418	Compliance	MW-34C	0.04
			Performance	MW-19C	0.038
			Compliance	MW-42	0.062
			Downgradient	MW-32	0.33
			Compliance	MW-34A	0.0067 J

J = Indicates that concentration is estimated due to low concentration in sample

Table 6A. Summary of Significant Parameter Trends by Well Type
2018 Annual Monitoring Report
Olympic View Sanitary Lanfill, Kitsap County, Washington

Significant VOC Trends		Significant Inorganic Parameter Trends	
Increasing	**Decreasing**	**Increasing**	**Decreasing**
Upgradient Wells			
None	None	Alkalinity, Bicarbonate Alkalinity, Total Nitrate Specific Conductivity Temperature	Alkalinity, Bicarbonate Alkalinity, Total Calcium, Dissolved Chloride Magnesium, Dissolved Sodium, Dissolved Sulfate
Performance Wells			
None	Trichloroethene Vinyl Chloride	None	Ammonia (as N) Arsenic, Total Chloride Sodium, Dissolved Specific Conductivity Sulfate
Compliance Wells			
None	Vinyl Chloride	Arsenic, Total Chloride pH Potassium, Dissolved Temperature	Alkalinity, Bicarbonate Alkalinity, Total Ammonia (as N) Barium, Total Calcium, Dissolved Chloride Magnesium, Dissolved Manganese, Total pH Sodium, Dissolved Specific Conductivity Sulfate Total Dissolved Solids Vanadium, Total
Downgradient Wells			
None	Vinyl Chloride	pH	Alkalinity, Bicarbonate Alkalinity, Total Ammonia (as N) Barium, Total Calcium, Dissolved Chloride Magnesium, Dissolved Sodium, Dissolved Specific Conductivity Sulfate Total Dissolved Solids

Table 6B. Summary of Trends in Groundwater (2005 - 2018)
2018 Annual Monitoring Report
Olympic View Sanitary Lanfill, Kitsap County, Washington

Results of Sen's Non-Parametric Test for Trend

Trend Test Period: January 2005 through December 2018

Trend Test Wells:

- Compliance Wells: MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43
- Performance Wells: MW-19C*
- Downgradient Wells: MW-29A*, MW-32, MW-33A*, MW-33C*, MW-36A*
- Upgradient Wells MW-13A, MW-13B, MW-16, MW-35,

*sampled semi-annually; trend status shown is most recent available

Trend Test A *= all organic parameters listed in Appendix I and Appendix II of WAC 173-351-990 that have been detected at least once in at least one of 16 wells comprising the network of 1) compliance, 2) performance, 3) downgradient, and 4) upgradient site monitoring wells, during the trend test period. This includes the following constituents:*

	Significant Increasing Trends	Significant Decreasing Trends
1,2-Dichloroethene (total)	None	None
1,2-Dichlorobenzene	None	None
1,4-Dichlorobenzene	None	None
2-Butanone (MEK)	None	None
Acetone	None	None
Carbon Disulfide	None	None
Chlorobenzene	None	None
Chlorodifluoromethane	None	None
Chloroform	None	None
Chloromethane	None	None
cis-1,2-dichloroethene	None	None
Dichlorodifluoromethane	None	None
Dichlorofluoromethane	None	None
Ethyl Ether	None	None
Methylene Chloride	None	None
Naphthalene	None	None
n-Butyl Alcohol	None	None
tert-Butyl Alcohol	None	None
Tetrahydrofuran	None	None
trans-1,2-Dichloroethene	None	None
Trichloroethene	None	MW-19C (graph 325)
Vinyl Chloride	None	MW-19C (graph 341) MW-32 (graph 343) MW-34C (graph 347)

Table 6B. Summary of Trends in Groundwater (2005 - 2018)
2018 Annual Monitoring Report
Olympic View Sanitary Lanfill, Kitsap County, Washington

Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*		
	Significant Increasing Trends	Significant Decreasing Trends
Alkalinity, bicarbonate (as CaCO3)	MW-13B (graph 2) MW-35 (graph 12)	MW-15R (graph 3) MW-16 (graph 4) MW-34A (graph 10) MW-34C (graph 11) MW-36A (graph 13) MW-42 (graph 15)
Alkalinity, total (as CaCO3)	MW-13B (graph 18) MW-35 (graph 28)	MW-15R (graph 19) MW-16 (graph 20) MW-34A (graph 26) MW-34C (graph 27) MW-36A (graph 29) MW-42 (graph 31)
Ammonia (as N)	None	MW-19C (graph 37) MW-29A (graph 38) MW-43 (graph 48)
Antimony, total	None	None
Arsenic, total	MW-42 (graph 79)	MW-19C (graph 69)
Barium, total	None	MW-15R (graph 83) MW-32 (graph 87)
Beryllium, total	None	None
Cadmium, total	None	None
Calcium, dissolved	None	MW-15R (graph 131) MW-16 (graph 132) MW-29A (graph 134) MW-32 (graph 135) MW-33A (graph 136) MW-34A (graph 138) MW-34C (graph 139) MW-36A (graph 141) MW-43 (graph 144)

Table 6B. Summary of Trends in Groundwater (2005 - 2018)
2018 Annual Monitoring Report
Olympic View Sanitary Lanfill, Kitsap County, Washington

Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*		
	Significant Increasing Trends	Significant Decreasing Trends
Chloride	MW-39 (graph 158)	MW-13A (graph 145) MW-13B (graph 146) MW-15R (graph 147) MW-16 (graph 148) MW-19C (graph 149) MW-29A (graph 150) MW-33A (graph 152) MW-34A (graph 154) MW-34C (graph 155) MW-35 (graph 156) MW-36A (graph 157)
Chromium, total	None	None
Cobalt, total	None	None
Copper, total	None	None
Iron, total	None	None
Lead, total	None	None
Magnesium, dissolved	None	MW-15R (graph 243) MW-16 (graph 244) MW-32 (graph 247) MW-33A (graph 248) MW-34A (graph 250) MW-34C (graph 251) MW-42 (graph 255)
Manganese, total	None	MW-15R (graph 259) MW-42 (graph 271)
Nickel, total	None	None
Nitrate (as N)	MW-35 (graph 300)	None
pH	MW-29A (graph 310) MW-32 (graph 311) MW-34C (graph 315) MW-42 (graph 319)	MW-34A (graph 314)
Potassium, dissolved	MW-42 (graph 335)	None
Selenium, total	None	None
Silver, total	None	None

Table 6B. Summary of Trends in Groundwater (2005 - 2018)
2018 Annual Monitoring Report
Olympic View Sanitary Lanfill, Kitsap County, Washington

Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*		
	Significant Increasing Trends	Significant Decreasing Trends
Sodium, dissolved	None	MW-15R (graph 371) MW-16 (graph 372) MW-19C (graph 373) MW-32 (graph 375) MW-34A (graph 378) MW-34C (graph 379) MW-36A (graph 381) MW-42 (graph 383) MW-43 (graph 384)
Specific Conductivity	MW-13B (graph 386) MW-35 (graph 396)	MW-15R (graph 387) MW-19C (graph 389) MW-29A (graph 390) MW-32 (graph 391) MW-33A (graph 392) MW-34A (graph 394) MW-34C (graph 395)
Sulfate	None	MW-13A (graph 401) MW-13B (graph 402) MW-16 (graph 404) MW-19C (graph 405) MW-32 (graph 407) MW-36A (graph 413) MW-42 (graph 415) MW-43 (graph 416)
Temperature	MW-15R (graph 419) MW-34A (graph 426) MW-34C (graph 427) MW-35 (graph 428)	None
Thallium, total	None	None
Total Dissolved Solids	None	MW-15R (graph 451) MW-32 (graph 455) MW-33A (graph 456) MW-34A (graph 458) MW-34C (graph 459)
Total Organic Carbon	None	None
Vanadium, total	None	MW-34A (graph 490)
Zinc, total	None	None

Table 7. Fourth Quarter 2018 Prediction Limit Exceedances
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Well Type	Well Location	Date Sampled	Parameter	Units	Result	Prediction Limit
Compliance	MW-34A	11/12/2018	pH	pH Units	5.8	5.84 - 8.20
			Sodium, dissolved	mg/L	9.2	7.7
	MW-34C	11/12/2018	Alkalinity, bicarbonate (as caco3)	mg/L	110	96
			Alkalinity, total (as caco3)	mg/L	110	96
			Arsenic, total	ug/L	9.68	0.4663
			Barium, total	mg/L	0.095	0.0044
			Calcium, dissolved	mg/L	23	18
			Chloride	mg/L	5.7	4.4
			Iron, total	mg/L	22	0.31
			Manganese, total	mg/L	1.1	0.032
			Sodium, dissolved	mg/L	10	7.7
			Specific conductivity	mS/cm	0.24	0.18
			Zinc, total	mg/L	0.0077	0.0056
	MW-39	11/12/2018	Alkalinity, bicarbonate (as caco3)	mg/L	100	96
			Alkalinity, total (as caco3)	mg/L	100	96
			Ammonia (as n)	mg/L	0.51	0.3
			Arsenic, total	ug/L	1.97	0.4663
			Barium, total	mg/L	0.018	0.0044
			Chloride	mg/L	5.5	4.4
			Cobalt, total	mg/L	0.0064	0.003
			Iron, total	mg/L	35	0.31
			Manganese, total	mg/L	0.45	0.032
			Sodium, dissolved	mg/L	8.7	7.7
			Specific conductivity	mS/cm	0.267	0.18
	MW-42	11/12/2018	Alkalinity, bicarbonate (as caco3)	mg/L	180	96
			Alkalinity, total (as caco3)	mg/L	180	96
			Ammonia (as n)	mg/L	4	0.3
			Arsenic, total	ug/L	1.83	0.4663
			Barium, total	mg/L	0.099	0.0044
			Calcium, dissolved	mg/L	39	18
			Chloride	mg/L	20	4.4
			Iron, total	mg/L	24	0.31
			Magnesium, dissolved	mg/L	14	11.1905
			Manganese, total	mg/L	3.8	0.032
			Potassium, dissolved	mg/L	8.5	1.4
			Sodium, dissolved	mg/L	17	7.7
			Specific conductivity	mS/cm	0.531	0.18
			Sulfate	mg/L	12	9.9
			Total dissolved solids (tds)	mg/L	270	175
			Total organic carbon (toc)	mg/L	6.1	6

Table 7. Fourth Quarter 2018 Prediction Limit Exceedances
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Well Type	Well Location	Date Sampled	Parameter	Units	Result	Prediction Limit
Downgradient	MW-29A	11/12/2018	Arsenic, total	ug/L	2.19	0.4663
			Barium, total	mg/L	0.0081	0.0044
			Iron, total	mg/L	3.6	0.31
			Manganese, total	mg/L	1.2	0.032
	MW-32	11/14/2018	Alkalinity, bicarbonate (as caco3)	mg/L	140	96
			Alkalinity, total (as caco3)	mg/L	140	96
			Arsenic, total	ug/L	9.84	0.4663
			Barium, total	mg/L	0.0061	0.0044
			Calcium, dissolved	mg/L	31	18
			Chloride	mg/L	14	4.4
			Iron, total	mg/L	0.81	0.31
			Magnesium, dissolved	mg/L	16	11.1905
			Manganese, total	mg/L	2.6	0.032
			Sodium, dissolved	mg/L	13	7.7
			Specific conductivity	mS/cm	0.356	0.18
			Sulfate	mg/L	12	9.9
			Total dissolved solids (tds)	mg/L	230	175
	MW-33A	11/14/2018	Arsenic, total	ug/L	0.607	0.4663
			Iron, total	mg/L	2.4	0.31
	MW-33C	11/14/2018	Arsenic, total	ug/L	2.77	0.4663
			Barium, total	mg/L	0.0045	0.0044
			Manganese, total	mg/L	0.18	0.032
	MW-36A	11/12/2018	Arsenic, total	ug/L	0.532	0.4663

Notes:
Contents prepared by GeoChem Applications
deg C = degrees Celcius
CaCO3 = calcium carbonate
N = nitrogen
µg/L = micrograms per liter
mg/L = milligrams per liter
mS/cm = milliSiemens per centimeter

Table 8. 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat
Data Input (general): 3-year "moving window", updated annually
Data Input (specific): January 1, 2016 through December 31, 2018
Wells Evaluated: (1) Compliance -- MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43; (2) Downgradient -- MW-29A, MW-32, MW-33A, MW-33C, MW-36A

Monitoring Well Type	Monitoring Well	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
Compliance	MW-15R	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
	MW-15R	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-15R	Arsenic, total	12	100%	0.269	0.24	ug/L	LN	0.462	ug/L	No	No
	MW-15R	Iron, total	12	8%	0.11	0.11	mg/L	A	0.30	mg/L	No	No
	MW-15R	Manganese, total	12	100%	0.0084	0.004	mg/L	Z	0.05	mg/L	No	No
	MW-15R	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-15R	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-15R	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-15R	Vinyl Chloride	12	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-15R	Ammonia as N	12	0%	0.03 (ND)	0.03	mg/L	B	0.19	mg/L	No	No
	MW-34A	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-34A	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-34A	Arsenic, total	12	100%	0.488	0.464	ug/L	Z	0.462	ug/L	**Yes**	No
	MW-34A	Iron, total	12	17%	0.092	0.06	mg/L	A	0.30	mg/L	No	No
	MW-34A	Manganese, total	12	83%	0.0044	0.0025	mg/L	LN	0.05	mg/L	No	No
	MW-34A	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-34A	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-34A	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-34A	Vinyl Chloride	12	0%	0.02 (ND)	0.03	ug/L	B	0.2	ug/L	No	No
	MW-34A	Ammonia as N	12	17%	0.035	0.035	mg/L	A	0.19	mg/L	No	No
	MW-34C	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-34C	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-34C	Arsenic, total	12	100%	69.9	44.9	ug/L	LN	0.462	ug/L	**Yes**	No
	MW-34C	Iron, total	12	100%	96	77	mg/L	LN	0.30	mg/L	**Yes**	No
	MW-34C	Manganese, total	12	100%	14	5.5	mg/L	LN	0.05	mg/L	**Yes**	No
	MW-34C	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-34C	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-34C	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-34C	Vinyl Chloride	12	100%	0.081	0.07	ug/L	LN	0.2	ug/L	No	**Yes (▼)**
	MW-34C	Ammonia as N	12	25%	0.034	0.034	mg/L	A	0.19	mg/L	No	No

Table 8. 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Monitoring Well Type	Monitoring Well	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
Compliance	MW-39	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-39	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-39	Arsenic, total	12	100%	2.13	1.78	ug/L	Z	0.462	ug/L	Yes	No
	MW-39	Iron, total	12	100%	37	33.7	mg/L	Z	0.30	mg/L	Yes	No
	MW-39	Manganese, total	12	100%	0.66	0.45	mg/L	Z	0.05	mg/L	Yes	No
	MW-39	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-39	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-39	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-39	Vinyl Chloride	12	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-39	Ammonia as N	12	92%	0.65	0.49	mg/L	Z	0.19	mg/L	Yes	No
	MW-42	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-42	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-42	Arsenic, total	12	100%	1.93	1.81	ug/L	Z	0.462	ug/L	Yes	Yes (▲)
	MW-42	Iron, total	12	100%	27	24.8	mg/L	LN	0.30	mg/L	Yes	No
	MW-42	Manganese, total	12	100%	4.5	4.3	mg/L	LN	0.05	mg/L	Yes	Yes (▼)
	MW-42	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-42	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-42	Trichloroethene	12	17%	0.58	0.58	ug/L	A	1.0	ug/L	No	No
	MW-42	Vinyl Chloride	12	75%	0.082	0.05	ug/L	LN	0.2	ug/L	No	No
	MW-42	Ammonia as N	12	100%	8.4	5.8	mg/L	Z	0.19	mg/L	Yes	No
	MW-43	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-43	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-43	Arsenic, total	12	42%	0.108	0.108	ug/L	A	0.462	ug/L	No	No
	MW-43	Iron, total	12	100%	3.5	3.28	mg/L	LN	0.30	mg/L	Yes	No
	MW-43	Manganese, total	12	100%	0.11	0.09	mg/L	LN	0.05	mg/L	Yes	No
	MW-43	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-43	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-43	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-43	Vinyl Chloride	12	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-43	Ammonia as N	12	50%	0.052	0.052	mg/L	A***	0.19	mg/L	No	Yes (▼)

Table 8. 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Monitoring Well Type	Monitoring Well	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
Downgradient	MW-29A	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-29A	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-29A	Arsenic, total	6	100%	2.19	2.16	ug/L	LN	0.462	ug/L	Yes	No
	MW-29A	Iron, total	6	100%	4.6	4.30	mg/L	LN	0.30	mg/L	Yes	No
	MW-29A	Manganese, total	6	100%	1.4	1.29	mg/L	Z	0.05	mg/L	Yes	No
	MW-29A	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-29A	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-29A	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-29A	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-29A	Ammonia as N	6	100%	0.19	0.12	mg/L	Z	0.19	mg/L	No	Yes (▼)
	MW-32	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-32	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-32	Arsenic, total	12	100%	11.2	10.51	ug/L	LN	0.462	ug/L	Yes	No
	MW-32	Iron, total	12	100%	0.81	0.72	mg/L	LN	0.30	mg/L	Yes	No
	MW-32	Manganese, total	12	100.0%	2.6	2.0	mg/L	Z	0.05	mg/L	Yes	No
	MW-32	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-32	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-32	Trichloroethene	12	50%	0.71	0.71	ug/L	A***	1.0	ug/L	No	No
	MW-32	Vinyl Chloride	12	100%	0.46	0.35	ug/L	LN	0.2	ug/L	Yes	Yes (▼)
	MW-32	Ammonia as N	12	33%	0.12	0.12	mg/L	A	0.19	mg/L	No	No
	MW-33A	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-33A	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-33A	Arsenic, total	6	100%	0.61	0.705	ug/L	LN	0.462	ug/L	Yes	No
	MW-33A	Iron, total	6	100%	2.5	2.4	mg/L	Z	0.30	mg/L	Yes	No
	MW-33A	Manganese, total	6	100%	0.083	0.046	mg/L	Z	0.05	mg/L	No	No
	MW-33A	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-33A	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-33A	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-33A	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-33A	Ammonia as N	6	50%	0.3	0.30	mg/L	A**	0.19	mg/L	Yes	No

Table 8. 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Monitoring Well Type	Monitoring Well	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
Downgradient	MW-33C	1,1-Dichloroethane	8	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-33C	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-33C	Arsenic, total	8	100%	2.77	2.65	ug/L	LN	0.462	ug/L	**Yes**	No
	MW-33C	Iron, total	8	88%	0.28	0.26	mg/L	LN	0.30	mg/L	No	No
	MW-33C	Manganese, total	8	100%	0.29	0.21	mg/L	Z	0.05	mg/L	**Yes**	No
	MW-33C	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-33C	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-33C	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-33C	Vinyl Chloride	8	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-33C	Ammonia as N	8	13%	0.04	0.04	mg/L	A	0.19	mg/L	No	No
	MW-36A	1,1-Dichloroethane	8	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-36A	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-36A	Arsenic, total	8	100.0%	0.616	0.592	ug/L	LN	0.462	ug/L	**Yes**	No
	MW-36A	Iron, total	8	50%	0.17	0.13	mg/L	LN	0.30	mg/L	No	No
	MW-36A	Manganese, total	8	88%	0.0034	0.003	mg/L	LN	0.05	mg/L	No	No
	MW-36A	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-36A	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-36A	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-36A	Vinyl Chloride	8	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-36A	Ammonia as N	8	25%	0.031	0.031	mg/L	A	0.19	mg/L	No	No

NOTES:

[1] N = number of data points used for UCL calculation of the mean; only SIM results used for Vinyl Chloride (e.g., duplicate results with higher RLs by non-SIM were omitted).

[2] MAX = maximum detected result in the data set; if no detected results, then = maximum reporting limit for non-detect results (indicated with ND).

[3] A 3-year moving data set is used for calculation of the UCL.

[4] ug/L - micrograms per liter; mg/L = milligrams per liter.

[5] Groundwater Cleanup Levels are listed on Table 3 of the October 2010 Draft Cleanup Action Plan.

[6] Trend analysis results are based on data for the period January 2005 through December 2018; arrows indicated increasing (p) or decreasing (q) trends.

A = Detection frequency of data set too low and/or N too few to calculate 95% UCL of mean; therefore, the highest detected result in the data set used to represent 95% UCL of mean.

A* = Same as note "A" except that the highest value in the data set is below the reporting limit of one or more non-detected results; therefore, the highest reporting limit is used to represent the 95% UCL of the mean.

A** = MTCAStat suggests use of lognormal formula but calculation of 95% UCL of mean by Land's formula provides unrealistic result; therefore, the highest detected result is used to represent the 95% UCL of the mean.

A*** = MTCAStat suggests use of the Z-score method but then cites inability to calculate due to presence of censored values; therefore, the highest detected result is used to represent the 95% UCL of the mean.

B = Detection frequency = 0; therefore, the highest reporting limit in the data set is used to represent the 95% UCL of mean.

LN = The 95% UCL of the mean is calculated using Land's formula since lognormal distribution is indicated.

N = The 95% UCL of the mean is calculated using a normal-based t-statistic since a normal distribution is indicated.

Z = the 95% UCL of the mean is calculated using the Z-score method in MTCAStat since neither normal nor lognormal distribution can be determined.

Table 9. Groundwater Quality Criteria and Site-Specific Cleanup Level Exceedances
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Comparison Criteria			Field Parameters	General Chemistry						VOCs
			pH (SU)	Ammonia (mg N/L)	Arsenic, Total (mg/L)	Iron, Dissolved (mg/L)	Iron, Total (mg/L)	Manganese, Dissolved (mg/L)	Manganese, Total (mg/L)	Vinyl Chloride (µg/L)
		WAC 173-200	6.5< >8.5	10	0.00005	0.3	0.3	0.05	0.05	0.02
		Primary Federal MCL	--	--	0.01	--	--	--	--	2
		Secondary Federal MCL	6.5< >8.5	--	--	0.3	0.3	0.05	0.05	--
		Site-specific MTCA Cleanup Levels	--	0.19	0.000462	--	--	--	--	0.2
Well, Location, and Sample Events										
Upgradient Monitoring Locations	MW-13A	Q1 2018	--	--	0.000199	--	--	--	--	--
		Q2 2018	--	--	0.000183	--	--	--	--	--
		Q3 2018	--	--	0.000199	--	--	--	--	--
		Q4 2018	--	--	0.000189	--	--	--	--	--
	MW-13B	Q1 2018	--	--	0.000366	--	--	--	--	--
		Q2 2018	--	--	0.000342	--	--	--	--	--
		Q3 2018	--	--	0.000377	--	--	--	--	--
		Q4 2018	--	--	0.000337	--	--	--	--	--
	MW-16	Q1 2018	6.11	--	0.000446	--	--	--	--	--
		Q2 2018	6.27	--	0.000367	--	--	--	--	--
		Q3 2018	6.10	--	0.000173	--	--	--	--	--
		Q4 2018	6.34	--	0.000452	--	--	--	--	--
	MW-35	Q1 2018	--	--	0.000120	--	--	--	--	--
		Q2 2018	--	--	0.000111	--	--	--	--	--
		Q3 2018	--	--	0.000126	--	--	--	--	--
		Q4 2018	--	--	0.000112	--	--	--	--	--
	MW-19C	Q2 2018	--	0.43	0.00247	--	--	0.92 B	0.93	--
		Q4 2018	--	0.47	0.00276	--	--	1.1 B	1.1	0.038
Compliance Monitoring Locations	MW-15R	Q1 2018	6.45	--	0.000269	--	--	--	--	--
		Q2 2018	--	--	0.000217	--	--	--	--	--
		Q3 2018	6.42	--	0.000225	--	--	--	--	--
		Q4 2018	6.42	--	0.000193	--	--	--	--	--
	MW-34A	Q1 2018	5.69	--	0.000476	--	--	--	--	--
		Q2 2018	5.98	--	0.000475	--	--	--	--	--
		Q3 2018	5.89	--	0.000488	--	--	--	--	--
		Q4 2018	5.80	--	0.000411	--	--	--	--	--
	MW-34C	Q1 2018	--	--	0.0307	0.58	35	0.49	5.3	0.037
		Q2 2018	--	--	0.00765	0.6 B	13	0.51 B	0.66	0.055
		Q3 2018	--	--	0.00475	--	5.7	0.56	3.0	0.034
		Q4 2018	6.47	--	0.00968	0.65	22	0.58 B	1.1	0.040
	MW-39	Q1 2018	6.26	0.42	0.00143	33	33	0.39	0.45	--
		Q2 2018	6.40	0.65	0.00181	--	36	0.4 B	0.42	--
		Q3 2018	6.11	0.48	0.00187	34	35	0.46	0.43	--
		Q4 2018	6.17	0.51	0.00197	36	35	0.47 B	0.45	--
	MW-42	Q1 2018	--	4.5	0.00172	23	23	3.7	3.8	--
		Q2 2018	--	4.7	0.00165	24 B	24	4.1 B	3.6	0.029
		Q3 2018	6.44	8.4	0.00184	25	25	4.5	4.2 B	0.043
		Q4 2018	--	4.0	0.00183	23	24	3.9 B	3.8	0.062
	MW-43	Q1 2018	5.63	--	--	--	0.7	--	--	--
		Q2 2018	6.31	--	0.000087	--	3.5	--	0.11	--
		Q3 2018	5.60	--	0.000108	--	2.7	--	--	--
		Q4 2018	4.81	--	--	--	--	--	--	--
Downgradient Monitoring Locations	MW-32	Q1 2018	--	--	0.0108	0.61	0.67	1.8	1.9	0.29
		Q2 2018	--	--	0.0106	--	0.73	1.7 B	1.7	0.32
		Q3 2018	--	--	0.0112	0.6	0.67	2.0	2.0	0.24
		Q4 2018	--	--	0.00984	0.71	0.81	2.4	2.6	0.33
	MW-29A	Q2 2018	6.43	--	0.00202	3.9 B	4.1	1.2 B	1.2	--
		Q4 2018	6.10	--	0.00219	3.3	3.6	1.2 B	1.2	--
	MW-33A	Q2 2018	--	--	0.000217	--	0.69	--	--	--
		Q4 2018	--	--	0.000607	--	2.4	--	--	--
	MW-33C	Q2 2018	--	--	0.00259	--	--	0.14 B	0.14	--
		Q4 2018	--	--	0.00277	--	--	0.14	0.18	--
	MW-36A	Q2 2018	6.21	--	0.000591	--	--	--	--	--
		Q4 2018	5.98	--	0.000532	--	--	--	--	--

Notes:

SU = standard units

mg N/L = miligrams of Nitrogen per liter

mg/L = milligrams per liter

µg/L = micrograms per liter

B = estimated value due to potential blank contribut

0.00141 = exceeds Site-specific MTCA Cleanup Levels

0.035 = exceeds WAC 173-200 Groundwater Quality Criteria

6.44 = exceeds Federal MCL and WAC 173-200 Groundater Quality Criteria

0.0014 = exceeds Federal MCLs, Site-specific MTCA Cleanup Levels, and WAC 173-200 Criteria

Table 10. Cumulative 2018 Leak Detection System Volumes
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Date	Total Volume (Gals)	Comments
1/31/2018	0	No volume measurent was made.
2/27/2018	1710	Pumped dry after first quarter LP-LCD sampling was conducted. Sample collected on February 21, 2018.
3/28/2018	475	Pumped dry.
4/23/2018	525	Pumped dry.
5/29/2018	630	LP-LCD sample collected on May 15, 2018.
6/25/2018	645	Pumped dry.
7/30/2018	690	Pumped dry.
8/21/2018	600	LP-LCD sample collected on August 23, 2018.
9/24/2018	70	Pumped dry.
10/31/2018	0	Insufficent liquid to pump.
11/13/2018	0	LP-LCD sample collected on Noevmber 13, 2018. Very little volume available for sample.
12/30/2018	0	Insufficent liquid to pump.
TOTAL	**5345**	**Volume for period between 1/1/2018 through 12/31/2018.**

Notes:

"No volume measurement made" indicates that the LP-LCD volume present was not pumped so adequate volume would be available for sampling.

Table 11. Fourth Quarter 2018 Landfill Gas Measurement Results
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County Washington

Waste Management Incorporated

Instrument Readings							Comments					
Location Reference Designation	Date	Time	Pressure (in H_2O)	CH_4 (% vol.)	CO_2 (% vol.)	O_2 (% vol.)	CH_4 Spike *Note 1* (% vol.)	CO_2 Spike *Note 1* (% vol.)	Depth to Water TOP (ft)	Exposed Portion of Perforations *Notes 2 & 3* (ft)	(%)	Other
Subsurface Landfill Gas Detection Wells (Gas Probes):												
GP-7	10/23/18	14:44	-0.06	0.00	10.00	8.80			NA	NA	NA	*Note 4*
GP-8	10/23/18	14:37	0.01	0.00	0.10	20.80			NA	NA	NA	Note 4
GP-9S	10/23/18	14:51	-0.16	0.00	1.60	20.00						
GP-9D	10/23/18	14:56	0.02	0.00	1.40	19.70			NA	NA	NA	Note 4
GP-10S	10/23/18	15:04	0.02	0.00	0.70	20.90						
GP-10D	10/23/18	15:05	-0.01	0.00	0.70	20.10			NA	NA	NA	Note 4
GP-11S	10/23/18	15:13	0.01	0.00	2.10	19.70						
GP-11D	10/23/18	15:15	0.55	0.00	0.60	21.10			NA	NA	NA	Note 4
GP-12S	10/23/18	15:20	-0.04	0.00	1.10	20.00						
GP-12M	10/23/18	15:25	0.00	0.00	1.00	20.30						
GP-12D	10/23/18	15:33	0.00	0.00	1.40	16.80			NA	NA	NA	Note 4
GP-13S	10/23/18	15:37	0.00	0.00	3.00	18.70						
GP-13M	10/23/18	15:40	-0.08	0.00	3.60	17.50						
GP-13D	10/23/18	15:46	-0.05	0.00	3.10	18.50			NA	NA	NA	Note 4
GP-14	10/23/18	15:52	-0.01	0.00	7.60	9.60			NA	NA	NA	Note 4
GP-15	10/23/18	15:59	0.01	0.00	9.50	5.40			NA	NA	NA	Note 4
GP-16	10/23/18	16:07	-0.01	0.00	2.20	19.60			NA	NA	NA	Note 4
Onsite Building Interiors:												
SH-SS	11/13/18	12:22	--	0.00	0.10	21.30						
SH-NS	11/13/18	12:23	--	0.00	0.10	21.40						
SH-IN	11/13/18	12:25	--	0.00	0.10	21.40						
SS-WH	11/13/18	12:17	--	0.00	0.10	21.40						
EL-SH	11/13/18	12:07	--	0.00	0.10	21.40						
TL-OF	11/13/18	12:12	--	0.00	0.10	21.50						

Weather Conditions

Monitoring Date:	10/23/2018 & 11/13/18	Sky Cover:	Cloudy
Monitored By:	P. Bannister (Aspect)	Wind/Rain/Snow:	Moderate Wind
Instrument:	GEM 2NAV	Temperature (°F):	53
Calibration Date:	10/23/2018 & 11/13/18	Preceding 24-hr Barometric Trend:	Decreasing

Notes:
1. Measurement for spike concentrations of CH4 and CO2 are recorded if observed during sampling.
2. Exposed perforations = perforated pipe section not submerged by water.
3. Readings not reported: Screened interval completely submerged.
4. Depth to water measurement not taken this quarter.
5. Station was not monitored this quarter.

CH_4 = Methane
CO_2 = Carbon Dioxide
O_2 = Oxygen
GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
TOP = From Top of Pipe

SH-SS = Scale House - South Side Exterior
SH-NS = Scale House - North Side Exterior
SH-IN = Scale House - Office Interior
SS-WH = South Slope Well House
EL-SH = Electrical Shed
TL-OF = Office
-- = Measurements not taken
NA = Not Applicable

Depressed O2 < 20.3% vol.
Detected CO2 > 0.3 % vol.
Detected CH4 > 0.3 % vol.

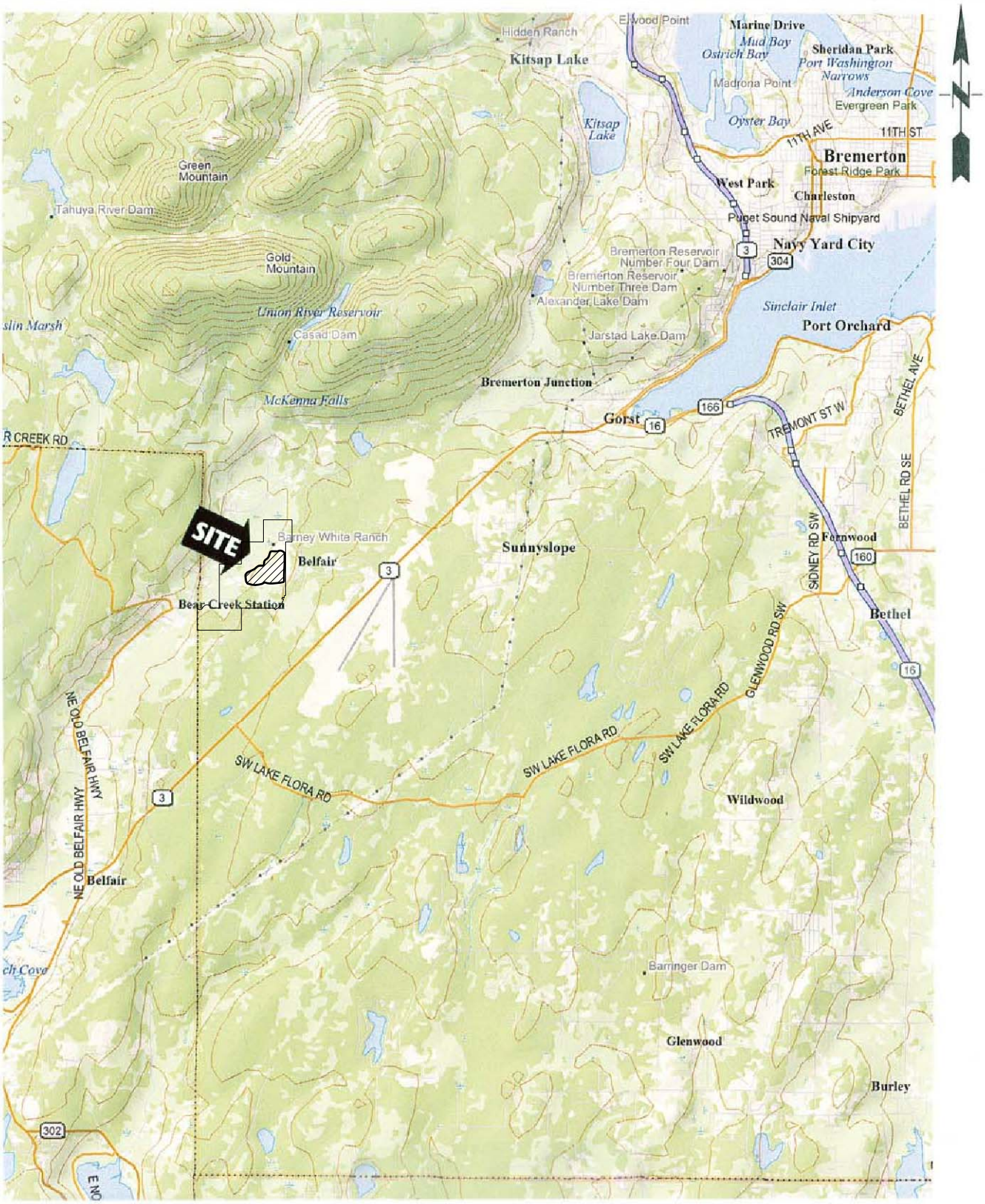
Table 12. Landfill Gas Monitoring Results - 2018
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Location	Date	Pressure (in. H_2O)	CH4 (% vol.)	CO2 (% vol.)	O2 (% vol.)
GP-7	3/14/2018	0.01	0.0	4.5	6.1
	5/16/2018	0.04	0.0	5.8	6.2
	9/10/2018	0.01	0.0	10.6	8.8
	10/23/2018	-0.06	0.0	10.0	8.8
GP-8	3/14/2018	0.00	0.0	2.2	10.5
	5/16/2018	0.01	0.0	2.1	11.6
	9/10/2018	0.00	0.0	5.6	10.4
	10/23/2018	0.01	0.0	0.1	20.8
GP-9S	3/14/2018	0.03	0.0	1.8	19.9
	5/16/2018	0.01	0.0	1.1	19.1
	9/10/2018	-0.01	0.0	1.9	19.7
	10/23/2018	-0.16	0.0	1.6	20.0
GP-9D	3/14/2018	-0.01	0.0	1.3	19.3
	5/16/2018	0.00	0.0	1.7	18.8
	9/10/2018	0.02	0.0	1.3	19.7
	10/23/2018	0.02	0.0	1.4	19.7
GP-10S	3/29/2018	0.02	0.0	0.8	20.8
	5/16/2018	0.01	0.0	0.6	19.7
	9/10/2018	0.00	0.0	0.7	20.9
	10/23/2018	0.02	0.0	0.7	20.9
GP-10D	3/29/2018	-0.01	0.0	0.7	19.3
	5/16/2018	0.00	0.0	0.5	18.4
	9/10/2018	0.01	0.0	0.6	20.0
	10/23/2018	-0.01	0.0	0.7	20.1
GP-11S	3/14/2018	0.01	0.0	2.3	17.4
	5/16/2018	-0.03	0.0	0.8	19.8
	9/10/2018	0.04	0.0	2.5	19.5
	10/23/2018	0.01	0.0	2.1	19.7
GP-11D	3/14/2018	0.00	0.0	1.0	19.6
	5/16/2018	0.01	0.0	2.5	17.6
	9/10/2018	-1.23	0.0	0.6	20.8
	10/23/2018	0.55	0.0	0.6	21.1
GP-12S	3/14/2018	-0.12	0.0	0.9	20.5
	5/16/2018	-0.02	0.0	0.9	19.4
	9/10/2018	0.13	0.0	1.2	17.9
	10/23/2018	-0.04	0.0	1.1	20.0
GP-12M	3/14/2018	-0.03	0.0	1.1	19.9
	5/16/2018	0.03	0.0	1.6	19.3
	9/10/2018	0.01	0.0	1.0	19.6
	10/23/2018	0.00	0.0	1.0	20.3
GP-12D	3/14/2018	0.23	0.0	0.7	18.7
	5/16/2018	0.02	0.0	0.6	19.9
	9/10/2018	0.13	0.0	1.3	15.4
	10/23/2018	0.00	0.0	1.4	16.8

Table 12. Landfill Gas Monitoring Results - 2018
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Location	Date	Pressure (in. H_2O)	CH4 (% vol.)	CO2 (% vol.)	O2 (% vol.)
GP-13S	3/14/2018	0.66	0.0	3.4	17.6
	5/16/2018	-0.02	0.0	3.4	17.2
	9/10/2018	0.06	0.0	3.2	17.7
	10/23/2018	0.00	0.0	3.0	18.7
GP-13M	3/14/2018	-0.06	0.0	3.3	17.4
	5/16/2018	0.03	0.0	3.0	16.9
	9/10/2018	0.02	0.0	3.4	16.7
	10/23/2018	-0.08	0.0	3.6	17.5
GP-13D	3/14/2018	-0.01	0.0	1.1	20.2
	5/16/2018	-0.01	0.0	1.7	18.6
	9/10/2018	-0.02	0.0	3.2	17.1
	10/23/2018	-0.05	0.0	3.1	18.5
GP-14	3/14/2018	0.02	0.0	4.3	5.4
	5/16/2018	-0.01	0.0	4.3	7.0
	9/10/2018	-0.04	0.0	7.7	8.8
	10/23/2018	-0.01	0.0	7.6	9.6
GP-15	3/14/2018	0.12	0.0	6.0	1.5
	5/16/2018	-0.41	0.1	5.2	4.2
	9/10/2018	-0.88	0.0	9.8	4.0
	10/23/2018	0.01	0.0	9.5	5.4
GP-16	3/14/2018	0.00	0.0	2.0	19.2
	5/16/2018	0.04	0.0	2.3	18.4
	9/10/2018	-0.07	0.0	2.1	19.2
	10/23/2018	-0.01	0.0	2.2	19.6

Figures



1" = 1.58 mi

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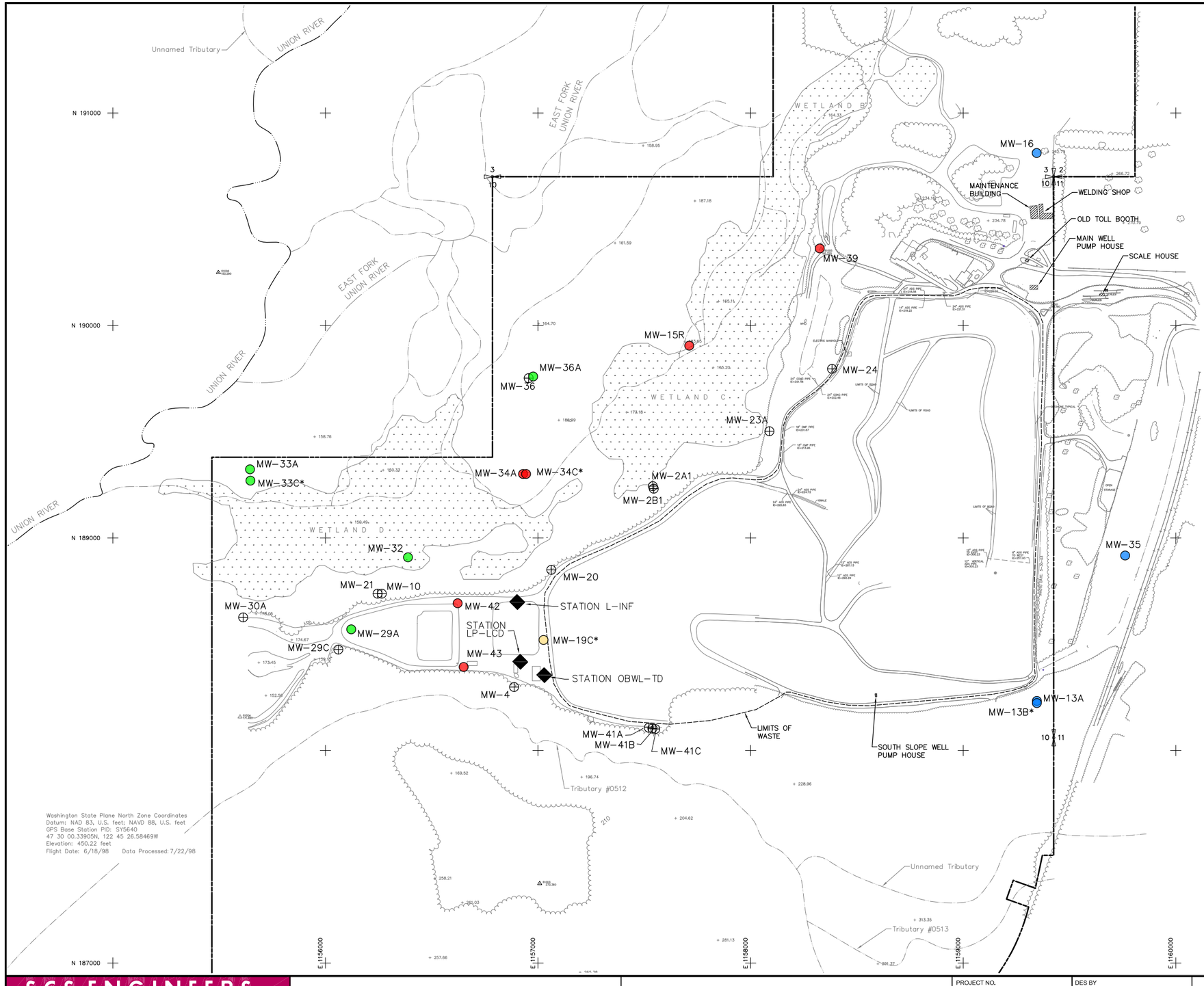
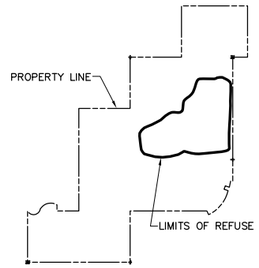
PROJECT NO. 04204027.22	DES BY L.L.	SITE LOCATION MAP	DATE FEBRUARY 2019
SCALE 1:100,000	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 1
CAD FILE FIGURE 1	APP BY G.H.		



Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98



KEY MAP

LEGEND

MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-10	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-32	SHALLOW MONITORING WELL
*	DEEP MONITORING WELL
L-INF	LEACHATE MONITORING STATION
	PROPERTY LINE (ASSUMED)

200 0 200 400
SCALE IN FEET

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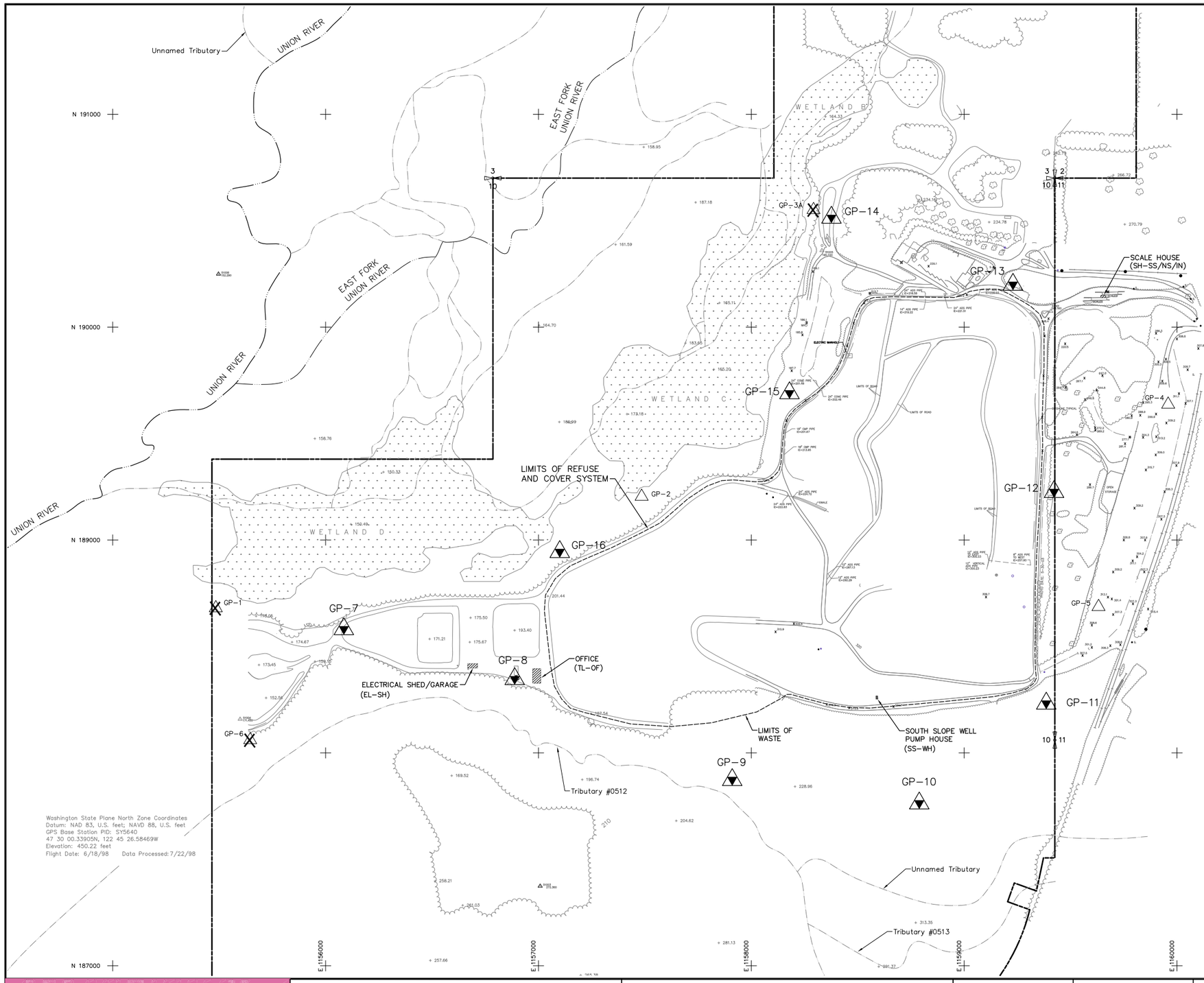
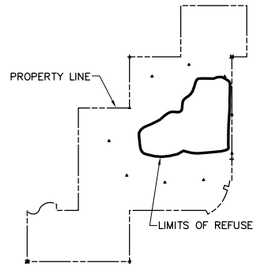
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	GROUNDWATER MONITORING WELL NETWORK AND LEACHATE MONITORING LOCATIONS OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.		FIGURE 2
CAD FILE FIGURE 2	APP BY G.H.		





KEY MAP

LEGEND

GP-7	NEW GAS PROBE
(EL-SH)	BUILDING GAS MONITORING LOCATION
GP-1	ABANDONED GAS PROBE
GP-2	EXISTING GAS PROBE (NOT PART OF MONITORING PROGRAM)
	PROPERTY LINE (ASSUMED)
	SECTION CORNER (ASSUMED – NOT FOUND)
10	SECTION CENTER (ASSUMED – NOT FOUND)

N

200 0 200 400
SCALE IN FEET

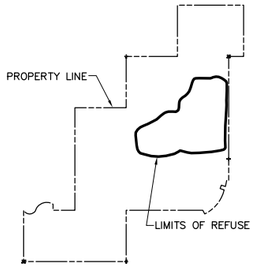
SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY T.M.	SUBSURFACE GAS MIGRATION MONITORING PROBES AND BUILDING MONITORING LOCATIONS OLYMPIC VIEW SANITARY LANDFILL PORT ORCHARD, WASHINGTON	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY L.L.		FIGURE 3
CAD FILE FIGURE 3	APP BY D.V.		

Note:

Water level contours were generated using depth to water and reference elevation data from wells screened between 89 and 200 ft-msl. The water level elevations for the following locations have not been used for contouring.

- Wells MW-13, MW-13B, MW-33C, MW-34B and MW-41C have screen elevations outside the 89 to 200 ft-msl range.



KEY MAP

LEGEND

MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-36	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-35 / 231.61	MONITORING WELL / WATER LEVEL ELEVATION, FT-MSL
180	ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET-MSL CONTOUR INTERVAL = 10 FT
	GROUNDWATER FLOW DIRECTION
*	WATER LEVEL ELEVATION NOT NOT USED IN CONTOURING
	PROPERTY LINE (ASSUMED)

Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

200 0 200 400
SCALE IN FEET

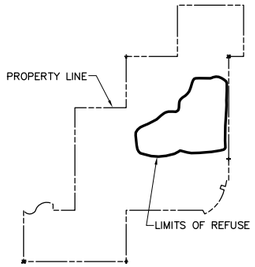
SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	WATER LEVEL CONTOUR MAP MAY 2018	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 4A
CAD FILE FIGURE 4A	APP BY D.V.		

Note:

Water level contours were generated using depth to water and reference elevation data from wells screened between 89 and 200 ft-msl. The water level elevations for the following locations have not been used for contouring.

- Wells MW-13, MW-13B, MW-34B and MW-41C have screen elevations outside the 89 to 200 ft-msl range.



KEY MAP

LEGEND

MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-36	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-35 / 230.01	MONITORING WELL / WATER LEVEL ELEVATION, FT-MSL
180	ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET-MSL CONTOUR INTERVAL = 10 FT
	GROUNDWATER FLOW DIRECTION
*	WATER LEVEL ELEVATION NOT NOT USED IN CONTOURING
	PROPERTY LINE (ASSUMED)

Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

SCALE IN FEET: 200 0 200 400

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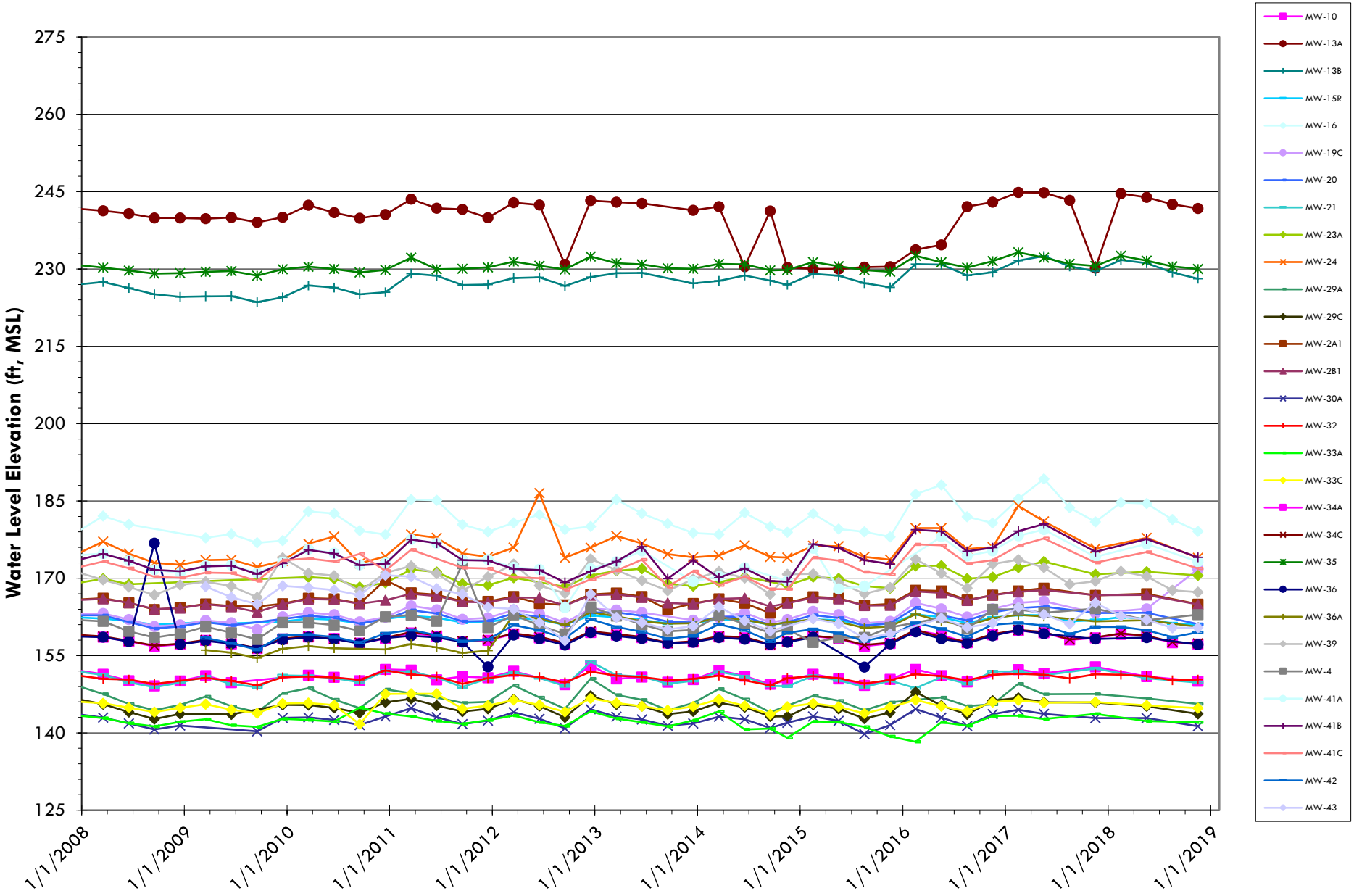
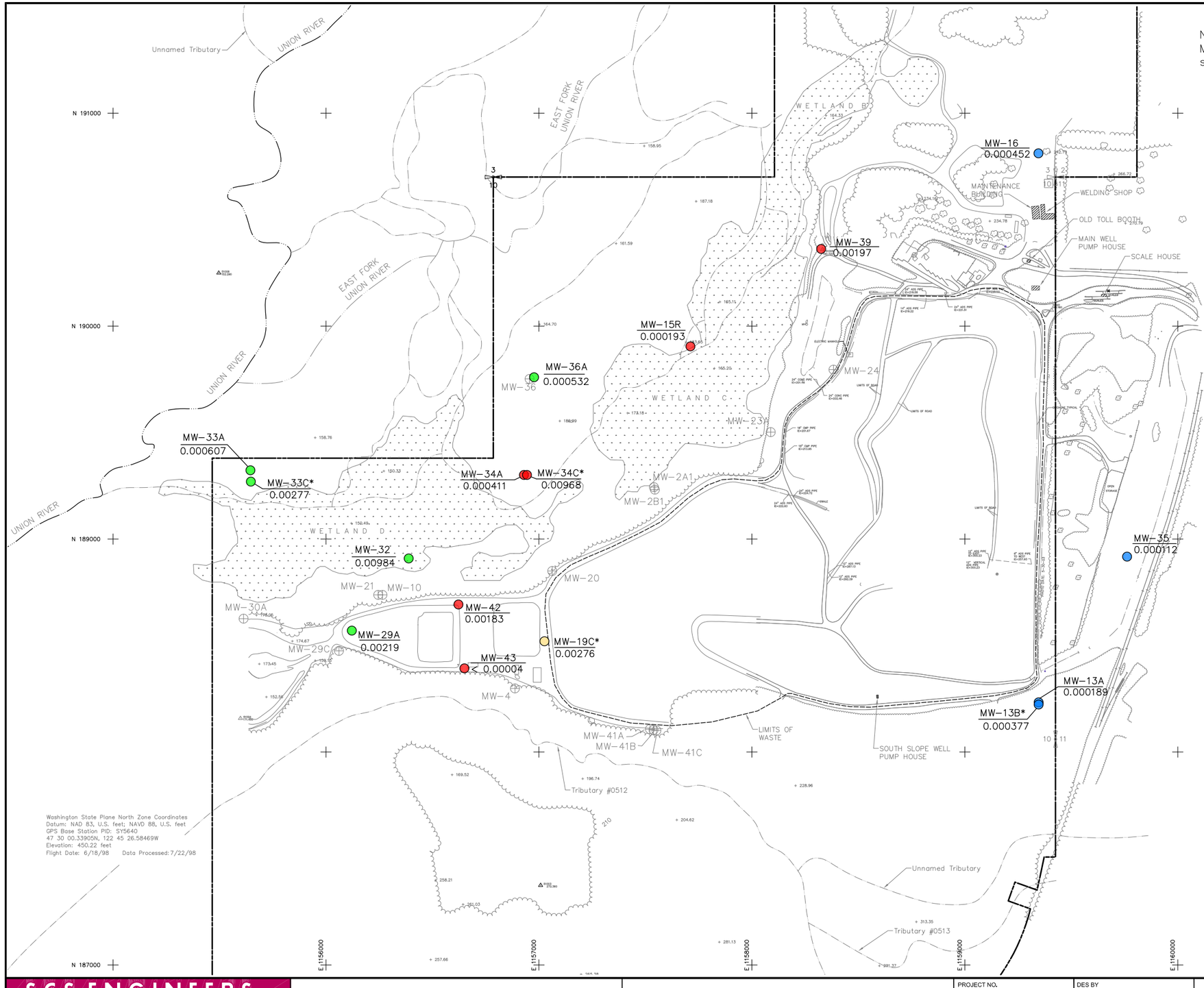
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	WATER LEVEL CONTOUR MAP NOVEMBER 2018	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 4B
CAD FILE FIGURE 4B	APP BY D.V.		

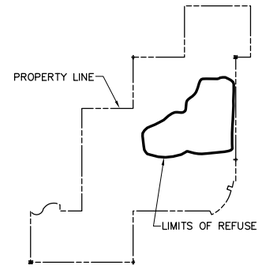
Figure 5. Historical Groundwater Elevations
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington



NOTES : Performance Well MW-19C and Downgradient Wells MW-29A, MW-33A, MW-33C and MW-36A are only sampled semi-annually and shown as NS when not sampled.



Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98



KEY MAP

LEGEND

MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-10	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-32 / 0.00984	SHALLOW MONITORING WELL ARSENIC, TOTAL (mg/L)
*	DEEP MONITORING WELL
———	PROPERTY LINE (ASSUMED)
NS	NOT SAMPLED

200 0 200 400
SCALE IN FEET

SCS ENGINEERS
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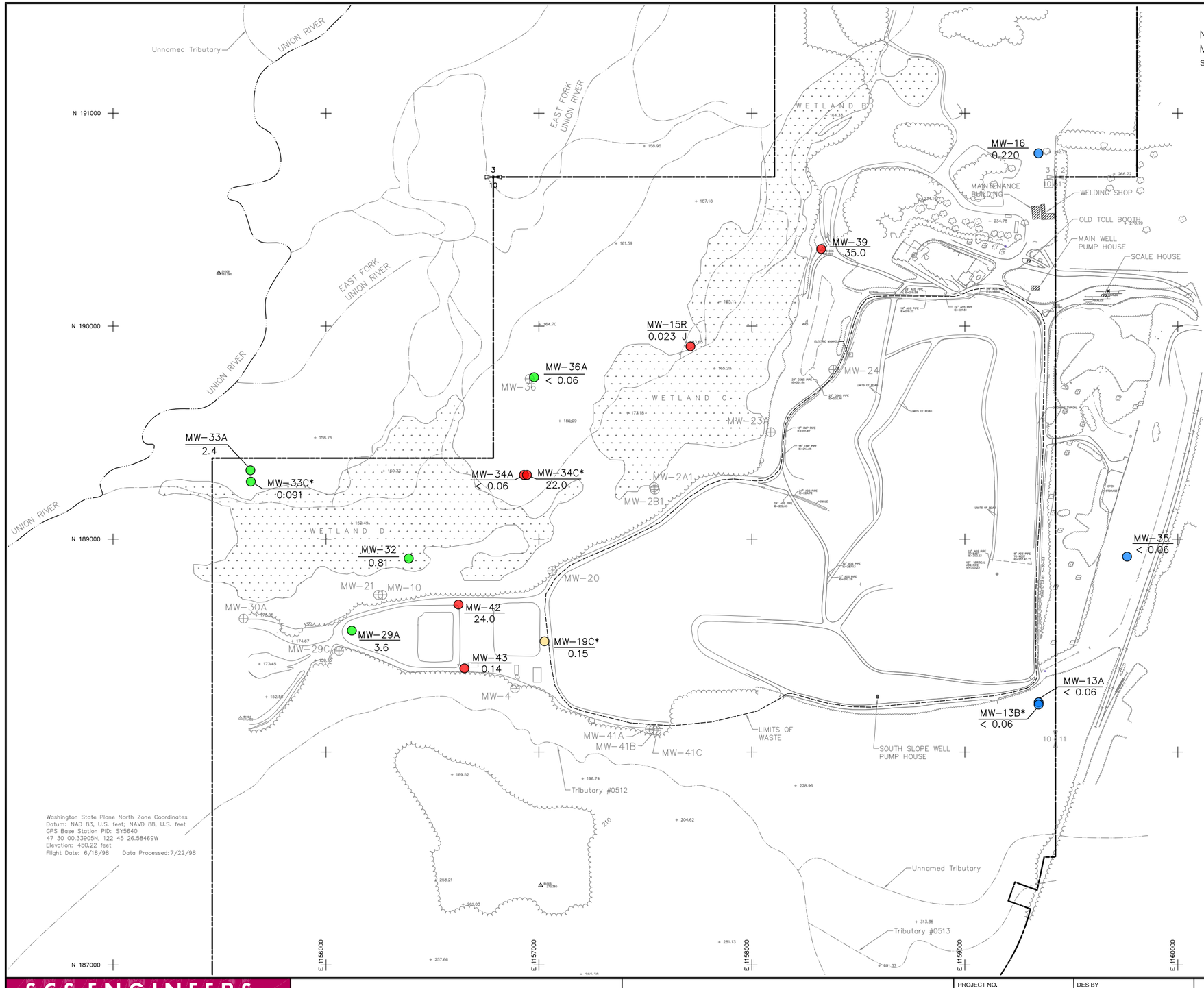
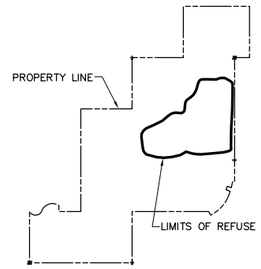
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	TOTAL ARSENIC CONCENTRATION MAP NOVEMBER 2018	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 6A
CAD FILE FIGURE 6A	APP BY G.H.		

NOTES : Performance Well MW-19C and Downgradient Wells MW-29A, MW-33A, MW-33C and MW-36A are only sampled semi-annually and shown as NS when not sampled.



Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98



KEY MAP

LEGEND

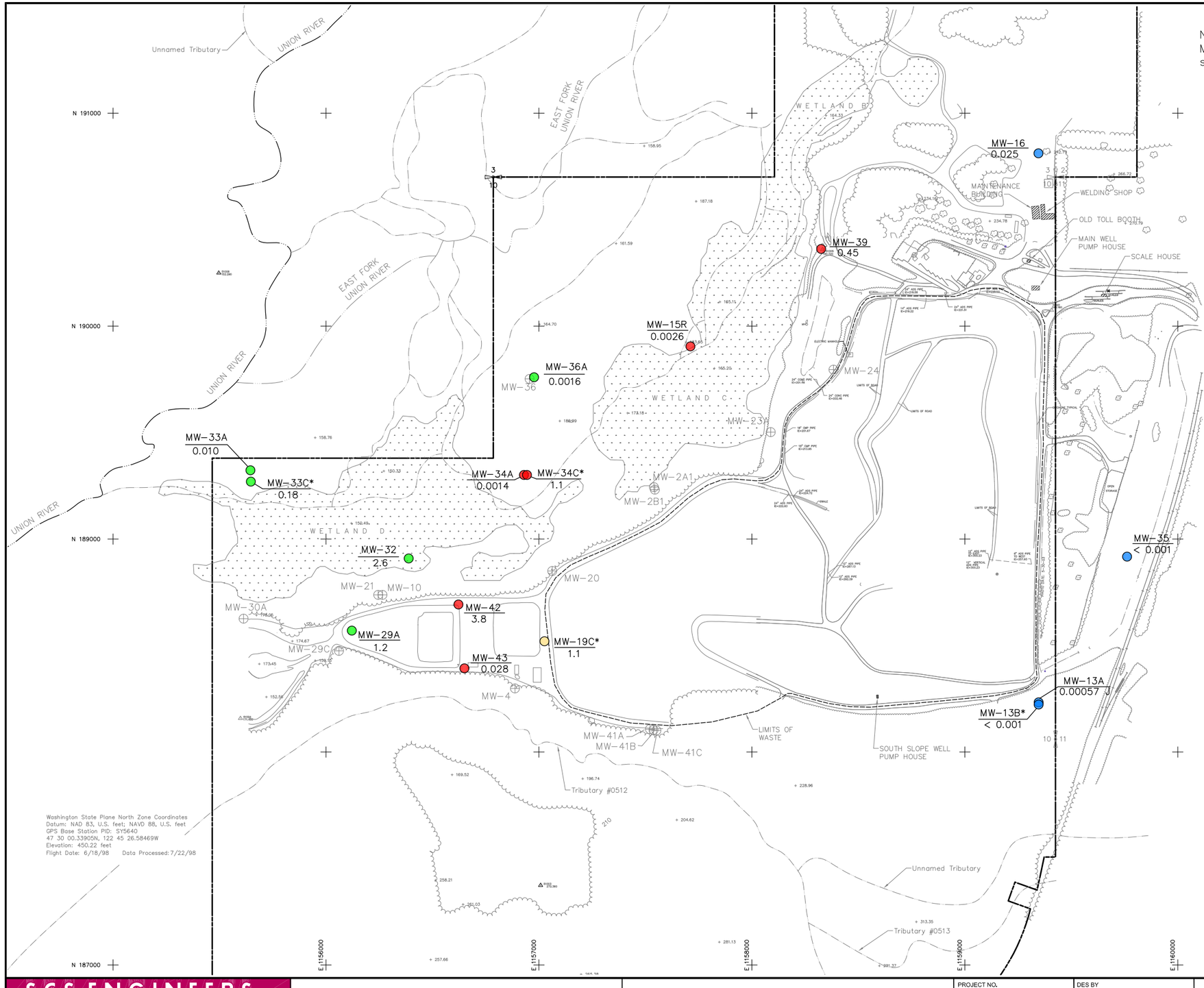
MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-10	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-32 / 0.81	SHALLOW MONITORING WELL / IRON, TOTAL (mg/L)
*	DEEP MONITORING WELL
————	PROPERTY LINE (ASSUMED)
B	COMPOUND WAS FOUND IN THE BLANK AND THE SAMPLE
NS	NOT SAMPLED

200 0 200 400
SCALE IN FEET

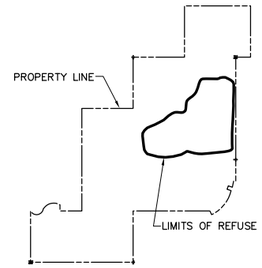
SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	TOTAL IRON CONCENTRATION MAP NOVEMBER 2018	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 6B
CAD FILE FIGURE 6B	APP BY G.H.		

NOTES : Performance Well MW-19C and Downgradient Wells MW-29A, MW-33A, MW-33C and MW-36A are only sampled semi-annually and shown as NS when not sampled.



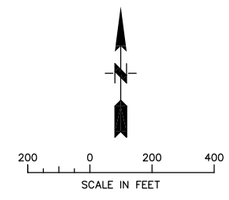
Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98



KEY MAP

LEGEND

MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-10	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-32 / 2.6	SHALLOW MONITORING WELL MANGANESE, TOTAL (mg/L)
*	DEEP MONITORING WELL
———	PROPERTY LINE (ASSUMED)
NS	NOT SAMPLED



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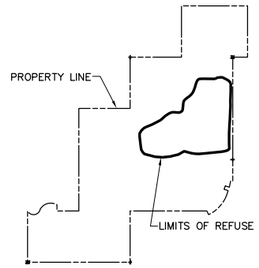
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	TOTAL MANGANESE CONCENTRATION MAP NOVEMBER 2018	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 6C
CAD FILE FIGURE 6C	APP BY G.H.		

NOTES : Performance Well MW-19C and Downgradient Wells MW-29A, MW-33A, MW-33C and MW-36A are only sampled semi-annually and shown as NS when not sampled.



KEY MAP

LEGEND

MW-35	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
MW-32	DOWNGRADIENT GROUNDWATER MONITORING WELL
MW-19C	PERFORMANCE GROUNDWATER MONITORING WELL
MW-43	COMPLIANCE GROUNDWATER MONITORING WELL
MW-10	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
MW-32 / 0.33	SHALLOW MONITORING WELL VINYL CHLORIDE, TOTAL (ug/L)
*	DEEP MONITORING WELL
———	PROPERTY LINE (ASSUMED)
NS	NOT SAMPLED

Washington State Plane North Zone Coordinates
Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
GPS Base Station PID: SY5640
47 30 00.33905N, 122 45 26.58469W
Elevation: 450.22 feet
Flight Date: 6/18/98 Data Processed: 7/22/98

200 0 200 400
SCALE IN FEET

SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.22	DES BY S.G.	VINYL CHLORIDE CONCENTRATION MAP NOVEMBER 2018	DATE FEBRUARY 2019
SCALE AS SHOWN	CHK BY D.V.	OLYMPIC VIEW SANITARY LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE 6D
CAD FILE FIGURE 6D	APP BY G.H.		

Figure 7. Leachate Generation (2007 - 2018)
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

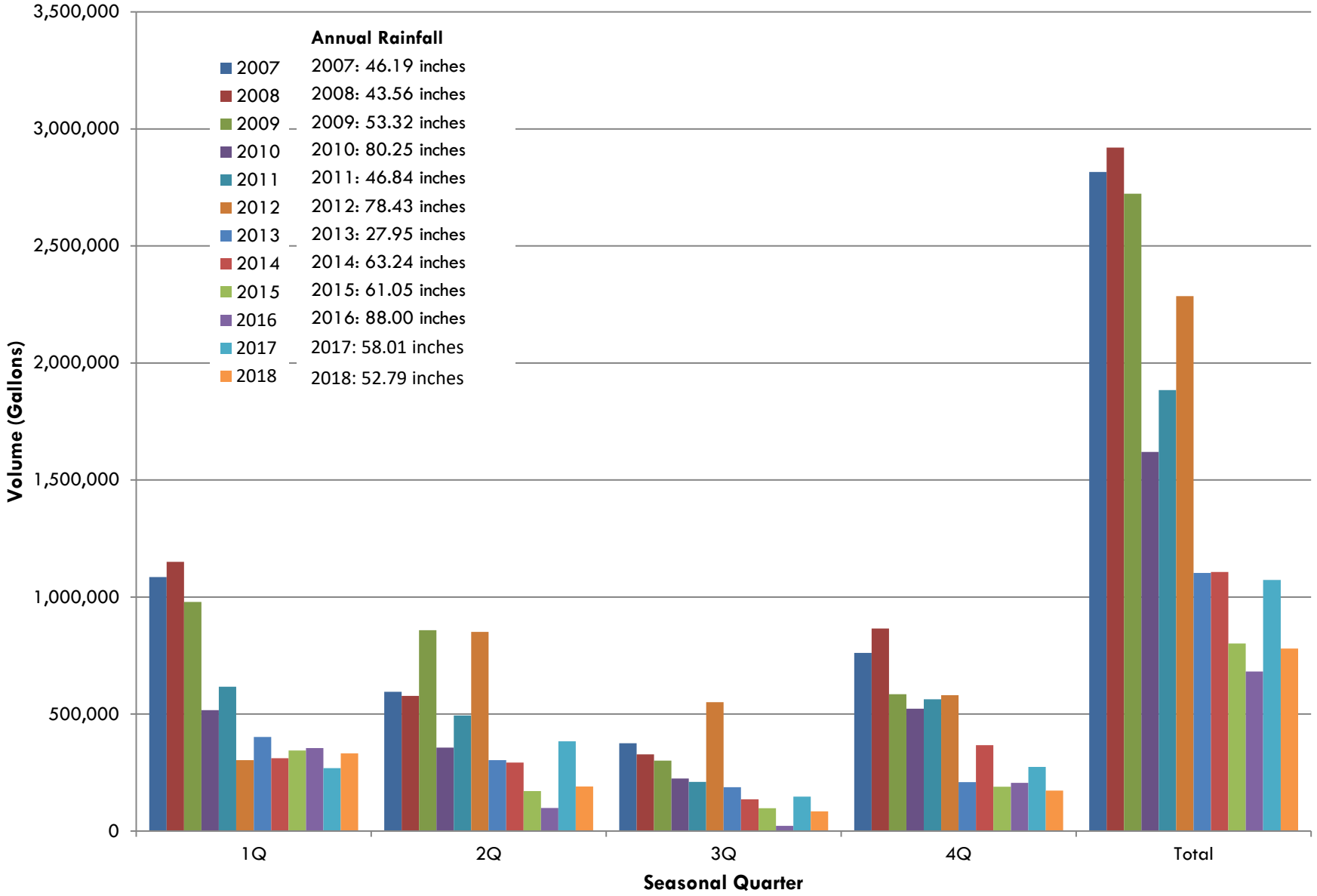
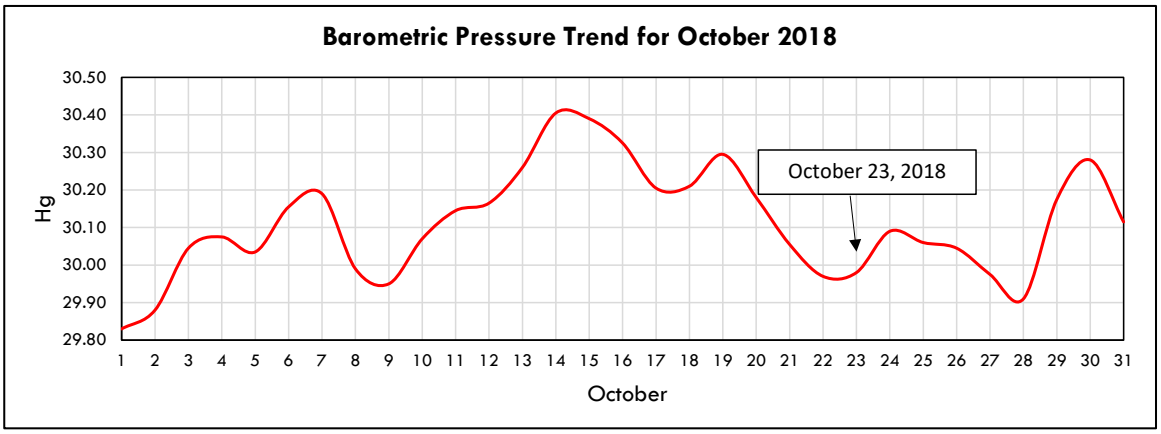
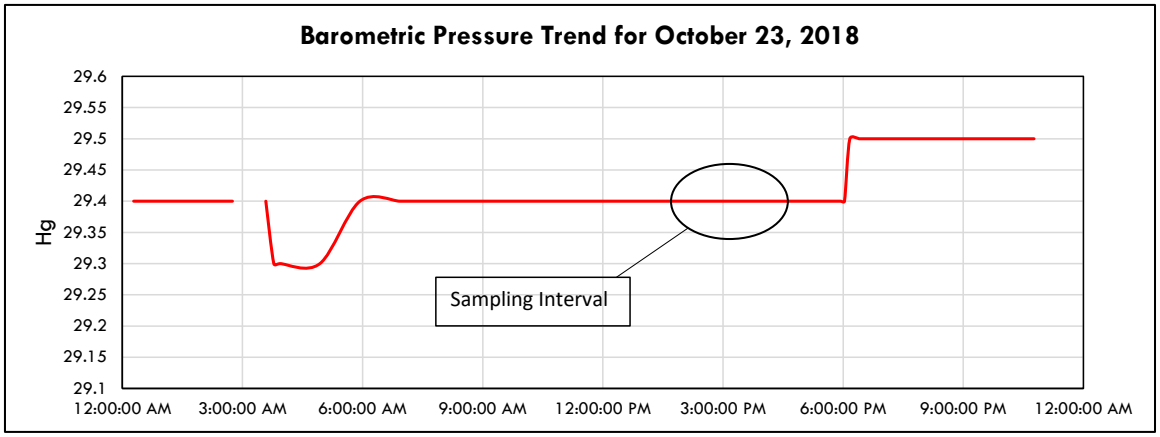


Figure 8. Barometric Pressure during LFG Migration Monitoring - October 2018
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington





Source: Bremerton National Station
Lat: 47.49 Long: 122.76 Elev: 436 ft-AMSL

Data Sources: https://www.wunderground.com/history/monthly/us/wa/bremerton/KPWT/date/2018-10

Appendix A

Fourth Quarter 2018 Field Documentation

Environmental Consultants
and Contractors

2405 140th Avenue, NE
Suite 107
Bellevue, WA 98005-1877

425 746-4600
FAX 425 746-6747
www.scsengineers.com

SCS ENGINEERS

November 15, 2018

File No. 04204027.21

Subject: **Fourth Quarter 2018 Compliance Monitoring Event**
Olympic View Sanitary Landfill, Kitsap County, Washington

Sampling Event Dates: November 12-14, 2018

Personnel: Sam Graber & Travis Berndahl

NOTES/SAMPLING DECODING:

- The gate code to access the site is: 72369
- This event served as an annual sampling event.
- The Appendix III, Leachate 3-year event was performed during this quarter at sample locations L-INF and OBWL-TD.
- Collected LP-LCD sample on 11/13/18. System pumped dry so the chloride, sulfate, alkalinity and TDS parameters were collected on 11/14/18.
- Dedicated pumps were used for purging and sampling all wells.
- Duplicate samples were collected at MW-19C (DUP 1) and MW-39 (DUP 2).
- A Solinst water level meter was used to record all water level elevations.
- The samples were sent to TestAmerica Denver for analysis at the close of each sampling day, except samples for low level arsenic which were retained until the end of the sampling event and provided to Analytical Resources, Inc. in Tukwila, Washington.

Sample Date	Location ID	Sample ID	Comments
11/12/18	MW-13B	1118-01	
11/12/18	MW-34C	1118-02	

Sample Date	Location ID	Sample ID	Comments
11/12/18	MW-13A	1118-03	
11/12/18	MW-34A	1118-04	
11/12/18	MW-36A	1118-05	
11/12/18	MW-35	1118-06	
11/12/18	MW-15R	1118-07	
11/12/18	MW-16	1118-08	
11/12/18	MW-19C	1118-09	
11/12/18	MW-19C	1118-10	Dup 1 collected
11/12/18	MW-39	1118-11	
11/12/18	MW-39	1118-12	Dup 2 collected
11/12/18	MW-29A	1118-13	
11/12/18	MW-42	1118-14	
11/13/18	LP-LCD	1118-15	
11/13/18	L-INF	1118-16	
11/13/18	OBWL-TD	1118-17	
11/14/18	MW-43	1118-18	
11/14/18	MW-32	1118-19	
11/14/18	MW-33A	1118-20	
11/14/18	MW-33C	1118-21	

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-13B (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1127	2:00			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment...Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump B-Peristaltic Pump C-QED Bladder Pump D-Bailer E-Piston Pump F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable B-Pressure C-Vacuum X-Other)

Sample Tube Type: D (A-Teflon B-Stainless Steel C-PVC D-Polypropylene X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 60.55 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/Min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1127	300	1st 6.91	1st 174	100		7.32	184.1	
1132		2nd 7.27	2nd 174	99		8.59	172.2	
1135		3rd 7.49	3rd 174	99		8.86	167.1	
1138		4th 7.56	4th 174	99		8.91	164.1	
1141		7.63	174	100		8.96	160.5	60.73
1144		7.64	174	99		8.88	160.4	
1147	↓	7.65	174	100	0.22	8.82	159.1	60.76
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow/GPM Units
11/12/18	7.65	174	100	0.22	8.82	159.1	60.76

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Gruber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-34C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1132	:28			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 42.51 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit 300 mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1132	300	1st 6.25	1st 225	11.73		4.60	305.6	
1137		2nd 6.37	2nd 226	11.82		1.70	304.4	
1140		3rd 6.42	3rd 226	11.72		1.81	302.0	
1143		4th 6.44	4th 226	11.68		2.04	300.5	
1146		6.46	231	11.59		1.82	299.0	
1149		6.47	237	11.43	2027	1.83	297.9	
1152		6.47	239	11.42	1918	1.80	296.0	42.48
1200	↓	6.47	240	11.42	1817	1.79	295.4	
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
11/12/18	6.47	240	11.42	1817	1.79	295.4	42.48

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: cloudy — Odor: — — Color: orange — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Partly Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): Orange tint. Extra purge to try and bring Turbidity down.

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndgh		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: EVSC

Site No.: ____

Sample Point: MW-13A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1038	120			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 46.99 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1038	350	1st	6.89	1st	1171		9.4		8.35	211.2	
1043		2nd	6.92	2nd	1170		9.5		8.61	209.0	
1046		3rd	6.95	3rd	1169		9.5		8.56	208.2	
1049		4th	7.00	4th	1169		9.5		8.51	207.7	
1052			7.01		1169		9.5		8.48	208.1	
1055			7.02		1169		9.5		8.46	208.4	
1058			7.02		1169		9.5	0.35	8.45	207.9	47.03
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow Rate / Units
11 12 18	7.02	1169	9.5	0.35	8.45	207.9	470.8

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: partly cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Crabe		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-34A

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1032	:26			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N 0.45 µ or _____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	40.72 (ft)	(ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

	Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1st	10:46	300	5.27	1.75	11.98		4.02	318.2	
2nd	10:45	↓	5.57	1.78	12.02		1.28	315.8	
3rd	10:48		5.71	1.80	12.02		1.05	312.7	
4th	10:51		5.75	1.80	12.02		0.96	312.1	
	10:54		5.77	1.80	12.02		0.90	312.1	
	10:57		5.79	1.79	12.03	1.21	0.88	310.1	
	11:00	↓	5.80	1.78	12.09	1.20	0.92	309.9	40.73
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2	+/- 3%	–	–	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units Ft
11 12 18	5.80	1.78	12.09	1.20	0.92	309.9	40.73

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: – Color: – Other: –

Weather Conditions (required daily, or as conditions change): Direction/Speed: – Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl	[signature]	SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.: ____

Sample Point: MW-36A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1236	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 32.16 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1236	350	1st 6.45	1st 1.35	9.57		9.51	227.0	
1241	1	2nd 6.11	2nd 1.35	9.52		4.25	236.9	
1244		3rd 6.05	3rd 1.35	9.53		4.04	240.1	
1247		4th 6.02	4th 1.34	9.52		3.99	242.5	
1250		6.00	1.34	9.53		3.93	245.4	
1253		5.99	1.33	9.56		3.90	247.7	
1256	↓	5.98	1.35	9.57	0.0	3.95	250.5	33.35
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft
11/12/18	5.98	1.35	9.57	0.0	3.95	250.5	33.35

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: — — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Partly Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

MW-36 DTW = 32.23

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS
____/____/____			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: WSL

Site No.: ____ Sample Point: MW-35 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1237	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 72.63 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 04 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

	Sample Time (2400 Hr Clock)	Rate/Unit mL/Min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1st	1237	300	7.53	1164	10.8		5.45	181.5	
2nd	1242		7.39	1164	10.3		6.38	180.4	
3rd	1245		7.40	1164	10.3		6.43	179.9	
4th	1248		7.40	1164	10.3		6.43	179.5	
	1251		7.40	1164	10.3		6.43	178.8	
	1254		7.40	1164	10.3		6.43	175.9	
	1257	↓	7.40	1164	10.3	.065	6.43	175.2	72.75

Suggested range for 3 consec. readings or note Permit/State requirements: | +/- 0.2 | +/- 3% | -- | -- | +/- 10% | +/- 25 mV | Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow ORP Units
11 12 18	7.40	1164	10.3	.065	6.43	175.2	72.75

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

trace amount of dark particulates in sample

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-15R (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1333	0:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 19.63 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1333	350	1st	6.53	1st	176	1st	10.16		4.75	260.0	
1338		2nd	6.38	2nd	169	2nd	10.08		1.61	269.3	
1341		3rd	6.46	3rd	170	3rd	10.06		1.51	267.3	
1344		4th	6.41	4th	170	4th	10.05		1.47	266.3	
1347			6.42		169		10.04		1.43	264.5	
1350			6.41		169		10.05		1.40	263.4	
1353	↓		6.42		171		10.05	0.0	1.50	261.8	19.68
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft
11 12 18	6.42	171	10.05	0.0	1.50	261.8	19.68

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: clear — Odor: — — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.: | | | | |

Sample Point: MW-16 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ________

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	13:40	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N | 0.45 μ or ____ μ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other: ________

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ________

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ________

WELL DATA

Well Elevation (at TOC): ________ (ft/msl)

Depth to Water (DTW) (from TOC): 60.93 (ft)

Groundwater Elevation (site datum, from TOC): ________ (ft/msl)

Total Well Depth (from TOC): ________ (ft)

Stick Up (from ground elevation): ________ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	(Rate) Unit ML/MIN		pH (std)		Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:40	300	1st	7.45	1st	113	9.9		6.86	184.7	
13:45	↓	2nd	6.81	2nd	112	9.7		5.31	190.6	
13:48	↓	3rd	6.37	3rd	112	9.6		5.98	193.2	
13:51	↓	4th	6.36	4th	112	9.6		5.99	194.7	
13:54	↓		6.35		112	9.6		6.00	196.2	
13:57	↓		6.34		112	9.6		6.07	197.6	
14:00	↓		6.34		112	9.6	1.68	6.04	198.8	61.02
:										
:										
:										
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. **If more fields above are needed, use separate sheet or form.**

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units
11 12 18	6.34	112	9.6	1.68	6.04	198.8	61.02

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

FIELD COMMENTS

Sample Appearance: Clear   Odor: None   Color: —   Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: —   Outlook: Sunny   Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ________

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Graber	[signature]	SCS
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OU5L

Site No.:

Sample Point: MW-19C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1428	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or _____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: B (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	35.21 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
(ft)	(ft)	02 (in)	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1428	200	6.81 (1st)	166 (1st)	11.06		4.15	254.0	
1433		6.55 (2nd)	171 (2nd)	10.36		2.14	221.9	
1436		6.58 (3rd)	170 (3rd)	10.37		0.51	197.7	
1439		6.58 (4th)	169 (4th)	10.36		0.41	185.0	
1442		6.60	169	10.46		0.34	158.8	
1445		6.61	169	10.37		0.31	140.6	
1448	↓	6.62	170	10.32	0.19	0.31	124.5	35.20
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
11/12/18	6.62	170	10.32	0.19	0.31	124.5	35.20

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: clear — Odor: — — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

*DUP1 taken at 1455

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.: ____

Sample Point: MW-39 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1442	120			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 22.59 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ML/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1412	350	1st 6.27	1st 2664	11.7		0.67	-177	
1417		2nd 6.20	2nd 2655	11.5		0.31	-327	
1420		3rd 6.20	3rd 2655	11.5		0.25	-362	
1423		4th 6.19	4th 2655	11.5		0.23	-380	
1426		6.18	2665	11.4	1110	0.21	-394	
1429		6.18	2665	11.4	1125	0.24	-403	
1502	↓	6.17	2667	11.4	1120	0.38	-394	22.75
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ~~Final DTW~~ Units
11 12 18	6.19	2667	11.4	1120	0.38	-394	22.75

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: none — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Dup 2 collected @ 1510

Turbidity reading while filling bottles = 5.73. Turned psi down.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Graber		SCS
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-29A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1549	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 14.61 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (L/Min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1549	300	1st 6.64	1st 86	11.12		6.34	168.2	
1554		2nd 6.25	2nd 89	10.83		0.95	73.7	
1557		3rd 6.19	3rd 90	10.80		0.61	64.6	
1600		4th 6.17	4th 91	10.79		0.51	61.1	
1603		6.14	91	10.78		0.44	58.8	
1606		6.12	91	10.77		0.39	57.3	
1609	↓	6.10	90	10.76	0.99	0.37	56.8	14.13
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
11/12/18	6.10	90	10.76	0.99	0.37	56.8	14.13

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Cloudy — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-42

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1630	126			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other:

Filter Type: A — A-In-line Disposable; B-Pressure; C-Vacuum; X-Other

Sample Tube Type: D — A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 27.90 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/m.	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1630	300	5.96	523	11.94		1.80	123.0	
1635		6.38	528	11.95		0.46	20.4	
1638		6.44	530	11.95		0.38	4.2	
1641		6.49	531	11.95		0.33	-9.5	
1644		6.50	532	11.95		0.28	-14.6	
1647		6.52	532	11.93		0.27	-19.6	
1650	↓	6.52	531	11.94	0.19	0.24	-22.9	27.92
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units FT.
11/12/18	6.52	531	11.94	0.19	0.24	-22.9	27.92

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Clear Sky — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: ~~LP-LCR~~ OSL

Site No.:

Sample Point: LP-LCD (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 13 18	9:30				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment... Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 μ or ___ μ (circle or fill in)

Purging Device ___ A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device ___

X-Other:

Filter Type: ___ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ___

Sample Tube Type: ___ A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ___

WELL DATA

Well Elevation (at TOC) ___ (ft/msl) Depth to Water (DTW) (from TOC) ___ (ft) Groundwater Elevation (site datum, from TOC) ___ (ft/msl)

Total Well Depth (from TOC) ___ (ft) Stick Up (from ground elevation) ___ (ft) Casing ID ___ (in) Casing Material ___

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:30		1st 7.36	1st 3586	9.0	6.05	6.98	275.7	
		2nd	2nd					
		3rd	3rd					
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ___ Units ___
11 13 18	7.36	3586	9.0	6.05	6.98	275.7	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: off white / yellow Odor: None Color: off white / yellow Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: – Outlook: cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Purged system Dry. Collected Cl, SO4, Alk, TDS + NO3 bottle on 11/14/18 @ 1145

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/13/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: L-INF (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/13/19	11:15				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: ____ A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: F

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: ____ — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): ____ (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

	Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1st	11:15		7.22	6578	13.56	10.02	7.04	229.5	
2nd	:								
3rd	:								
4th	:								
	:								
	:								
	:								
	:								
	:								
	:								
	:								
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ~~Temp~~ Units
11/13/19	7.22	6578	13.56	10.02	7.04	229.5	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: offwhite/yellow — Odor: like laundry. — Color: offwhite/yellow — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: cloudy — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

collected App I & II parameters in stagnant water. App III parameters in flowing water.
Water started to flow while sampling

Sample collected at pond influent pipe on North end.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/13/19	Sam Grater		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OSC

Site No.:

Sample Point: OBWLTD (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/13/18	13:15				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: Y or N

Purging Device: B

Sampling Device: B

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: Y or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): ____ (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:15	1st	6.94	1243	10.43	2.61	6.30	242.0	
	2nd							
	3rd							
	4th							
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____
11/13/18	6.94	1243	10.43	2.61	6.30	242.0	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Used peristaltic pump to collect sample from southern larger sump.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/13/18	Sam Grabo		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: [illegible]

Site No.:

Sample Point: MW-43 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/14/18	9:26	:27			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 25.98 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 6 2 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: Motion	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:33	350	1st 4.80 M	1st 512	1070		1.53	331	
9:43		2nd 4.67	2nd 511	1071		1.23	3274	
9:47		3rd 4.72	3rd 511	1071		1.20	3269	
9:50		4th 4.77	4th 511	1071		1.18	3258	
9:53	↓	4.81	511	1069	0.44	1.15	3236	26.11
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units
11/14/18	4.81	511	1069	0.44	1.15	3236	26.11

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: clear — Odor: none — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: rainy — Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

orange particulates early in purge

Recalibrated pH probe on YSI. Values remained the same. Meter calibrated properly.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-32 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 14 18	1040	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	20.1	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate (Unit: mL/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1040	400	1st 5.80	1st 336	11.53		3.24	310.1	
1045		2nd 6.12	2nd 353	11.64		0.67	234.4	
1048		3rd 6.24	3rd 354	11.65		0.61	171.2	
1051		4th 6.34	4th 355	11.66	0.23	0.52	120.4	
1054		6.43	355	11.67		0.44	(2) 95.6	
1057		6.48	356	11.68		0.38	69.8	
1100	V	6.51	356	11.69	0.21	0.36	63.4	2.11
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow / ORP Units
11 14 18	6.51	356	11.68	0.21	0.36	63.4	2.11

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: none — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: rainy — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: USL

Site No.: ____ Sample Point: MW-33A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 14 18	12:40	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 56.0 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (L/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:40	400	1st 6.92	1st 1141	10.06		1.77	213.5	
12:45		2nd 6.86	2nd 1140	9.95		0.87	214.7	
12:48		3rd 6.75	3rd 1141	9.75		0.75	212.8	
12:51		4th 6.74	4th 1140	9.67	8.10	0.66	211.8	
12:54		6.72	1140	9.57		0.57	209.5	9.51
12:57		6.71	1141	9.53	7.22	0.53	207.3	
13:00	↓	6.70	1141	9.51	6.17	0.51	205.6	9.90
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ~~Time~~ / DO Units
11 14 18	6.70	1141	9.51	6.17	0.51	205.6	9.90

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: overcast Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Gruber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-33C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 14 18	1328	120			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other:

Filter Type: 4 (A-In-line Disposable; B-Pressure; C-Vacuum; X-Other)

Sample Tube Type: D (A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 278 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (Min.)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1328	400	1st 6.67	1st 1.163	9.09		3.77	1976	
1333		2nd 7.06	2nd 1.163	9.03		0.64	1620	
1336		3rd 7.18	3rd 1.163	9.02		0.42	1256	
1339		4th 7.27	4th 1.162	9.01		0.33	876	
1342		7.35	1.163	9.01		0.31	597	
1345		7.41	1.163	9.01		0.29	364	
1348	V	7.47	1.162	9.00	0.71	0.25	181	2.90
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units
11 14 18	7.47	1.162	9.00	0.71	0.25	181	2.90

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: none — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Overcast — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Gralzer		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	~~11/5/18~~	11/14/18				
Time	830					
Weather (sky or precip, temp)	rainy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	(1000, 10, 0.2) 800, 100, 20, <0.1	
Pre-Cal Reading	1405	4.19	6.92	9.00		
Post Cal Reading	1413	4.01	7.00	8.50	964.2, 9.42, 0.18	
Descrepancy	No					
Calib. Successful?	YES					
Calibration by						
Instrument Type, ID	MP20 / (YSI 556)				(MicoTPW) / HACH2000	
Calibration Location	BUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	11/13/18					
Time	830					
Weather (sky or precip, temp)	partly cloudy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1431	4.09	6.94	9.32		
Post Cal Reading	1413	4.01	7.00	8.50	992.2, 10.53, 0.24	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEB					
Instrument Type, ID	MP20 / (YSI 556)				MicoTPW / HACH2000	
Calibration Location	OUL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	11/12/13					
Time	910					
Weather (sky or precip, temp)	partly cloudy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	~~1000, 10, 0.2~~ 800, 100, 20, <0.1	
Pre-Cal Reading	1338	4.01	6.95		~~802, 96.3, 16.1, 0.17~~	
Post Cal Reading	1413	3.98	7.00	8.50	802, 96.3, 16.1, 0.17	
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	OSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	11/12/18					
Time	910					
Weather (sky or precip, temp)	partly cloudy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1375	3.90	6.91			
Post Cal Reading	1413	4.01	7.00	8.50	1010, 10.19, .02	
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	SEB					
Instrument Type, ID	MP20 / YSI 556 rental				MicoTPW / HACH2000	
Calibration Location	OUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

Environmental Consultants
and Contractors

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Bellevue, WA 98005-1877

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www.scsengineers.com

SCS ENGINEERS

February 22, 2018
File No. 04204027.21

Subject: **First Quarter 2018 Compliance Monitoring Event**
Olympic View Sanitary Landfill, Kitsap County, Washington

Sampling Event Dates: February 20–21, 2018
Personnel: Sam Graber

NOTES/SAMPLING DECODING:

- SCS sampled the revised list of wells approved by Ecology in their January 2017 Periodic Review report.
- The gate code to access the site is: 72369
- Dedicated pumps were used for purging and sampling all wells.
- Duplicate samples were collected at MW-39 (DUP 1) and MW-42 (DUP 2).
- A Solinst water level meter was used to record all water level elevations.
- The samples were sent to TestAmerica Denver for analysis at the close of each sampling day, except samples for low level arsenic which were retained until the end of the sampling event and provided to Analytical Resources, Inc. in Tukwila, Washington.

Sample Date	Location ID	Sample ID	Comments
2/20/18	MW-35	0218-01	
2/20/18	MW-13A	0218-02	
2/20/18	MW-13B	0218-03	
2/20/18	MW-16	0218-04	
2/20/18	MW-39	0218-05	
2/20/18	MW-39	0218-06	Dup 1
2/21/18	MW-34A	0218-07	
2/21/18	MW-15R	0218-08	
2/21/18	MW-34C	0218-09	
2/21/18	MW-32	0218-10	
2/21/18	MW-42	0218-11	
2/21/18	MW-42	0218-12	Dup 2
2/21/18	MW-43	0218-13	
2/21/18	LP-LCD	0218-14	

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUGL

Site No.:

Sample Point: MW-35 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/20/18	1018	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C
Sampling Device: C
X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)
Depth to Water (DTW) (from TOC): 9011 (ft)
Groundwater Elevation (site datum, from TOC): ____ (ft/msl)
Total Well Depth (from TOC): ____ (ft)
Stick Up (from ground elevation): ____ (ft)
Casing ID: ____ (in)
Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1018	300	1st 6.09	1st 1161	9.86		4.91	338.1	
1023		2nd 6.02	2nd 1161	9.80		4.87	335.2	
1026		3rd 6.09	3rd 1161	9.66		4.78	332.2	
1029		4th 6.93	4th 1161	9.58		4.65	328.1	
1032		6.96	1162	9.54		4.60	326.3	
1035		6.97	1161	9.52		4.58	326.1	
1038		6.93	1161	9.52	1.82	4.65	326.1	

Suggested range for 3 consec. readings or note Permit/State requirements: | +/- 0.2 | +/- 3% | -- | -- | +/- 10% | +/- 25 mV | Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Turb Units
02/20/18	6.93	1161	9.52	1.82	4.65	326.1	10.11

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: None — Color: None — Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: --- — Outlook: Snow — Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/20/18	Sam Bauer		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OSL

Site No.: ____ Sample Point: MW-13A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
01 20 18	1123				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 44.13 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (ml/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1123	300	1st 6.87	1st 1170	9.07		4.59	308.6	
1128	1	2nd 6.85	2nd 1171	8.99		5.96	312.0	
1131	1	3rd 6.91	3rd 1171	9.05		4.76	316.6	
1134	1	4th 6.90	4th 1171	9.06		4.71	315.2	
1137	1	6.89	1171	9.03		4.65	313.9	
1140	1	6.88	1170	9.04		4.61	312.3	
1143	1	6.87	1170	9.07	1.71	4.59	308.6	44.13
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
01 20 18	6.87	1170	9.07	1.71	4.59	308.6	44.13

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: None Color: None Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation (Y) or N

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
01/20/18	Sam Gator	[signature]	SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: QSC

Site No.:

Sample Point: MW-13B (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/20/18	1220	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 56.91 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/Min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1215	200	1st 6.89	1174	8.91		5.12	301.6	
1220		2nd 7.04	1173	8.72		5.03	294.6	
1223		3rd 7.04	1173	8.83		4.96	295.6	
1226		4th 7.03	1172	8.91		4.92	296.3	
1229		7.05	1171	8.87		4.92	296.6	
1232		7.05	1170	8.82		4.91	295.2	57.20
1235	V	7.05	1170	8.85		4.88	294.4	

Suggested range for 3 consec. readings or note Permit/State requirements: | +/- 0.2 | +/- 3% | – | – | +/- 10% | +/- 25 mV | Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/20/18	7.35	1170	8.82	1.74	4.90	294	57.20

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: None — Color: None — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny — Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/20/18	Sam Crater		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-16 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/20/18	1322	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — Sampling Device: C — X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	55.31	

Total Well Depth (from TOC) (ft) — Stick Up (from ground elevation) (ft) — Casing ID (in) — Casing Material

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (L/Min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1322	500	1st 6.71	1st 1014	8.50		6.34	305.0	
1327	1	2nd 6.51	2nd 978	8.67		5.11	305.8	
1330		3rd 6.24	3rd 0.94	8.82		4.64	306.2	
1333		4th 6.17	4th 943	8.85		4.57	306.1	
1336		6.15	914	8.86		4.58	306.8	
1339		6.12	914	8.86		4.54	307.3	
1342	V	6.11	915	8.86	1.50	4.60	308.5	55.55
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/20/18	6.11	915	8.86	1.50	4.60	308.5	55.32

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: none — Color: none — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Snowy — Precipitation (Y) or N

Specific Comments (including purge/well volume calculations if required):

Brown Stringy like particulates in Sample

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/20/18	Sam Graber		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-39 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/20/18	1412	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C
Sampling Device: C
X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)
Depth to Water (DTW) (from TOC): 18.56 (ft)
Groundwater Elevation (site datum, from TOC): ____ (ft/msl)
Total Well Depth (from TOC): ____ (ft)
Stick Up (from ground elevation): ____ (ft)
Casing ID: ____ (in)
Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate (Unit: mL/min)		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1418	300	1st	6.05	1st	279	10.00		2.50	-035	
1433		2nd	6.29	2nd	237	9.83		0.49	-303	
1436		3rd	6.28	3rd	252	9.84		0.47	-253	
1439		4th	6.28	4th	247	9.85		0.44	-215	
1442			6.27		252	9.82		0.37	-226	
1445			6.26		256	9.80		0.30	-234	
1448			6.26		260	9.40	3.60	0.24	-273	
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/20/18	6.26	260	9.40	3.60	0.24	-273	18.56

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: None Color: None Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Snowy Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

Dup 1 taken at 1455

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/20/18	Sam Crater		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OASL ~~MW-34A~~

Site No.:

Sample Point: MW-34A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
022118	945	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 μ or ____ μ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)
Depth to Water (DTW) (from TOC): 38.82 (ft)
Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)
Stick Up (from ground elevation): ____ (ft)
Casing ID: ____ (in)
Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

	Sample Time (2400 Hr Clock)	Rate/Unit (ml/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1st	9:45	340	5.64	1119	11.95		3.61	31.58	
2nd	9:50		5.69	1122	11.62		3.34	32.58	
3rd	9:53		5.68	1123	11.66		3.25	32.94	
4th	9:56		5.68	1123	11.66		3.24	33.25	
	9:59		5.68	1123	11.66		3.23	33.41	
	10:02		5.69	1123	11.67		3.18	33.51	38.75
	10:05		5.69	1124	11.65	2.23	3.14	33.65	
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
022118	5.69	1124	11.65	2.23	3.14	33.65	38.82

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: clear　Odor: none　Color: —　Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: —　Outlook: clear　Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: ASL

Site No.: ____ Sample Point: MW-15R (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/21/19	10:50	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: [Y] or [N]

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: [C] or [N] [0.45 µ] or [____] µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 18.20 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:50	350 1st	6.27 1st	1.135 1st	4.70		5.80	312.3	
10:55	2nd	6.31 2nd	1.156 2nd	9.78		2.11	313.6	
11:00	3rd	6.44 3rd	1.157 3rd	4.84		0.86	314.5	
11:01	4th	6.46 4th	1.156 4th	9.89		0.66	316.2	
11:04		6.45	1.154	9.83		0.61	317.9	
11:07		6.45	1.153	9.89		0.57	318.5	
11:10	V	6.45	1.154	9.90	2.31	0.58	319.6	
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ORP Units
02/21/19	6.45	1.154	9.90	2.31	0.58	319.6	1820

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: None Color: None Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: Clear Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

* Tree down in path to well *

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/19	Sam Graber		SCS
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: DUSL

Site No.:

Sample Point: MW-34C

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/21/18	1135	:30			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

X-Other:

A-Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

Filter Device: (Y) or N — 0.45 µ or _____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable; B-Pressure; C-Vacuum; X-Other

Sample Tube Type: D — A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 40.58 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: (in)

Casing Material:

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1113	340	1st	6.51	1st	1214		11.24		7.82	307.7	
1140		2nd	6.53	2nd	1225		11.18		4.89	268.8	
1143		3rd	6.56	3rd	1226		12.02		2.06	227.4	
1146		4th	6.59	4th	1227		12.20		0.40	191.8	
1149			6.62		1226		12.38		0.24	144.1	
1152			6.66		1226		13.01	1112	0.17	90.8	
1155			6.67		1226		12.74		0.19	63.1	
1159			6.69		1224		12.74		0.17	58.0	
1202			6.69		1225		12.74		0.64	71.4	
1205			6.69		1225		12.58	2761	0.46	70.1	
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/21/18	6.69	1225	12.58	2760	0.46	70.1	40.58

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: orange Odor: none Color: orange Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Clear Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

orange particulates in sample.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/18	Sam Grabo		SLS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSC

Site No.:

Sample Point: MW-32

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/21/18	1245	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: (C) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 107 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/Min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1245	350	1st 6.37	1st 1253	11.11		6.90	251.5	
1250		2nd 6.67	2nd 1258	11.36		0.50	157.8	
1253		3rd 6.81	3rd 1258	11.40		0.24	153.7	
1256		4th 6.84	4th 1257	11.40		0.21	134.2	
1259		6.86	1260	11.41		0.18	116.2	
1302		6.87	1259	11.42		0.16	98.6	
1305	↓	6.88	1258	11.43	2.41	0.15	91.5	
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/21/18	6.88	1258	11.43	2.41	0.15	91.5	107

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: none — Color: none — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Cloudy — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-42

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/21/18	1335	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 26.86 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: (in)

Casing Material:

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1335	300	1st	6.43	1st	4994		11.62		2.75	2.73	
1340		2nd	6.55	2nd	4996		11.68		0.86	-1.28	
1343		3rd	6.63	3rd	5002		11.77		0.22	-5.93	
1346		4th	6.63	4th	5010		11.73		0.15	-6.29	
1349			6.63		4998		11.75		0.14	-6.52	
1352			6.62		4997		11.79		0.12	-6.68	
1355	V		6.62		4996		11.79	3.10	0.10	-6.88	
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/21/18	6.62	4996	11.79	3.10	0.10	-6.88	26.96

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: none — Color: none — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Dup 2 taken at 1415

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.: ____ Sample Point: MW-43 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/21/18	1440	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 23.76 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1410	350 1st	7.18 1st	3.19 1st	17.73		2.95	298	
1415	2nd	6.10 2nd	3.11 2nd	17.87		2.13	902	
1418	3rd	3rd	3.11 3rd	17.83		2.18	1207	
1421	4th	5.77 4th	3.11 4th	17.88		2.20	1443	
1424		5.73	3.11	17.86		2.22	1536	
1427		5.68	3.11	17.82		2.24	1628	
1500	4	5.63	3.11	17.83	4.49	2.27	1305	
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units
02/21/18	5.63	3.11	17.83	4.49	2.27	1305	23.76

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: none Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/18	Sam Graber	[signature]	SES
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: DUSL

Site No.:

Sample Point: LP-LCD

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
02/21/18	0930				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
0930	1st	6.96 1st	3190 1st	4.41	1.74	4.77	300.6	
	2nd	2nd	2nd					
	3rd	3rd	3rd					
	4th	4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
02/21/18	6.96	3190	4.41	1.74	4.77	300.6	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Light yellow Odor: None Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: Clear Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
2/21/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date		2/20/18				
Time		1400				
Weather (sky or precip, temp)		Sunny				
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1423	4.30	6.97	8.91		
Post Cal Reading	1413	4.01	7.00	9.50	716, 96.9, 21.3, 0.09	
Descrepancy		No				
Calib. Successful?		Yes				
Calibration by		SEB				
Instrument Type, ID		MP20 / YSI 556			MicoTPW / HACH2000	
Calibration Location		OMSL				

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	2/21/18					
Time	800					
Weather (sky or precip, temp)	clear shirt					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1436	4.34	6.70	8.32		
Post Cal Reading	1413	4.01	7.00		732, 97.1, 22.1, 1.20	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	OUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

Environmental Consultants
and Contractors

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Bellevue, WA 98005-1877

425 746-4600
FAX 425 746-6747
www.scsengineers.com

SCS ENGINEERS

May 24, 2018

File No. 04204027.21

Subject: **Second Quarter 2018 Compliance Monitoring Event**
Olympic View Sanitary Landfill, Kitsap County, Washington

Sampling Event Dates: May 15-17, 2018

Personnel: Sam Graber & Travis Berndahl

NOTES/SAMPLING DECODING:

- SCS sampled the revised list of wells approved by Ecology in their January 2017 Periodic Review report.
- The gate code to access the site is: 72369
- The Appendix III, Groundwater 3-year event was performed during this quarter at wells MW-32 and MW-19C.
- Total Arsenic was added to the LP-LCD sample this quarter.
- L-INF was only sampled for Total Arsenic during this quarter.
- Dedicated pumps were used for purging and sampling all wells.
- Duplicate samples were collected at MW-34A (DUP 1) and MW-43 (DUP 2).
- A Solinst water level meter was used to record all water level elevations.
- The samples were sent to TestAmerica Denver for analysis at the close of each sampling day, except samples for low level arsenic which were retained until the end of the sampling event and provided to Analytical Resources, Inc. in Tukwila, Washington.

Sample Date	Location ID	Sample ID	Comments
5/15/18	LP-LCD	0518-01	

Sample Date	Location ID	Sample ID	Comments
5/15/18	L-INF	0518-02	
5/15/18	MW-13B	0518-03	
5/15/18	MW-13A	0518-04	
5/15/18	MW-34A	0518-05	
5/15/18	MW-34A	0518-06	DUP-1
5/15/18	MW-34C	0518-07	
5/15/18	MW-42	0518-08	
5/15/18	MW-43	0518-09	
5/15/18	MW-43	0518-10	DUP-2
5/16/18	MW-33C	0518-11	
5/16/18	MW-33A	0518-12	
5/16/18	MW-29A	0518-13	
5/16/18	MW-32	0518-14	Collected 3 yr App III parameters
5/16/18	MW-36A	0518-15	
5/16/18	MW-19C	0518-16	Collected 3 yr App III parameters
5/16/18	MW-39	0518-17	
5/17/18	MW-35	0518-18	
5/17/18	MW-16	0518-19	
5/17/18	MW-15R	0518-20	

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: LP-LCD (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i,e, with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/15/18	10:10				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: X — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: X

X-Other: Not used

Filter Device: Y or (N) — 0.45 µ or ____ µ (circle or fill in)

Filter Type: X — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other: No filter used

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:15	1st	7.12	3070	15.47	7.60	6.43	264.1	
	2nd							
	3rd							
	4th							
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
05/15/18	7.12	3070	15.47	7.60	6.43	264.1	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Slightly yellow Odor: none Color: yellow Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: overcast Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Purged line for one minute before sampling

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: L-INF (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/15/18					

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: [ ] Y or [N]

Purging Device [X]

Sampling Device [F]

X-Other: Grab Sample

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: [ ] Y or [N] 0.45 µ or [ ] µ (circle or fill in)

Filter Type: [X]

A-In-line Disposable, B-Pressure, C-Vacuum, X-Other: No Filter

Sample Tube Type: [X]

A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: No tube

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
11:00	1st	7.60	1st 6157	16.19	1.27	0.89	+128	
	2nd		2nd					
	3rd		3rd					
	4th		4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
05/15/18	7.60	6157	16.19	1.27	0.89	+128	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: v.f. yellow Odor: sweet Color: yellow Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: overcast Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Sampled for Total Arsenic

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Sam Grab		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-13B (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 15 18	1130	1:25			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C
Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	57.52	

Total Well Depth (from TOC) (ft): | Stick Up (from ground elevation) (ft): | Casing ID: 02 (in) | Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Rate/Unit: mL/min

	Sample Time (2400 Hr Clock)	Rate	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1st	1135	300	7.06	1171	10.30		7.17	193.0	
2nd	1140		6.97	1171	10.05		7.63	180.0	
3rd	1143		7.02	1171	10.04		7.62	175.0	
4th	1146		7.17	1171	10.01		7.57	179.0	
	1149		7.25	1171	10.00		7.54	166.0	
	1152		7.31	1171	9.99		7.52	163.0	
	1155	↓	7.35	1171	9.98	0.00	7.46	158.0	57.84
	:								
	:								
	:								
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ORP Units FT
05 15 18	7.35	1171	9.98	0.00	7.46	158.0	57.84

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Sam Gruber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.: ____ Sample Point: MW-13A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/15/18	1120	0035			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: B — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): X4495 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1135	300-350 mL/min	6.90 (1st)	173 (1st)	9.90		8.06	179	
1140		6.90 (2nd)	172 (2nd)	9.91		7.56	175	
1143		6.92 (3rd)	171 (3rd)	9.86		7.38	176	
1146		6.92 (4th)	171 (4th)	9.84		7.36	178	
1149		6.92	171	9.76		7.26	181	
1152		6.91	172	9.64		7.23	182	
1155		6.91	170	9.63	0.0	7.21	184	44.95
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
05/15/18	6.91	170	9.63	0.0	7.21	184	44.95

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: NO Color: Clear Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Sample time @ 1200

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Travis Berndahl	[signature]	SCS Engineers
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSC

Site No.: ____

Sample Point: MW-34A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/15/18	1255	1:25			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 39.20 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit 300 ml/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:00	300	1st 6.54	1st 1108	12.75		6.60	176.0	
13:05		2nd 6.05	2nd 1106	12.60		5.65	184.0	
13:08		3rd 6.02	3rd 1107	12.61		5.61	187.0	
13:11		4th 6.00	4th 1106	12.63		5.58	186.0	
13:14		5.98	1106	12.57		5.52	187.0	
13:17		5.98	1107	12.60		5.45	187.5	
13:20	↓	5.98	1107	12.62	4.55	5.39	188.0	39.20
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
05/15/18	5.98	1107	12.62	4.55	5.39	188.0	39.20

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: clear — Odor: none — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: sunny — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Dup 1 taken @ 1325

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Sam Gruber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-34C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 15 18	~~1330~~ 1302 s.b.	~~1555~~ 33 s.b.			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment...Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 41.02 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 04 ~~08~~ s.b. (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:05	300	1st	6.95	1st	220		12.23		4.05	196.9	
13:10		2nd	6.61	2nd	224		13.17		0.56	138.6	
13:13		3rd	6.68	3rd	224		13.44		0.59	104.4	
13:25		4th	6.69	4th	227		12.52	63.2	1.52	83.4	
13:28			6.73		224		13.03	57.1	0.40	58.5	
13:31			6.76		224		13.13	[illegible]	0.36	42.8	
13:35	↓		6.78		224		13.16	60.4	0.39	37.8	41.05
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Final Units FT
05 15 18	6.78	224	13.16	60.4	0.33	37.8	41.05

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Light orange Odor: None Color: light orange Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Partly Sunny Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Travis Wendahl	[signature]	SCS
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-42 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/15/18	1436	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C
Sampling Device: C
X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	27.50	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (circle) mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1430	300	1st 7.02	1st 531	12.36		0.86	-463	
1435	↓	2nd 6.81	2nd 529	12.30		0.57	-365	
1438		3rd 6.81	3rd 528	12.00		0.31	-440	
1441		4th 6.79	4th 527	12.12	0.76	0.28	-476	
1444		6.77	527	12.10		0.26	-494	
1447		6.75	525	12.11		0.22	-517	
1450	↓	6.75	524	12.12	0.36	0.21	-539	27.50
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units Ft.
05/15/18	6.75	524	12.12	0.36	0.21	-539	27.50

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: — Color: Clear Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Travis Bernduhl		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSC

Site No.:

Sample Point: MW-43 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/15/18	1425	:33			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 24.46 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1412	300	1st 6.18	1st 412	10.18		1.54	1530	
1413		2nd 6.37	2nd 410	9.17		0.95	1240	
1414		3rd 6.36	3rd 410	9.19		0.93	1240	
1416		4th 6.34	4th 410	9.18		0.96	1230	
1419		6.33	410	9.20	0.0	0.89	1240	
1452		6.32	410	9.11		1.01	1250	
1455		6.31	410	9.16		1.04	1260	
1458		6.31	411	9.14	0.0	1.06	1270	24.52
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
05/15/18	6.31	411	9.14	0.0	1.06	1270	24.52

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear / Off white. Odor: none Color: clear Other: w/ orange particulates

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Dup 2 taken at 1510

Extended purge due to orange particulates in sample.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/15/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-33C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/16/18	940	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N (0.45 µ) or ____ µ (circle or fill in)

Purging Device: C
Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	224 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
(ft)	(ft)	02 (in)	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
946	300	1st 5.84	1st 165	9.22	1.47	4.43	246.6	
945		2nd 6.93	2nd 166	9.14		0.50	198.3	
948		3rd 7.15	3rd 165	9.12		0.42	168.0	
951		4th 7.30	4th 165	9.12	0.90	0.41	129.6	
954		7.36	165	9.12		0.41	113.9	
957		7.45	168	9.12		0.39	85.4	
1000	↓	7.52	167	9.13	0.47	0.42	62.9	2.28
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft
05/16/18	7.52	167	9.13	0.47	0.42	62.9	2.28

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Cloudy Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/16/18	Travis Berndahl		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: ONSL MW-33A

Site No.:

Sample Point: MW-33A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/16/18	9:30	:35			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	5.39 (S.O.)	

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: ML/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:35	700	1st 7.76	1st 127	8.97	24.30	0.58	60	
9:45		2nd 7.96	2nd 135	8.98	7.98	0.54	220	
9:48		3rd 7.98	3rd 133	8.96		0.54	170	
9:51		4th 8.02	4th 133	8.94		0.52	150	
9:54		8.09	134	8.94		0.51	90	
9:57		8.11	134	8.93		0.51	80	
10:00		8.12	135	8.94	4.25	0.50	90	
10:02		8.13	136	8.94		0.50	110	
10:05		8.13	136	8.92	2.86	0.49	100	5.55
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
05/16/18	8.13	136	8.92	2.86	0.49	100	5.55

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/16/18	Sam Grabow		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.: ____

Sample Point: MW-29A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i,e, with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/16/18	1140	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 13.52 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (mL/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1140	350	1st 8.86	1st 92	8.50		4.04	136	
1145		2nd 6.56	2nd 94	8.37		0.55	97	
1148		3rd 6.52	3rd 95	8.39	3.52	0.41	145	
1151		4th 6.48	4th 95	8.37		0.31	198	
1154		6.46	94	8.35		0.28	213	
1157		6.49	94	8.36		0.27	227	
1200		6.43	95	8.38	0.94	0.25	238	14.36
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i,e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units Ft.
05/16/18	6.43	95	8.38	0.94	0.25	238	14.36

Final Field Readings are required *(i,e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: None Color: — Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
05/16/18	Travis Bemleh		SCS
___/___/___			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: USL

Site No.: | Sample Point: MW-32 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 16 18	12:12	:21			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N (0.45 µ) or ____ µ (circle or fill in)

Purging Device: C
Sampling Device: C
X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	1.34	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit 350 mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:13	350	1st 6.42	1st 2.53	11.95		4.28	570	
12:18		2nd 7.61	2nd 2.58	11.70		1.22	120	
12:21		3rd 8.02	3rd 2.61	11.63		0.23	-340	
12:24		4th 8.03	4th 2.60	11.70		3.01	-340	
12:27		8.04	2.58	11.69		2.06	-340	
12:30		8.04	2.59	11.66		1.98	-370	
12:33	↓	8.05	2.59	11.72	2.99	2.92	-380	1.56
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow/OP Units FT
05 16 18	8.05	2.59	11.72	2.99	2.92	-380	1.56

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: clear Odor: None Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Collected 3 year App III parameters

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/16/18	Sam Graber		SES
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.: ____

Sample Point: MW-36A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05/16/18	1255	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other: ____

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 30.82 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:55	350	1st 6.15	1st 1349	9.79		4.51	154.1	
13:00	1	2nd 6.19	2nd 1337	9.67		2.86	160.3	
13:03		3rd 6.19	3rd 1336	9.68	0.72	2.63	163.6	
13:06		4th 6.20	4th 1337	9.76		2.58	167.4	
13:09		6.20	1337	9.81		2.51	169.1	
13:12		6.20	1336	9.74		2.49	170.8	
13:15		6.21	1337	9.74	0.51	2.45	174.3	31.57
:								
:								
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units Ft.
05/16/18	6.21	1337	9.74	0.51	2.45	174.3	31.57

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: None — Color: — — Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny — Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
05/16/18	Travis Berndahl	[signature]	SCS
____/____/____			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: DUSL

Site No.:

Sample Point: MW-19C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 16 18	1358	2:22			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — (0.45 µ) or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	32.87	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/Min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1410	350	1st 7.24	1162	11.48		4.15	720	
1415		2nd 7.86	1159	11.02		2.30	-380	
1418		3rd 8.27	1153	10.80		1.77	-310	
1421		4th 8.21	1152	10.79		1.60	-286	
1424		9.09	1152	10.77		1.33	-200	
1427		8.07	1152	10.65		1.11	-170	
1430	V	9.07	1153	10.73	1.58	0.96	-150	33.05
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow Rate Units
05 16 18	8.07	1153	10.73	1.58	0.96	-150	33.05

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: 2 mph NE Outlook: sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/16/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OU5L

Site No.:

Sample Point: MW-39 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 16 18	1355	1:25			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 19.55 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1355	350	1st 6.50	1st 268	12.61	751	4.19	443	
1400		2nd 6.61	2nd 280	9.87		0.60	-81	
1403		3rd 6.60	3rd 277	9.88		0.37	-159	
1406		4th 6.57	4th 276	9.97		0.33	-196	
1409		6.55	274	10.04	5.54	0.30	-218	
1412		6.47	270	10.10	3.18	0.23	-236	
1420	↓	6.40	267	10.12	3.07	0.25	-238	21.91
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units: Ft.
05 16 18	6.40	267	10.12	3.07	0.25	-238	21.91

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear with some particulate — Odor: None — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny — Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

Sample taken @ 1420

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
05/16/18	Travis Berndahl		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: BUSC

Site No.:

Sample Point: MW-35 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 17 19	9:52	2:23			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N (0.45 µ) or _____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	7.08	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		04	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ML/Min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:15	300	1st 5.75	1st 1.65	10.52		9.20	226	
9:10		2nd 6.69	1.64	10.12		8.02	245	
9:03		3rd 6.77	1.64	10.09		7.96	243	
9:06		4th 6.82	1.62	10.07		7.93	241	
9:09		6.87	1.62	10.08		7.82	241	
9:12		6.93	1.63	10.06		7.85	239	
9:15	↓	6.95	1.64	10.07	1.50	7.80	240	7.15
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow/DTW Units FT
05 17 19	6.95	1.64	10.07	1.50	7.80	240	7.15

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: None Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: Cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/17/19	Sam Grabow		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-16 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 17 18	1453	:12			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N (0.45 µ) or _____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

X-Other:

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	55.50 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
(ft)	(ft)	02 (in)	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:55	300 1st	6.63 1st	100	9.44		8.70	229	
10:00	2nd	6.37 2nd	100	9.39		7.21	230	
10:03	3rd	6.32 3rd	99	9.38		7.25	231	
10:06	4th	6.30 4th	99	9.38		7.33	232	
10:09		6.29	98	9.35		7.41	232	
10:12		6.28	98	9.37		7.41	232	
10:15		6.27	97	9.36	0.49	7.36	233	55.65
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
05 17 18	6.27	97	9.36	0.49	7.36	233	55.65

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: 3 mph @ NE Outlook: partly cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/17/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OSC

Site No.: ____

Sample Point: MW-15R (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
05 17 18	10:54	:21			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N (0.45 µ) or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other: ____

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 18.53 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:55	300	1st	6.49	1st	1.59		10.19		5.07	213.4	
11:00		2nd	6.60	2nd	1.58		10.17		1.05	205.0	
11:03		3rd	6.60	3rd	1.60		10.16		0.93	202.2	
11:06		4th	6.60	4th	1.61		10.16		0.91	200.7	
11:09			6.59		1.59		10.16		0.84	198.1	
11:12			6.59		1.58		10.19		0.83	196.6	
11:15	V		6.59		1.56		10.19	0.00	0.83	196.6	18.60
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. **If more fields above are needed, use separate sheet or form.**

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow/ORP Units FT
05 17 18	6.59	1.56	10.19	0.00	0.83	196.6	18.60

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: partly cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
5/17/18	Sam Orabor		SCS
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	5/15/18					
Time	915					
Weather (sky or precip, temp)	overcast					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1417	4.07	7.05	8.57		
Post Cal Reading	1413	4.01	7.00	8.50	989.7, 11.46, 0.29	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEG					
Instrument Type, ID	(MP20) / YSI 556				(MicoTPW) / HACH2000	
Calibration Location	OUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	5/15/18					
Time	915					
Weather (sky or precip, temp)	overcast					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1431	4.10	7.01	8.52		
Post Cal Reading	1413	4.01	7.00	8.50	783, 100, 21.0, 0.16	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEB					
Instrument Type, ID	MP20 / (YSI 556)				MicoTPW / (HACH2000)	
Calibration Location	OBL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	5/16/18					
Time	730					
Weather (sky or precip, temp)	Overcast					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1425	3.73	6.90	9.40		
Post Cal Reading	1413	4.01	7.00	8.50	769, 102, 20.4, 0.94	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / YSI 556				MicroTPW / HACH2000	
Calibration Location	DSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	4/16/18					
Time	730					
Weather (sky or precip, temp)	overcast					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	(1000, 10, 0.2) 800, 100, 20, <0.1	
Pre-Cal Reading	1378	4.18	6.92	9.42		
Post Cal Reading	1413	4.01	7.00	8.50	1010 11.07 ~~910.2 867~~, 0.01	
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	SEL					
Instrument Type, ID	MP20 / ~~YSI 556~~				MicoTPW / ~~HACH2000~~	
Calibration Location	OSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

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GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	5/17/18					
Time	~~1210~~ 800					
Weather (sky or precip, temp)	overcast					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	(1000, 10, 0.2) 800, 100, 20, <0.1	
Pre-Cal Reading	1449	4.08	6.89	7.02		
Post Cal Reading	1413	4.01	7.00	8.50	1069, 11.41, 1.11	
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / (YSI 556)				MicoTPW / HACH2000	
Calibration Location	DUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

Environmental Consultants
and Contractors

2405 140th Avenue, NE
Suite 107
Bellevue, WA 98005-1877

425 746-4600
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SCS ENGINEERS

August 30, 2018

File No. 04204027.21

Subject: **Third Quarter 2018 Compliance Monitoring Event**
Olympic View Sanitary Landfill, Kitsap County, Washington

Sampling Event Dates: August 20-24, 2018

Personnel: Sam Graber

NOTES/SAMPLING DECODING:

- SCS sampled the revised list of wells approved by Ecology in their January 2017 Periodic Review report.
- The gate code to access the site is: 72369
- This was a quarterly sampling event.
- The LP-LCD was resampled on 9/12/18 due to laboratory error.
- Dedicated pumps were used for purging and sampling all wells.
- Duplicate samples were collected at MW-34A (DUP 1) and MW-39 (DUP 2).
- A Solinst water level meter was used to record all water level elevations.
- The samples were sent to TestAmerica Denver for analysis at the close of each sampling day, except samples for low level arsenic which were retained until the end of the sampling event and provided to Analytical Resources, Inc. in Tukwila, Washington.

Sample Date	Location ID	Sample ID	Comments
8/20/18	MW-34C	0818-01	
8/20/18	MW-34A	0818-02	
8/20/18	MW-34A	0818-03	Dup 1 collected

Sample Date	Location ID	Sample ID	Comments
8/21/18	MW-13A	0818-04	
8/21/18	MW-13B	0818-05	
8/22/18	MW-35	0818-06	
8/22/18	MW-16	0818-07	
8/22/18	MW-39	0818-08	
8/22/18	MW-39	0818-09	Dup 2 collected
8/22/18	MW-15R	0818-10	
8/22/18	MW-42	0818-11	
8/23/18	MW-32	0818-12	
8/23/18	MW-43	0818-13	
8/23/18 & 9/12/18	LP-LCD	0818-14	

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.: ____

Sample Point: MW-34C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 20 13	1320	:50			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other: ____

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: X — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other: No Filter

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 4226 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 04 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/MIN	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1325	350	1st 6.33	1st 237	13.60		1.70	239.8	
1330		2nd 6.34	2nd 237	13.59		0.56	191.8	
1335		3rd 6.41	3rd 237	13.62		0.34	137.2	
1340		4th 6.58	4th 235	13.61	18.50	0.23	45.8	
1345		6.59	236	13.68		0.20	35.1	
1348		6.60	234	13.69		0.20	32.0	42.30
1401		6.60	236	13.73		0.20	29.3	
1404		6.60	235	13.74		0.18	25.8	
1407		6.61	236	13.71	11.60	0.18	23.3	
1410	V	6.61	236	13.78	11.10	0.19	21.3	42.33
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final/Only Units FT
08 20 13	6.61	236	13.78	11.10	0.19	21.3	42.33

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Off white — Odor: None — Color: Off white — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Clear/Smoky — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): Water is cloudy w/ small black particulates

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8,20,13	Sam Graber		SCS
___/___/___			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.: 0

Sample Point: MW-34A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 20 18	1440	:23			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: ____ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 4047 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 04 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1443	350 1st	6.67 1st	1120	12.56		6.02	174.9	
1448	2nd	5.68 2nd	1116	12.44	1.19	4.29	227.4	
1451	3rd	5.79 3rd	1116	12.42		4.30	228.1	
1454	4th	5.82 4th	1118	12.42		4.16	232.6	
1457		5.85	1119	12.42		4.03	237.0	
1500		5.87	1119	12.35		4.05	241.6	
1503		5.89	1121	12.40	0.51	3.88	245.5	40.50
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final ORP Units FT
08 20 18	5.89	1121	12.40	0.51	3.88	245.5	40.50

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: none Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: Clear/Smokey Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

Dup 2 taken @ 1503

Sample taken @ 1510

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/20/18	Sam Gruber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-13A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 21 18	13:32	:22			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: Y or (N) — 0.45 µ or ____ µ (circle or fill in)

Filter Type: — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 46.20 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:34	300	1st 4.95	1st 1.75	10.59		0.09	305.8	
13:39		2nd 6.57	2nd 1.71	9.63		7.94	297.4	
13:42		3rd 6.68	3rd 1.70	9.61		7.85	290.6	
13:45		4th 6.80	4th 1.70	9.59		7.74	293.3	
13:48		6.83	1.70	9.59		7.70	294.7	
13:51		6.86	1.70	9.60		7.64	296.5	
13:54	↓	6.88	1.71	9.58	0.23	7.63	297.7	46.20
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final OR Units FT
08 21 18	6.88	1.71	9.58	0.23	7.63	297.7	46.20

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: None — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Smoky — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

Filter metals in lab

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/21/18	Sam Graber		SCS
___/___/___			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: ~~MW-13B~~ OUSL

Site No.:

Sample Point: MW-13B (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 21 18	9:18	:22			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or _____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): _____ (ft/msl)

Depth to Water (DTW) (from TOC): 59.32 (ft)

Groundwater Elevation (site datum, from TOC): _____ (ft/msl)

Total Well Depth (from TOC): _____ (ft)

Stick Up (from ground elevation): _____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:20	300 1st	6.91 1st	1177	11.06			270.8	
9:25	2nd	6.95 2nd	1176	10.60		7.56	270.5	
9:28	3rd	7.06 3rd	1175	10.40		7.81	267.8	
9:31	4th	7.17 4th	1174	10.14		8.06	266.8	
9:34		7.21	1175	10.18		8.06	266.5	
9:37		7.27	1176	10.11		8.05	265.9	
9:40	↓	7.31	1175	10.14	0.34	9.03	265.2	59.50
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
08 21 18	7.31	1175	10.14	0.34	9.03	265.2	59.50

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear — Odor: — — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Smoky Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/21/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: USL

Site No.:

Sample Point: MW-35 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 22 18	1452	2:23			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 72.18 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 04 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:58	300	1st 5.58	1st 1.63	11.46		8.11	275.7	
10:00		2nd 6.59	2nd 1.60	10.55		6.55	277.6	
10:03		3rd 6.72	3rd 1.61	10.51		6.48	277.2	
10:06		4th 6.85	4th 1.61	10.51		6.43	276.7	
10:09		6.98	1.60	10.46		6.39	276.7	
10:12		7.01	1.61	10.47		6.35	276.4	
10:15		7.06	1.60	10.48	0.30	6.35	275.8	72.23
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final ORP Units FT
08 22 18	7.06	1.60	10.48	0.30	6.35	275.8	72.23

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: none — Color: - — Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - — Outlook: smoky — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/22/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-16

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 22 18	1110	~~1110~~ 23			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

5.6

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 5863 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1113	350	1st	6.55	1st	1017		10.01		6.63	258.1	
1118		2nd	5.98	2nd	1055		9.83		5.51	280.8	
1121		3rd	6.07	3rd	1055		9.84		5.52	274.4	
1124		4th	6.08	4th	1055		9.88		5.53	273.4	
1127			6.10		1055		9.77		5.57	272.4	
1130			6.10		1056		9.86		5.54	272.4	
1133			6.10		1056		9.86	0.65	5.56	272.9	5870
:											
:											
:											
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. **If more fields above are needed, use separate sheet or form.**

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
08 22 18	6.10	1056	9.86	0.65	5.56	272.9	FT 5370

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

Sample Appearance: Clear Odor: None Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: Smoky Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/22/18	Sam Grabar		SCS
___/___/___			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-39 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 22 18	1218	:22			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 22.25 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: (ML/MM)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1220	1st	6.41	266	11.23		4.20	482	
1225	2nd	6.32	263	11.24		1.21	126	
1228	3rd	6.21	260	11.25		0.40	-208	
1231	4th	6.13	260	11.30		0.27	-258	
1234		6.12	260	11.30		0.24	-274	
1237		6.11	262	11.35		0.23	-299	
1240		6.11	262	11.37	4.01	0.23	-309	22.30
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
08 22 18	6.11	262	11.37	4.01	0.23	-309	22.30

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: none — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: - — Outlook: Smoky — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

Dup 2 taken @ 1250

Some small red particulates in metals bottles & others.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/22/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OASIS

Site No.:

Sample Point: MW-15 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 22 18	1356	:21			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 19.43 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: (mL/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:57	350	1st 6.67	1st 1611	10.65		5.07	90.6	
14:02		2nd 6.43	2nd 1610	10.42		2.90	101.2	
14:05		3rd 6.32	3rd 1610	10.29		1.71	118.7	
14:08		4th 6.39	4th 1599	10.31		1.50	122.7	
14:11		6.40	1610	10.34		1.42	125.9	
14:14		6.41	1611	10.34		1.40	128.9	
14:17	↓	6.42	1610	10.31	0.49	1.40	132.9	19.53
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:								
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final / Other Units
08 22 18	6.42	1610	10.31	0.49	1.40	132.9	FT 19.50

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: None — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Smoky — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/22/18	Sam Bralzer		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OSC

Site No.:

Sample Point: MW-42 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 22 18	1453				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 12.85 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Rate/Unit: mL/min

Sample Time (2400 Hr Clock)	Rate	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1510	300	1st 6.57	1st 575	12.63		2.34	279	
1515		2nd 6.39	2nd 533	12.35		0.36	-253	
1508		3rd 6.44	3rd 532	12.39		0.29	-336	
1511		4th 6.46	4th 530	12.30		0.22	-405	
1514		6.46	529	12.34		0.19	-440	
1517		6.45	529	12.25		0.17	-450	
1520		6.44	528	12.30	1.21	0.14	-468	2.88
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow / Other Units FT
08 22 18	6.44	528	12.30	1.21	0.14	-468	2.88

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — Odor: None — Color: — — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Smokey — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/22/18	Sam Graber		SCS
___/___/___			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: ASL

Site No.:

Sample Point: MW-32 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e, with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 23 18	1618	:22			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 21.4 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate (Unit: mL/min)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1020	300	1st 5.32	1st 293	11.91		6.63	267.8	
1025		2nd 6.52	2nd 305	11.76		0.68	190.0	
1028		3rd 6.59	3rd 306	11.75		0.55	139.6	
1031		4th 6.68	4th 306	11.74		0.44	116.0	
1034		6.60	306	11.72		0.34	60.8	
1037		6.82	306	11.72		0.32	47.8	
1040		6.85	307	11.71	1.05	0.31	37.0	2.20
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
08 23 18	6.85	307	11.71	1.05	0.31	37.0	2.20

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: none Color: - Other: -

Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: overcast Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/23/18	Sam Grabar		SCS
___/___/___			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-43 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 23 18	11:36	11:35			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 μ or ____ μ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 26.02 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/(Unit) ML/MIN		pH (std)		Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
11:37	↓	1st	6.99	1st	46	10.13		4.10	176.4	
11:42		2nd	5.89	2nd	46	9.97		1.34	203.2	
11:45		3rd	5.75	3rd	45	10.07		1.15	202.9	
11:48		4th	5.68	4th	45	9.93		1.02	202.1	
11:51			5.64		45	9.93	2.32	0.97	201.6	
11:54			5.62		46	9.93		0.92	201.6	
11:57			5.60		46	9.89	1.96	0.89	201.4	26.10
:										
:										
:										
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units FT
08 23 18	5.60	46	9.89	1.96	0.89	201.4	26.10

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: slightly orange Odor: – Color: slightly orange Other: –

Weather Conditions (required daily, or as conditions change): Direction/Speed: – Outlook: overcast Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Some orange color to sample.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/23/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.: ____ Sample Point: LP-LCD (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
08 23 18	:	:			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device ____ Sampling Device ____ X-Other: ____

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: ____ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: D A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC) ____ (ft/msl) Depth to Water (DTW) (from TOC) ____ (ft) Groundwater Elevation (site datum, from TOC) ____ (ft/msl)

Total Well Depth (from TOC) ____ (ft) Stick Up (from ground elevation) ____ (ft) Casing ID ____ (in) Casing Material ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:00	1st	7.57	3489	23.17	6.33	6.21	163.5	
	2nd							
	3rd							
	4th							
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DRO filter / Units FT
08 23 18	7.57	3489	23.17	6.33	6.21	163.5	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Slightly yellow Odor: — Color: Slightly yellow Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: overcast Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ____

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
8/23/18	Sam Gruber		SCS
__/__/__			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: LP-LCD (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
09/12/18					

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device:

X-Other:

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)

Depth to Water (DTW) (from TOC) (ft)

Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)

Stick Up (from ground elevation) (ft)

Casing ID (in)

Casing Material

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
17:30	1st	7.41	3612	19.72	37.33	7.59	251.2	
	2nd							
	3rd							
	4th							
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
09/12/18	7.41	3612	19.72	37.33	7.59	251.2	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Slightly yellow

Odor: —

Color: slightly yellow

Other: —

Weather Conditions (required daily, or as conditions change):

Direction/Speed: —

Outlook: rainy

Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

Minimal water in system to pump. Systems went dry upon sampling.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
9/12/18	Sam Grabo		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	8/20/13					
Time	1210					
Weather (sky or precip, temp)	Sunny					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1441	3.93	7.11	9.41		
Post Cal Reading	1413	4.01	7.00	8.50	775, 97.5, 21.1, 0.26	
Descrepancy	No					
Calib. Successful?	YES					
Calibration by	SEG					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	OVSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	8/21/18					
Time	900					
Weather (sky or precip, temp)	Smokey					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1401	4.00	7.02	7.95		
Post Cal Reading	1413	4.01	7.00	8.50	772, 97.2, 20.7, 0.25	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	OUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	8/22/18					
Time	850					
Weather (sky or precip, temp)	Smokey					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1444	4.06	6.99	9.61		
Post Cal Reading	1413	4.01	7.00	8.50	771, 97.5, 20.6, 0.27	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / ~~YSI 556~~				MicoTPW / ~~HACH2000~~	
Calibration Location	OVSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	8/23/18					
Time	930					
Weather (sky or precip, temp)	overcast					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1392	4.03	6.98	7.61		
Post Cal Reading	1413	4.01	7.00	8.50	770, 99.5, 20.9, 0.32	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEB					
Instrument Type, ID	MP20 / (YSI 556)				MicoTPW / (HACH2000)	
Calibration Location	OUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	9/12/13					
Time	800					
Weather (sky or precip, temp)	Cloudy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	(1000, 10, 0.2) 800, 100, 20, <0.1	
Pre-Cal Reading	1410	3.98	6.99			
Post Cal Reading	1413	4.01	7.00	8.03	1037, 11.54, ~~2.59~~ 0.96	
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / (YSI 556)				(MicoTPW) / HACH2000	
Calibration Location	OUSL					

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

Appendix B

Fourth Quarter 2018 Data Validation & Analytical Data Reports

DATA VALIDATION REPORT – OLYMPIC VIEW SANITARY LANDFILL FOURTH QUARTER 2018

Project Details

Project No.	04204027.21	**Site Name**	Olympic View Sanitary Landfill
Data Validator	Travis Berndahl and Sam Graber	**Data Level**	Level II
Date	11/17/2018	**DV Tier**	Tier I
QA Document	Olympic View Sanitary Landfill Sampling Analysis Plan-rev 1.1, August 2, 2017		

Sample Login Summary

Sample Group	Sample Login Comments	Analytical Lab (Primary)
280-116888-1	The container labels for the following sample did not match the information on the Chain-of-Custody (COC): MW-34C. The container labels list a sample collection time of 11:52, while the COC lists a time of 12:00. The sample was logged per the chain of custody. The client was notified 11/13/2018.	TestAmerica, Denver CO
280-116945-1	No comments.	TestAmerica, Denver CO
280-116946-1	No comments.	TestAmerica, Denver CO
280-116950-1	No comments.	TestAmerica, Denver CO
280-116998-1	No comments.	TestAmerica, Denver CO
280-117014-1	The 48-hour holding time expired for Biochemical Oxygen Demand (BOD) Method 5210B prior to sample receipt. The client was notified.	TestAmerica, Denver CO
280-117519-1	No comments.	TestAmerica, Denver CO

Analytical Summary

Sample Group	Analyses						
	Qtrly General Chemistry[1]	Qtrly Metals	Qtrly VOCs	As[2]	TSS	BOD/COD	App III Analytes[3]
280-116888-1	X	X	X	X	X	--	--
280-116945-1	X	X	X	X	X	--	--
280-116946-1	X	X	X	X	--	X[B]	--
280-116950-1	--	X	X	X	--	X[A]	X
280-116998-1	X	X	X	X	X	--	--
280-117014-1	X	X**	--	X	--	X	--
280-117519-1	--	--	--		--	X	--

[1] General Chemistry (NO_3, Cl, SO_4, NH_4, Alkalinity, TDS, TOC)

[2] Arsenic only (total)

[3] WAC 173-351-990 App. III - VOCs, Metals, Pesticides/PCBs, OP Pesticides, Herbicides, SVOCs, Sulfide, Cyanide

* General Chemistry (Cl, SO_4, NH_4, Alkalinity, TDS, TOC)

** Total Metals (Ca, Fe, Mg, Mn, K, Na)

[A] BOD Only

[B] COD Only

Laboratory Quality Assurance Samples

Lab QA Samples	Notes	Comments
Surrogates/Organics	See case narratives.	(280-116946-1) The sample L-INF was analyzed at a dilution for Method 8260C and 8260C SIM due to foaming at the time of purging during analysis. Elevated reporting limits (RL) are provided. (280-116946-1) The hydrochloric acid preserved vials for sample L-INF exhibited pH values greater than 2 which is non-compliant with Method 8260C. Because this sample is a leachate sample, a buffering effect was suspected. (280-116950-1) The hydrochloric acid preserved vials for sample L-INF exhibited pH values greater than 2 which is non-compliant with Method 8260B. Because this sample is a leachate sample, a buffering effect was suspected. (280-116950-1) Sample L-INF and OBWL-TD required a mercury clean-up and sulfuric acid clean-up to reduce matrix inferences during Method 8082. (280-116950-1) Samples L-INF and OBWL-TD formed emulsions during the Method 8141A and Method 8151A extraction procedure. (280-116950-1) The relative percent differences between the primary and confirmation columns exceeded 40% for the Method 8151A target compound Dinoseb during the analysis of the sample L-INF. Because matrix interference was evident, the lower of the two values was reported and the result was flagged with "p". (280-116950-1) During Method 8151A pH adjustment, the sample L-INF required 15 mL of 37% KOH base to reach the desired pH. Most samples take less than 10 mL to reach the desired range.
MB	See case narrative.	All data acceptable and/or within established control limits.
DUP	See case narrative.	All data acceptable and/or within established control limits.
LCS/LCSD	See case narrative.	(280-117014-1) The Method 5210B LCS exhibited a recovery of Biochemical Oxygen Demand (BOD) above the upper control limit at 134% (control limits 85%-115%). Because the 48-hour holding time expired, reanalysis was not performed.
MS/MSD	See case narrative.	(280-116950-1) The method required MS/MSD could not be performed for Method 8081A and Method 8082 due to insufficient sample volume, however, LCS/LCSD pairs were analyzed to demonstrate method precision and accuracy.
General Chemistry	See case narrative.	All data acceptable and/or within established control limits.
Metals	See case narrative.	All data acceptable and/or within established control limits.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
Trip Blank	280-116888-1	None.	N/A
Trip Blank	280-116945-1	None.	N/A
Trip Blank	280-116946-1	None.	N/A
Trip Blank	280-116950-1	Acetone	Acetone, a common laboratory contaminant, was detected in the trip blank sample at a level below the requested reporting limit. Acetone was also detected in the sample L-INF at a similar level, therefore, the Acetone in this sample is likely due to laboratory artifact.
Trip Blank	280-116998-1	None.	N/A

Detailed Field Replicate Evaluation

Analyte	Units	MW-19C (1118-09)	MW-19C (1118-10)	RPD (%)	MW-39 (1118-11)	MW-39 (1118-12)	RPD (%)
Alkalinity, Bicarbonate (As CaCO3)	mg/L	75.0	74.0	1.3	100.0	100.0	0.0
Alkalinity, Total (As CaCO3)	mg/L	75.0	74.0	1.3	100.0	100.0	0.0
Ammonia (as N)	mg/L	0.5	0.5	2.1	0.5	0.5	2.0
Arsenic, Total	mg/L	0.0	0.0	1.8	0.0	0.0	4.1
Barium, Total	mg/L	0.0	0.0	15.8	0.0	0.0	5.6
Calcium, Dissolved	mg/L	14.0	14.0	0.0	12.0	12.0	0.0
Chloride	mg/L	2.7	2.6	3.7	5.5	5.5	0.0
Chromium, Total	mg/L	NA	NA	NA	0.001 J	0.001 J	0.0
Cobalt, Total	mg/L	NA	NA	NA	0.0	0.0	0.0
Iron, Dissolved	mg/L	0.1	0.1	0.0	36.0	35.0	2.8
Iron, Total	mg/L	0.2	0.1	6.7	35.0	34.0	2.9
Lead, Total	mg/L	NA	NA	NA	0.0003 J	0.0002 J	30.8
Magnesium, Dissolved	mg/L	6.9	7.0	1.4	7.0	6.8	2.9
Manganese, Dissolved	mg/L	1.1 B	1.1 B	0.0	0.47 B	0.47 B	0.0
Manganese, Total	mg/L	1.1	1.1	0.0	0.5	0.5	0.0
Nickel, Total	mg/L	0.0005 J	0.0005 J	0.0	0.0026 J	0.0026 J	0.0
Potassium, Dissolved	mg/L	1.4	1.4	0.0	0.4 J	0.34 J	15.0
Sodium, Dissolved	mg/L	5.6	5.7	1.8	8.7	8.4	3.4
Sulfate	mg/L	4.2	4.2	0.0	NA	NA	NA
Total Dissolved Solids (TDS)	mg/L	110.0	110.0	0.0	150.0	140.0	6.7
Total Organic Carbon (TOC)	mg/L	NA	NA	NA	2.1	2.1	0.0
Total Suspended Solids	mg/L	NA	NA	NA	8.0	8.0	0.0
Trichloroethene	ug/L	1.0	0.97 J	3.0	NA	NA	NA
Vanadium, Total	mg/L	NA	NA	NA	0.0016 J	0.0017 J	6.2
Vinyl chloride	ug/L	0.0	0.0	0.0	NA	NA	NA
Zinc, Total	mg/L	NA	NA	NA	0.0038 J	0.0024 J	36.8

* RPD based on result as compared to the Reporting Limit (RL) for a non-detection in the compared sample

U = Result was not detected at or above a concentration greater than the RL. Value provided is the RL for the given sample.

NA = Not applicable. Compared samples were below the RL for a given parameter.

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

B = Compound was found in the blank and sample.

Lab Qualifier Definitions

Lab Qualifiers	Description	Lab Group
B	Compound was found in the blank and sample.	280-116888-1, 280-116945-1, 280-116946-1, 280-116998-1
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.	280-116950-1
E	Result exceeded calibration range.	280-116998-1
H	Sample was prepped or analyzed beyond the specified holding time	280-117014-1, 280-117519-1

Lab Qualifiers	Description	Lab Group
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	280-116888-1, 280-116945-1, 280-116946-1, 280-116950-1
X	Surrogate is outside control limits.	280-116950-1
b	Result Detected in the Unseeded Control blank (USB).	280-116950-1, 280-117014-1
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.	280-116950-1
F1	MS and/or MSD Recovery is outside acceptance limits.	280-116888-1, 280-116945-1, 280-116950-1, 280-116998-1, 280-117014-1, 280-117519-1
F2	MS/MSD RPD exceeds control limits	280-116998-1, 280-117014-1
F3	Duplicate RPD exceeds the control limit	280-117014-1
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	280-116946-1, 280-116998-1, 280-117014-1
*	LCS or LCSD is outside acceptance limits.	280-116950-1, 280-116998-1, 280-117014-1

Additional Qualifier Definitions

Qualifiers	Description	Lab Group
U	Analyte was not detected above the applicable RL or MDL.	

Additional Items of Note

The analytes Acrolein, Acrylonitrile, and 2-Chloroethyl Vinyl Ether cannot be reliably quantitated in acid preserved samples, therefore, the reporting limits for the analytes is not reliable or defensible.

Qualified Data and Usability

Lab qualifiers are noted. All data, as qualified, are acceptable for use.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-116888-1

Job Description: WA02|Olympic View Sanitary LF-GW

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/12/2018 3:55 PM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/12/2018

cc: Mr. Dan Venchiarutti

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF-GW

Report Number: 280-116888-1

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

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

Sample Receiving

The samples were received on 11/13/2018; the samples arrived in good condition and on ice. The temperatures of the coolers at receipt were 2.8º C, 2.8º C, 3.1º C and 4.5º C.

The container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-34C (280-116888-8). The container labels list a sample collection time of 11:52, while the COC lists a time of 12:00. The sample was logged per the chain of custody. The client was notified on 11/13/2018.

Holding Times

All holding times were within established control limits.

Method Blanks

Dissolved Manganese Method 6010B was detected in the Method Blank below the project established reporting limit. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits.

All other Method Blank recoveries 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)

Sample MW-35 was selected to fulfill the laboratory batch quality control requirements for Method 6020B. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Total Silver below the lower control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

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

Organics

The analytes Acrolein, Acrylonitrile and 2-chloroethyl vinyl ether cannot be reliably quantitated in acid preserved samples, therefore, the reporting limits for the analytes Acrolein, Acrylonitrile and 2-chloroethyl vinyl ether is not reliable or defensible.

General Comments

The analysis for Volatile Organics by Method 8260C was performed by TestAmerica Buffalo. Their address and phone number are:
TestAmerica Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228
Phone: 716-691-2600

The analysis for Arsenic Method 200.8 was performed by ARI. ARI is not a TestAmerica approved subcontract laboratory and assumes

no liability for the data. Their address and phone number are:
Analytical Resources, Inc.
4611 S. 134th Place
Tukwila, WA 98168-3240
Phone: 206-695-6200

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-1	**MW-13A**					
Depth to water		46.99			ft	Field Sampling
Specific Conductivity		169			umhos/cm	Field Sampling
Dissolved Oxygen		8.45			mg/L	Field Sampling
eH		207.9			millivolts	Field Sampling
Turbidity		0.35			NTU	Field Sampling
Temperature		9.5			Degrees C	Field Sampling
pH		7.02			SU	Field Sampling
Chloride		1.9		1.0	mg/L	300.0
Sulfate		2.1		1.0	mg/L	300.0
Nitrate as N		0.38		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		81		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		81		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		98		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		15		0.040	mg/L	6010D
Magnesium, Dissolved		8.3		0.050	mg/L	6010D
Potassium, Dissolved		0.70	J	1.0	mg/L	6010D
Sodium, Dissolved		5.2		1.0	mg/L	6010D
Manganese, Dissolved		0.00070	J B	0.0010	mg/L	6020B
Total Recoverable						
Barium, Total		0.0028		0.0010	mg/L	6020B
Chromium, Total		0.0021	J	0.0030	mg/L	6020B
Manganese, Total		0.00057	J	0.0010	mg/L	6020B
Vanadium, Total		0.0039		0.0020	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-2	**MW-13B**					
Depth to water		60.55			ft	Field Sampling
Specific Conductivity		174			umhos/cm	Field Sampling
Dissolved Oxygen		8.82			mg/L	Field Sampling
eH		159.1			millivolts	Field Sampling
Turbidity		0.22			NTU	Field Sampling
Temperature		10.0			Degrees C	Field Sampling
pH		7.65			SU	Field Sampling
Chloride		2.0		1.0	mg/L	300.0
Sulfate		3.0		1.0	mg/L	300.0
Nitrate as N		0.40		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		83		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		83		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		110		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		17		0.040	mg/L	6010D
Iron, Dissolved		0.028	J	0.060	mg/L	6010D
Magnesium, Dissolved		8.2		0.050	mg/L	6010D
Potassium, Dissolved		0.71	J	1.0	mg/L	6010D
Sodium, Dissolved		5.3		1.0	mg/L	6010D
Manganese, Dissolved		0.00041	J B	0.0010	mg/L	6020B
Total Recoverable						
Barium, Total		0.0034		0.0010	mg/L	6020B
Chromium, Total		0.0030		0.0030	mg/L	6020B
Vanadium, Total		0.0054		0.0020	mg/L	6020B
Zinc, Total		0.0022	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-3	**MW-35**					
Depth to water		72.68			ft	Field Sampling
Specific Conductivity		164			umhos/cm	Field Sampling
Dissolved Oxygen		6.43			mg/L	Field Sampling
eH		175.2			millivolts	Field Sampling
Turbidity		0.65			NTU	Field Sampling
Temperature		10.3			Degrees C	Field Sampling
pH		7.40			SU	Field Sampling
Chloride		1.9		1.0	mg/L	300.0
Sulfate		2.3		1.0	mg/L	300.0
Nitrate as N		0.41		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		80		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		80		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		100		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		15		0.040	mg/L	6010D
Magnesium, Dissolved		8.6		0.050	mg/L	6010D
Potassium, Dissolved		0.66	J	1.0	mg/L	6010D
Sodium, Dissolved		5.2		1.0	mg/L	6010D
Manganese, Dissolved		0.00038	J B	0.0010	mg/L	6020B
Total Recoverable						
Barium, Total		0.0032		0.0010	mg/L	6020B
Chromium, Total		0.0025	J	0.0030	mg/L	6020B
Vanadium, Total		0.0042		0.0020	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-4	**MW-16**					
Depth to water		60.93			ft	Field Sampling
Specific Conductivity		112			umhos/cm	Field Sampling
Dissolved Oxygen		6.04			mg/L	Field Sampling
eH		198.8			millivolts	Field Sampling
Turbidity		1.68			NTU	Field Sampling
Temperature		9.6			Degrees C	Field Sampling
pH		6.34			SU	Field Sampling
Chloride		1.4		1.0	mg/L	300.0
Sulfate		1.6		1.0	mg/L	300.0
Nitrate as N		0.28		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		53		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		53		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		81		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		9.7		0.040	mg/L	6010D
Magnesium, Dissolved		5.2		0.050	mg/L	6010D
Potassium, Dissolved		0.75	J	1.0	mg/L	6010D
Sodium, Dissolved		5.1		1.0	mg/L	6010D
Manganese, Dissolved		0.00052	J B	0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.22		0.060	mg/L	6010D
Antimony, Total		0.00052	J	0.0010	mg/L	6020B
Barium, Total		0.0038		0.0010	mg/L	6020B
Beryllium, Total		0.00016	J	0.0010	mg/L	6020B
Chromium, Total		0.0092		0.0030	mg/L	6020B
Lead, Total		0.00030	J	0.0010	mg/L	6020B
Manganese, Total		0.025		0.0010	mg/L	6020B
Nickel, Total		0.0031	J	0.0040	mg/L	6020B
Thallium, Total		0.000053	J	0.0010	mg/L	6020B
Vanadium, Total		0.0047		0.0020	mg/L	6020B
Zinc, Total		0.0020	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-5	**MW-39**					
Depth to water		22.59			ft	Field Sampling
Specific Conductivity		267			umhos/cm	Field Sampling
Dissolved Oxygen		0.38			mg/L	Field Sampling
eH		-39.4			millivolts	Field Sampling
Turbidity		12.0			NTU	Field Sampling
Temperature		11.4			Degrees C	Field Sampling
pH		6.17			SU	Field Sampling
Chloride		5.5		1.0	mg/L	300.0
Ammonia (as N)		0.51		0.030	mg/L	350.1
Alkalinity, Total (As CaCO3)		100		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		100		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		150		5.0	mg/L	SM 2540C
Total Suspended Solids		8.0		4.0	mg/L	SM 2540D
Total Organic Carbon - Average		2.1		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		12		0.040	mg/L	6010D
Iron, Dissolved		36		0.060	mg/L	6010D
Magnesium, Dissolved		7.0		0.050	mg/L	6010D
Potassium, Dissolved		0.40	J	1.0	mg/L	6010D
Sodium, Dissolved		8.7		1.0	mg/L	6010D
Manganese, Dissolved		0.47	B	0.0010	mg/L	6020B
Total Recoverable						
Cobalt, Total		0.0064		0.0030	mg/L	6010D
Iron, Total		35		0.060	mg/L	6010D
Barium, Total		0.018		0.0010	mg/L	6020B
Chromium, Total		0.0010	J	0.0030	mg/L	6020B
Lead, Total		0.00026	J	0.0010	mg/L	6020B
Manganese, Total		0.45		0.0010	mg/L	6020B
Nickel, Total		0.0026	J	0.0040	mg/L	6020B
Vanadium, Total		0.0016	J	0.0020	mg/L	6020B
Zinc, Total		0.0038	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-6FD	**DUP2**					
Chloride		5.5		1.0	mg/L	300.0
Ammonia (as N)		0.52		0.030	mg/L	350.1
Alkalinity, Total (As CaCO3)		100		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		100		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		140		5.0	mg/L	SM 2540C
Total Suspended Solids		8.0		4.0	mg/L	SM 2540D
Total Organic Carbon - Average		2.1		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		12		0.040	mg/L	6010D
Iron, Dissolved		35		0.060	mg/L	6010D
Magnesium, Dissolved		6.8		0.050	mg/L	6010D
Potassium, Dissolved		0.34	J	1.0	mg/L	6010D
Sodium, Dissolved		8.4		1.0	mg/L	6010D
Manganese, Dissolved		0.47	B	0.0010	mg/L	6020B
Total Recoverable						
Cobalt, Total		0.0064		0.0030	mg/L	6010D
Iron, Total		34		0.060	mg/L	6010D
Barium, Total		0.017		0.0010	mg/L	6020B
Chromium, Total		0.0010	J	0.0030	mg/L	6020B
Lead, Total		0.00018	J	0.0010	mg/L	6020B
Manganese, Total		0.45		0.0010	mg/L	6020B
Nickel, Total		0.0026	J	0.0040	mg/L	6020B
Vanadium, Total		0.0017	J	0.0020	mg/L	6020B
Zinc, Total		0.0024	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-7	**MW-34A**					
Vinyl chloride		0.0067	J	0.020	ug/L	8260C SIM
Depth to water		40.72			ft	Field Sampling
Specific Conductivity		178			umhos/cm	Field Sampling
Dissolved Oxygen		0.92			mg/L	Field Sampling
eH		309.9			millivolts	Field Sampling
Turbidity		1.20			NTU	Field Sampling
Temperature		12.05			Degrees C	Field Sampling
pH		5.80			SU	Field Sampling
Chloride		3.5		1.0	mg/L	300.0
Sulfate		2.8		1.0	mg/L	300.0
Nitrate as N		0.23		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		79		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		79		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		120		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		14		0.040	mg/L	6010D
Magnesium, Dissolved		6.5		0.050	mg/L	6010D
Potassium, Dissolved		0.74	J	1.0	mg/L	6010D
Sodium, Dissolved		9.2		1.0	mg/L	6010D
Manganese, Dissolved		0.0013	B	0.0010	mg/L	6020B
Total Recoverable						
Barium, Total		0.0042		0.0010	mg/L	6020B
Chromium, Total		0.0035		0.0030	mg/L	6020B
Manganese, Total		0.0014		0.0010	mg/L	6020B
Nickel, Total		0.0028	J	0.0040	mg/L	6020B
Vanadium, Total		0.0033		0.0020	mg/L	6020B
Zinc, Total		0.0032	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-8	**MW-34C**					
Methylene Chloride		0.51	J	1.0	ug/L	8260C
Vinyl chloride		0.040		0.020	ug/L	8260C SIM
Depth to water		42.51			ft	Field Sampling
Specific Conductivity		240			umhos/cm	Field Sampling
Dissolved Oxygen		1.79			mg/L	Field Sampling
eH		295.4			millivolts	Field Sampling
Turbidity		181.7			NTU	Field Sampling
Temperature		11.42			Degrees C	Field Sampling
pH		6.47			SU	Field Sampling
Chloride		5.7		1.0	mg/L	300.0
Sulfate		5.4		1.0	mg/L	300.0
Alkalinity, Total (As CaCO3)		110		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		110		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		160		5.0	mg/L	SM 2540C
Total Suspended Solids		33		4.0	mg/L	SM 2540D
Total Organic Carbon - Average		1.1		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		23		0.040	mg/L	6010D
Iron, Dissolved		0.65		0.060	mg/L	6010D
Magnesium, Dissolved		9.4		0.050	mg/L	6010D
Potassium, Dissolved		1.1		1.0	mg/L	6010D
Sodium, Dissolved		10		1.0	mg/L	6010D
Manganese, Dissolved		0.58	B	0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		22		0.060	mg/L	6010D
Barium, Total		0.095		0.0010	mg/L	6020B
Beryllium, Total		0.000080	J	0.0010	mg/L	6020B
Chromium, Total		0.00055	J	0.0030	mg/L	6020B
Copper, Total		0.0019	J	0.0020	mg/L	6020B
Lead, Total		0.0010		0.0010	mg/L	6020B
Manganese, Total		1.1		0.0010	mg/L	6020B
Nickel, Total		0.00090	J	0.0040	mg/L	6020B
Vanadium, Total		0.0018	J	0.0020	mg/L	6020B
Zinc, Total		0.0077		0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-9	**MW-15R**					
Depth to water		19.63			ft	Field Sampling
Specific Conductivity		171			umhos/cm	Field Sampling
Dissolved Oxygen		1.50			mg/L	Field Sampling
eH		261.8			millivolts	Field Sampling
Turbidity		0.0			NTU	Field Sampling
Temperature		10.05			Degrees C	Field Sampling
pH		6.42			SU	Field Sampling
Chloride		2.5		1.0	mg/L	300.0
Sulfate		5.0		1.0	mg/L	300.0
Nitrate as N		0.37		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		73		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		73		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		100		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		14		0.040	mg/L	6010D
Magnesium, Dissolved		8.6		0.050	mg/L	6010D
Potassium, Dissolved		0.82	J	1.0	mg/L	6010D
Sodium, Dissolved		5.3		1.0	mg/L	6010D
Manganese, Dissolved		0.0019	B	0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.023	J	0.060	mg/L	6010D
Barium, Total		0.0043		0.0010	mg/L	6020B
Manganese, Total		0.0026		0.0010	mg/L	6020B
Nickel, Total		0.0011	J	0.0040	mg/L	6020B
Vanadium, Total		0.0026		0.0020	mg/L	6020B
Zinc, Total		0.0020	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-10	**MW-36A**					
Depth to water		32.10			ft	Field Sampling
Specific Conductivity		135			umhos/cm	Field Sampling
Dissolved Oxygen		3.95			mg/L	Field Sampling
eH		250.5			millivolts	Field Sampling
Turbidity		0.0			NTU	Field Sampling
Temperature		9.57			Degrees C	Field Sampling
pH		5.98			SU	Field Sampling
Chloride		1.8		1.0	mg/L	300.0
Sulfate		2.4		1.0	mg/L	300.0
Ammonia (as N)		0.031		0.030	mg/L	350.1
Nitrate as N		0.61		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		59		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		59		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		96		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		9.9		0.040	mg/L	6010D
Magnesium, Dissolved		6.5		0.050	mg/L	6010D
Potassium, Dissolved		0.97	J	1.0	mg/L	6010D
Sodium, Dissolved		6.3		1.0	mg/L	6010D
Manganese, Dissolved		0.00063	J B	0.0010	mg/L	6020B
Total Recoverable						
Barium, Total		0.0025		0.0010	mg/L	6020B
Chromium, Total		0.0092		0.0030	mg/L	6020B
Manganese, Total		0.0016		0.0010	mg/L	6020B
Nickel, Total		0.0016	J	0.0040	mg/L	6020B
Vanadium, Total		0.0022		0.0020	mg/L	6020B
Zinc, Total		0.0022	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-11	**MW-19C**					
Trichloroethene		1.0		1.0	ug/L	8260C
Vinyl chloride		0.038		0.020	ug/L	8260C SIM
Depth to water		35.21			ft	Field Sampling
Specific Conductivity		170			umhos/cm	Field Sampling
Dissolved Oxygen		0.31			mg/L	Field Sampling
eH		124.5			millivolts	Field Sampling
Turbidity		0.19			NTU	Field Sampling
Temperature		10.32			Degrees C	Field Sampling
pH		6.62			SU	Field Sampling
Chloride		2.7		1.0	mg/L	300.0
Sulfate		4.2		1.0	mg/L	300.0
Ammonia (as N)		0.47		0.030	mg/L	350.1
Alkalinity, Total (As CaCO3)		75		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		75		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		110		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		14		0.040	mg/L	6010D
Iron, Dissolved		0.13		0.060	mg/L	6010D
Magnesium, Dissolved		6.9		0.050	mg/L	6010D
Potassium, Dissolved		1.4		1.0	mg/L	6010D
Sodium, Dissolved		5.6		1.0	mg/L	6010D
Manganese, Dissolved		1.1	B	0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.15		0.060	mg/L	6010D
Barium, Total		0.0038		0.0010	mg/L	6020B
Manganese, Total		1.1		0.0010	mg/L	6020B
Nickel, Total		0.00046	J	0.0040	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116888-12FD	**DUP1**					
Trichloroethene		0.97	J	1.0	ug/L	8260C
Vinyl chloride		0.038		0.020	ug/L	8260C SIM
Chloride		2.6		1.0	mg/L	300.0
Sulfate		4.2		1.0	mg/L	300.0
Ammonia (as N)		0.46		0.030	mg/L	350.1
Alkalinity, Total (As CaCO3)		74		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		74		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		110		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		14		0.040	mg/L	6010D
Iron, Dissolved		0.13		0.060	mg/L	6010D
Magnesium, Dissolved		7.0		0.050	mg/L	6010D
Potassium, Dissolved		1.4		1.0	mg/L	6010D
Sodium, Dissolved		5.7		1.0	mg/L	6010D
Manganese, Dissolved		1.1	B	0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.14		0.060	mg/L	6010D
Barium, Total		0.0032		0.0010	mg/L	6020B
Manganese, Total		1.1		0.0010	mg/L	6020B
Nickel, Total		0.00047	J	0.0040	mg/L	6020B

METHOD SUMMARY

Client: Waste Management Job Number: 280-116888-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrate	TAL DEN	EPA 353.2	
Alkalinity	TAL DEN	SM SM 2320B	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	
Field Sampling	TAL DEN	EPA Field Sampling	
Volatile Organic Compounds by GC/MS	TAL BUF	SW846 8260C	
Purge and Trap	TAL BUF		SW846 5030C
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260C SIM	
Purge and Trap	TAL BUF		SW846 5030C
General Subcontract Method	SC0056	Subcontract	

Lab References:

SC0056 = Analytical Resources, Inc

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

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: Waste Management

Job Number: 280-116888-1

Method	Analyst	Analyst ID
SW846 8260C	Moffat, Alyssa M	AMM
SW846 8260C SIM	Farrell, Ryan J	RJF
SW846 6010D	Lackey, Cara M	CML
SW846 6010D	Scott, Samantha J	SJS
SW846 6020B	Trudell, Lynn-Anne M	LMT
EPA Field Sampling	Suporn, Arisa 1	A1S
MCAWW 300.0	Duplin, Alysha 1	A1D
MCAWW 350.1	Pedrick, Joshua A	JAP
EPA 353.2	Jewell, Connie C	CCJ
SM SM 2320B	Barker, Scott G	SGB
SM SM 2540C	Setjoadi, Mayori J	MJS
SM SM 2540D	Setjoadi, Mayori J	MJS
SM SM 5310B	Loux, Lauren P	LPL

SAMPLE SUMMARY

Client: Waste Management Job Number: 280-116888-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-116888-1	MW-13A	Water	11/12/2018 1058	11/13/2018 0900
280-116888-2	MW-13B	Water	11/12/2018 1147	11/13/2018 0900
280-116888-3	MW-35	Water	11/12/2018 1257	11/13/2018 0900
280-116888-4	MW-16	Water	11/12/2018 1400	11/13/2018 0900
280-116888-5	MW-39	Water	11/12/2018 1502	11/13/2018 0900
280-116888-6FD	DUP2	Water	11/12/2018 1510	11/13/2018 0900
280-116888-7	MW-34A	Water	11/12/2018 1100	11/13/2018 0900
280-116888-8	MW-34C	Water	11/12/2018 1200	11/13/2018 0900
280-116888-9	MW-15R	Water	11/12/2018 1353	11/13/2018 0900
280-116888-10	MW-36A	Water	11/12/2018 1256	11/13/2018 0900
280-116888-11	MW-19C	Water	11/12/2018 1448	11/13/2018 0900
280-116888-12FD	DUP1	Water	11/12/2018 1455	11/13/2018 0900
280-116888-13TB	TRIP BLANK	Water	11/12/2018 0000	11/13/2018 0900

SAMPLE RESULTS

Client Sample ID: **MW-13A**

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8309.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1140			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1140				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13A

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8309.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1140			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1140				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13A

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8309.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1140			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1140				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	100		73 - 120
Toluene-d8 (Surr)	99		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13A

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8309.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1140			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1140				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8310.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1203			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1203				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8310.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1203			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1203				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8310.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1203			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1203				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98		77 - 120
4-Bromofluorobenzene (Surr)	100		73 - 120
Toluene-d8 (Surr)	99		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8310.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1203			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1203				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: MW-35

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8311.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1226			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1226				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-35

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8311.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1226			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1226				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-35

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8311.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1226			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1226				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	106		77 - 120
4-Bromofluorobenzene (Surr)	96		73 - 120
Toluene-d8 (Surr)	97		80 - 120

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-35**

Lab Sample ID: 280-116888-3
Client Matrix: Water

Date Sampled: 11/12/2018 1257
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8311.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1226			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1226				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8312.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1249			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1249				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8312.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1249			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1249				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8312.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1249			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1249				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		77 - 120
4-Bromofluorobenzene (Surr)	99		73 - 120
Toluene-d8 (Surr)	99		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8312.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1249			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1249				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-39

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8313.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1312			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1312				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-39

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8313.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1312			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1312				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-39

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8313.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1312			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1312				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		77 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Toluene-d8 (Surr)	98		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-39

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8313.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1312			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1312				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP2

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8314.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1335			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1335				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP2

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8314.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1335			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1335				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP2

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8314.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1335			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1335				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	99		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP2

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8314.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1335			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1335				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34A

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8315.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1358			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1358				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-34A**

Lab Sample ID: 280-116888-7
Client Matrix: Water

Date Sampled: 11/12/2018 1100
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8315.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1358			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1358				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34A

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8315.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1358			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1358				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98		77 - 120
4-Bromofluorobenzene (Surr)	97		73 - 120
Toluene-d8 (Surr)	97		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34A

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8315.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1358			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1358				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **MW-34C**

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5902.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1221			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1221				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34C

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5902.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1221			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1221				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	0.51	J	0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34C

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5902.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1221			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1221				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		77 - 120
4-Bromofluorobenzene (Surr)	105		73 - 120
Toluene-d8 (Surr)	99		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34C

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5902.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1221			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1221				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **MW-15R**

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5903.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1248			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1248				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: MW-15R

Lab Sample ID: 280-116888-9
Client Matrix: Water

Date Sampled: 11/12/2018 1353
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5903.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1248			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1248				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-15R

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5903.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1248			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1248				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	107		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	97		80 - 120

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-15R**

Lab Sample ID: 280-116888-9
Client Matrix: Water

Date Sampled: 11/12/2018 1353
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5903.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1248			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1248				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-36A

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5904.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1315			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1315				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-36A

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5904.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1315			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1315				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-36A

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5904.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1315			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1315				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	100		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-36A

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5904.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1315			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1315				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-19C

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5905.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1342			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1342				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-19C**

Lab Sample ID: 280-116888-11
Client Matrix: Water

Date Sampled: 11/12/2018 1448
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5905.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1342			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1342				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	1.0		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-19C

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5905.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1342			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1342				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108		77 - 120
4-Bromofluorobenzene (Surr)	100		73 - 120
Toluene-d8 (Surr)	96		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-19C

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5905.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1342			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1342				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **DUP1**

Lab Sample ID: 280-116888-12FD
Client Matrix: Water

Date Sampled: 11/12/2018 1455
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5906.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1409			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1409				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client Sample ID: **DUP1**

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5906.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1409			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1409				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	0.97	J	0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP1

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5906.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1409			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1409				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		77 - 120
4-Bromofluorobenzene (Surr)	104		73 - 120
Toluene-d8 (Surr)	97		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP1

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5906.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1409			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1409				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116888-13TB Date Sampled: 11/12/2018 0000
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5907.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1437			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1437				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116888-13TB
Client Matrix: Water

Date Sampled: 11/12/2018 0000
Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5907.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1437			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1437				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116888-13TB Date Sampled: 11/12/2018 0000
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5907.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1437			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1437				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	97		80 - 120

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116888-13TB Date Sampled: 11/12/2018 0000
Client Matrix: Water Date Received: 11/13/2018 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5907.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1437			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1437				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: MW-13A

Lab Sample ID: 280-116888-1
Client Matrix: Water

Date Sampled: 11/12/2018 1058
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8076.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1316			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1316				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	106		50 - 150
TBA-d9 (Surr)	86		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8077.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1340			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1340				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	111		50 - 150
TBA-d9 (Surr)	92		50 - 150

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: MW-35

Lab Sample ID: 280-116888-3
Client Matrix: Water

Date Sampled: 11/12/2018 1257
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8078.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1404			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1404				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	105		50 - 150
TBA-d9 (Surr)	81		50 - 150

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4
Client Matrix: Water

Date Sampled: 11/12/2018 1400
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8079.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1429			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1429				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	106		50 - 150
TBA-d9 (Surr)	82		50 - 150

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: MW-39

Lab Sample ID: 280-116888-5
Client Matrix: Water

Date Sampled: 11/12/2018 1502
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8080.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1453			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1453				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	103		50 - 150
TBA-d9 (Surr)	78		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP2

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8081.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1517			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1517				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	107		50 - 150
TBA-d9 (Surr)	83		50 - 150

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-34A**

Lab Sample ID: 280-116888-7
Client Matrix: Water

Date Sampled: 11/12/2018 1100
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8082.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1541			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1541				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	0.0067	J	0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	106		50 - 150
TBA-d9 (Surr)	80		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-34C

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8083.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1605			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1605				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	0.040		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	105		50 - 150
TBA-d9 (Surr)	81		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-15R

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8084.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1630			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1630				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	109		50 - 150
TBA-d9 (Surr)	92		50 - 150

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-36A**

Lab Sample ID: 280-116888-10
Client Matrix: Water

Date Sampled: 11/12/2018 1256
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8085.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1654			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1654				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	111		50 - 150
TBA-d9 (Surr)	93		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-19C

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8086.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1718			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1718				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	0.038		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	111		50 - 150
TBA-d9 (Surr)	92		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP1

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8087.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1742			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1742				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	0.038		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	110		50 - 150
TBA-d9 (Surr)	80		50 - 150

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116888-13TB
Client Matrix: Water

Date Sampled: 11/12/2018 0000
Date Received: 11/13/2018 0900

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8088.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1806			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1806				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	111		50 - 150
TBA-d9 (Surr)	96		50 - 150

Client Sample ID: MW-13A

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0219			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0125			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	15		0.035	0.040
Magnesium, Dissolved	8.3		0.011	0.050
Potassium, Dissolved	0.70	J	0.24	1.0
Sodium, Dissolved	5.2		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1500			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	ND		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	145SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2146			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0028		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0021	J	0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-13A**

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	0.00057	J	0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0039		0.00050	0.0020
Zinc, Total	ND		0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438258	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	246SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0326			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	175SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2327			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.00070	J B	0.00031	0.0010

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0223			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0142			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	17		0.035	0.040
Magnesium, Dissolved	8.2		0.011	0.050
Potassium, Dissolved	0.71	J	0.24	1.0
Sodium, Dissolved	5.3		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1531			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	0.028	J	0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	146SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2149			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0034		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0030		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-13B**

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	ND		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0054		0.00050	0.0020
Zinc, Total	0.0022	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438258	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	247SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0330			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	180SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2344			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.00041	J B	0.00031	0.0010

Client Sample ID: MW-35

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0226			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0146			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	15		0.035	0.040
Magnesium, Dissolved	8.6		0.011	0.050
Potassium, Dissolved	0.66	J	0.24	1.0
Sodium, Dissolved	5.2		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1534			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	ND		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	147SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2152			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0032		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0025	J	0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-35**

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	ND		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Silver, Total	ND	F1	0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0042		0.00050	0.0020
Zinc, Total	ND		0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438258	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	248SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0333			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	181SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2348			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.00038	J B	0.00031	0.0010

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0229			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030

Analysis Method:	6010D	Analysis Batch:	280-437930	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111618A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1200			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Total	0.22		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0149			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	9.7		0.035	0.040
Magnesium, Dissolved	5.2		0.011	0.050
Potassium, Dissolved	0.75	J	0.24	1.0
Sodium, Dissolved	5.1		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1538			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	ND		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	152SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2209			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-16

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	0.00052	J	0.00040	0.0010
Barium, Total	0.0038		0.00029	0.0010
Beryllium, Total	0.00016	J	0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0092		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	0.00030	J	0.00018	0.0010
Manganese, Total	0.025		0.00031	0.0010
Nickel, Total	0.0031	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	0.000053	J	0.000050	0.0010
Vanadium, Total	0.0047		0.00050	0.0020
Zinc, Total	0.0020	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438258	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	253SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0350			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	184SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2358			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.00052	J B	0.00031	0.0010

Client Sample ID: MW-39

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0233			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	0.0064		0.0012	0.0030
Iron, Total	35		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0206			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	12		0.035	0.040
Magnesium, Dissolved	7.0		0.011	0.050
Potassium, Dissolved	0.40	J	0.24	1.0
Sodium, Dissolved	8.7		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1541			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	36		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	161SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2240			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.018		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0010	J	0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	0.00026	J	0.00018	0.0010

Client Sample ID: **MW-39**

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	0.45		0.00031	0.0010
Nickel, Total	0.0026	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0016	J	0.00050	0.0020
Zinc, Total	0.0038	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	041SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1621			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	185SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0001			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.47	B	0.00031	0.0010

Client Sample ID: **DUP2**

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0236			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	0.0064		0.0012	0.0030
Iron, Total	34		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0209			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	12		0.035	0.040
Magnesium, Dissolved	6.8		0.011	0.050
Potassium, Dissolved	0.34	J	0.24	1.0
Sodium, Dissolved	8.4		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1544			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	35		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	162SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2243			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.017		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0010	J	0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	0.00018	J	0.00018	0.0010

Client Sample ID: **DUP2**

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	0.45		0.00031	0.0010
Nickel, Total	0.0026	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0017	J	0.00050	0.0020
Zinc, Total	0.0024	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	042SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1625			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	186SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0004			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.47	B	0.00031	0.0010

Client Sample ID: MW-34A

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0240			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0213			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	14		0.035	0.040
Magnesium, Dissolved	6.5		0.011	0.050
Potassium, Dissolved	0.74	J	0.24	1.0
Sodium, Dissolved	9.2		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1601			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	ND		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	163SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2246			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0042		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0035		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-34A**

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	0.0014		0.00031	0.0010
Nickel, Total	0.0028	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0033		0.00050	0.0020
Zinc, Total	0.0032	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	043SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1628			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438701	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	046SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1329			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.0013	B	0.00031	0.0010

Client Sample ID: **MW-34C**

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0243			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	22		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0216			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	23		0.035	0.040
Magnesium, Dissolved	9.4		0.011	0.050
Potassium, Dissolved	1.1		0.24	1.0
Sodium, Dissolved	10		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1605			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	0.65		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	164SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2250			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.095		0.00029	0.0010
Beryllium, Total	0.000080	J	0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.00055	J	0.00050	0.0030
Copper, Total	0.0019	J	0.00056	0.0020
Lead, Total	0.0010		0.00018	0.0010

Client: Waste Management

Job Number: 280-116888-1

Client Sample ID: **MW-34C**

Lab Sample ID: 280-116888-8
Client Matrix: Water

Date Sampled: 11/12/2018 1200
Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	1.1		0.00031	0.0010
Nickel, Total	0.00090	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0018	J	0.00050	0.0020
Zinc, Total	0.0077		0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	044SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1631			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	188SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0011			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.58	B	0.00031	0.0010

Client Sample ID: **MW-15R**

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0300			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	0.023	J	0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0219			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	14		0.035	0.040
Magnesium, Dissolved	8.6		0.011	0.050
Potassium, Dissolved	0.82	J	0.24	1.0
Sodium, Dissolved	5.3		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1608			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	ND		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	165SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2253			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0043		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: MW-15R

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	0.0026		0.00031	0.0010
Nickel, Total	0.0011	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0026		0.00050	0.0020
Zinc, Total	0.0020	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	045SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1635			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-440531	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	079SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/07/2018 1511			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.0019	B	0.00031	0.0010

Client Sample ID: **MW-36A**

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0303			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0223			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	9.9		0.035	0.040
Magnesium, Dissolved	6.5		0.011	0.050
Potassium, Dissolved	0.97	J	0.24	1.0
Sodium, Dissolved	6.3		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1611			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	ND		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	166SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2257			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0025		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.0092		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-36A**

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	0.0016		0.00031	0.0010
Nickel, Total	0.0016	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.0022		0.00050	0.0020
Zinc, Total	0.0022	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	046SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1638			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	190SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0018			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.00063	J B	0.00031	0.0010

Client Sample ID: MW-19C

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0306			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	0.15		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0226			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	14		0.035	0.040
Magnesium, Dissolved	6.9		0.011	0.050
Potassium, Dissolved	1.4		0.24	1.0
Sodium, Dissolved	5.6		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1615			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	0.13		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	167SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2300			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0038		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-19C**

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	1.1		0.00031	0.0010
Nickel, Total	0.00046	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020
Zinc, Total	ND		0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	047SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1641			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	191SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0021			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	1.1	B	0.00031	0.0010

Client Sample ID: **DUP1**

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0310			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	0.14		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-440535	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0229			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	14		0.035	0.040
Magnesium, Dissolved	7.0		0.011	0.050
Potassium, Dissolved	1.4		0.24	1.0
Sodium, Dissolved	5.7		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-440690	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1618			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Iron, Dissolved	0.13		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	168SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2303			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0032		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client: Waste Management Job Number: 280-116888-1

Client Sample ID: DUP1

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	1.1		0.00031	0.0010
Nickel, Total	0.00047	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020
Zinc, Total	ND		0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	048SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1645			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	192SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0025			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	1.1	B	0.00031	0.0010

General Chemistry

Client Sample ID: **MW-13A**

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1.9		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2127						
Sulfate	2.1		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2127						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1046						
Nitrate as N	0.38		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	81		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2251						
Alkalinity, Bicarbonate (As CaCO3)	81		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2251						
Total Dissolved Solids (TDS)	98		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0159						

General Chemistry

Client Sample ID: MW-13B

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	2.0		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2245						
Sulfate	3.0		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2245						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1048						
Nitrate as N	0.40		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	83		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2257						
Alkalinity, Bicarbonate (As CaCO3)	83		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2257						
Total Dissolved Solids (TDS)	110		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0332						

General Chemistry

Client Sample ID: MW-35

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1.9		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2304						
Sulfate	2.3		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2304						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1050						
Nitrate as N	0.41		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	80		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2303						
Alkalinity, Bicarbonate (As CaCO3)	80		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2303						
Total Dissolved Solids (TDS)	100		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0348						

General Chemistry

Client Sample ID: **MW-16**

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1.4		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2324						
Sulfate	1.6		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2324						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1052						
Nitrate as N	0.28		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	53		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2309						
Alkalinity, Bicarbonate (As CaCO3)	53		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2309						
Total Dissolved Solids (TDS)	81		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0405						

General Chemistry

Client Sample ID: **MW-39**

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	5.5		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2343						
Sulfate	ND		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/28/2018 2343						
Ammonia (as N)	0.51		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1054						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	100		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2314						
Alkalinity, Bicarbonate (As CaCO3)	100		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2314						
Total Dissolved Solids (TDS)	150		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	8.0		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	2.1		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0419						

General Chemistry

Client Sample ID: DUP2

Lab Sample ID: 280-116888-6FD Date Sampled: 11/12/2018 1510
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	5.5		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0002						
Sulfate	ND		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0002						
Ammonia (as N)	0.52		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1056						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	100		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2319						
Alkalinity, Bicarbonate (As CaCO3)	100		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2319						
Total Dissolved Solids (TDS)	140		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	8.0		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	2.1		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0436						

General Chemistry

Client Sample ID: MW-34A

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	3.5		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0021						
Sulfate	2.8		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0021						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1110						
Nitrate as N	0.23		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	79		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2349						
Alkalinity, Bicarbonate (As CaCO3)	79		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/21/2018 2349						
Total Dissolved Solids (TDS)	120		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0453						

General Chemistry

Client Sample ID: **MW-34C**

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	5.7		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0119						
Sulfate	5.4		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0119						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1112						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	110		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0000						
Alkalinity, Bicarbonate (As CaCO3)	110		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0000						
Total Dissolved Solids (TDS)	160		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	33		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	1.1		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0511						

General Chemistry

Client Sample ID: MW-15R

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	2.5		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0138						
Sulfate	5.0		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0138						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1114						
Nitrate as N	0.37		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	73		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0005						
Alkalinity, Bicarbonate (As CaCO3)	73		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0005						
Total Dissolved Solids (TDS)	100		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0526						

General Chemistry

Client Sample ID: MW-36A

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1.8		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0157						
Sulfate	2.4		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0157						
Ammonia (as N)	0.031		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1157						
Nitrate as N	0.61		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	59		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0011						
Alkalinity, Bicarbonate (As CaCO3)	59		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0011						
Total Dissolved Solids (TDS)	96		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0620						

General Chemistry

Client Sample ID: **MW-19C**

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	2.7		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0216						
Sulfate	4.2		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0216						
Ammonia (as N)	0.47		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1120						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	75		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0023						
Alkalinity, Bicarbonate (As CaCO3)	75		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0023						
Total Dissolved Solids (TDS)	110		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0634						

General Chemistry

Client Sample ID: DUP1

Lab Sample ID: 280-116888-12FD Date Sampled: 11/12/2018 1455
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	2.6		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0235						
Sulfate	4.2		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439057	Analysis Date: 11/29/2018 0235						
Ammonia (as N)	0.46		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1118						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1056						
Alkalinity, Total (As CaCO3)	74		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0017						
Alkalinity, Bicarbonate (As CaCO3)	74		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0017						
Total Dissolved Solids (TDS)	110		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437564	Analysis Date: 11/14/2018 1005						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437518	Analysis Date: 11/14/2018 0807						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439524	Analysis Date: 11/30/2018 0729						

Field Service / Mobile Lab

Client Sample ID: **MW-13A**

Lab Sample ID: 280-116888-1 Date Sampled: 11/12/2018 1058
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	46.99		ft	1.0	Field Sampling	280-438054	11/12/2018 1158
Specific Conductivity	169		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1158
Dissolved Oxygen	8.45		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1158
eH	207.9		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1158
Turbidity	0.35		NTU	1.0	Field Sampling	280-438054	11/12/2018 1158
Temperature	9.5		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1158
pH	7.02		SU	1.0	Field Sampling	280-438054	11/12/2018 1158

Field Service / Mobile Lab

Client Sample ID: **MW-13B**

Lab Sample ID: 280-116888-2 Date Sampled: 11/12/2018 1147
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	60.55		ft	1.0	Field Sampling	280-438054	11/12/2018 1247
Specific Conductivity	174		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1247
Dissolved Oxygen	8.82		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1247
eH	159.1		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1247
Turbidity	0.22		NTU	1.0	Field Sampling	280-438054	11/12/2018 1247
Temperature	10.0		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1247
pH	7.65		SU	1.0	Field Sampling	280-438054	11/12/2018 1247

Field Service / Mobile Lab

Client Sample ID: **MW-35**

Lab Sample ID: 280-116888-3 Date Sampled: 11/12/2018 1257
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	72.68		ft	1.0	Field Sampling	280-438054	11/12/2018 1357
Specific Conductivity	164		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1357
Dissolved Oxygen	6.43		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1357
eH	175.2		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1357
Turbidity	0.65		NTU	1.0	Field Sampling	280-438054	11/12/2018 1357
Temperature	10.3		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1357
pH	7.40		SU	1.0	Field Sampling	280-438054	11/12/2018 1357

Field Service / Mobile Lab

Client Sample ID: **MW-16**

Lab Sample ID: 280-116888-4 Date Sampled: 11/12/2018 1400
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	60.93		ft	1.0	Field Sampling	280-438054	11/12/2018 1500
Specific Conductivity	112		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1500
Dissolved Oxygen	6.04		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1500
eH	198.8		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1500
Turbidity	1.68		NTU	1.0	Field Sampling	280-438054	11/12/2018 1500
Temperature	9.6		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1500
pH	6.34		SU	1.0	Field Sampling	280-438054	11/12/2018 1500

Field Service / Mobile Lab

Client Sample ID: **MW-39**

Lab Sample ID: 280-116888-5 Date Sampled: 11/12/2018 1502
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	22.59		ft	1.0	Field Sampling	280-438054	11/12/2018 1602
Specific Conductivity	267		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1602
Dissolved Oxygen	0.38		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1602
eH	-39.4		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1602
Turbidity	12.0		NTU	1.0	Field Sampling	280-438054	11/12/2018 1602
Temperature	11.4		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1602
pH	6.17		SU	1.0	Field Sampling	280-438054	11/12/2018 1602

Field Service / Mobile Lab

Client Sample ID: **MW-34A**

Lab Sample ID: 280-116888-7 Date Sampled: 11/12/2018 1100
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	40.72		ft	1.0	Field Sampling	280-438054	11/12/2018 1200
Specific Conductivity	178		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1200
Dissolved Oxygen	0.92		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1200
eH	309.9		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1200
Turbidity	1.20		NTU	1.0	Field Sampling	280-438054	11/12/2018 1200
Temperature	12.05		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1200
pH	5.80		SU	1.0	Field Sampling	280-438054	11/12/2018 1200

Field Service / Mobile Lab

Client Sample ID: **MW-34C**

Lab Sample ID: 280-116888-8 Date Sampled: 11/12/2018 1200
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	42.51		ft	1.0	Field Sampling	280-438054	11/12/2018 1300
Specific Conductivity	240		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1300
Dissolved Oxygen	1.79		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1300
eH	295.4		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1300
Turbidity	181.7		NTU	1.0	Field Sampling	280-438054	11/12/2018 1300
Temperature	11.42		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1300
pH	6.47		SU	1.0	Field Sampling	280-438054	11/12/2018 1300

Field Service / Mobile Lab

Client Sample ID: **MW-15R**

Lab Sample ID: 280-116888-9 Date Sampled: 11/12/2018 1353
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	19.63		ft	1.0	Field Sampling	280-438054	11/12/2018 1453
Specific Conductivity	171		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1453
Dissolved Oxygen	1.50		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1453
eH	261.8		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1453
Turbidity	0.0		NTU	1.0	Field Sampling	280-438054	11/12/2018 1453
Temperature	10.05		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1453
pH	6.42		SU	1.0	Field Sampling	280-438054	11/12/2018 1453

Field Service / Mobile Lab

Client Sample ID: **MW-36A**

Lab Sample ID: 280-116888-10 Date Sampled: 11/12/2018 1256
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	32.10		ft	1.0	Field Sampling	280-438054	11/12/2018 1356
Specific Conductivity	135		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1356
Dissolved Oxygen	3.95		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1356
eH	250.5		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1356
Turbidity	0.0		NTU	1.0	Field Sampling	280-438054	11/12/2018 1356
Temperature	9.57		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1356
pH	5.98		SU	1.0	Field Sampling	280-438054	11/12/2018 1356

Field Service / Mobile Lab

Client Sample ID: **MW-19C**

Lab Sample ID: 280-116888-11 Date Sampled: 11/12/2018 1448
Client Matrix: Water Date Received: 11/13/2018 0900

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	35.21		ft	1.0	Field Sampling	280-438054	11/12/2018 1548
Specific Conductivity	170		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1548
Dissolved Oxygen	0.31		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1548
eH	124.5		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1548
Turbidity	0.19		NTU	1.0	Field Sampling	280-438054	11/12/2018 1548
Temperature	10.32		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1548
pH	6.62		SU	1.0	Field Sampling	280-438054	11/12/2018 1548

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-116888-1

Lab Section	Qualifier	Description
GC/MS VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	B	Compound was found in the blank and sample.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-446211					
LCS 480-446211/5	Lab Control Sample	T	Water	8260C	
MB 480-446211/7	Method Blank	T	Water	8260C	
280-116888-1	MW-13A	T	Water	8260C	
280-116888-2	MW-13B	T	Water	8260C	
280-116888-3	MW-35	T	Water	8260C	
280-116888-4	MW-16	T	Water	8260C	
280-116888-5	MW-39	T	Water	8260C	
280-116888-6FD	DUP2	T	Water	8260C	
280-116888-7	MW-34A	T	Water	8260C	
480-145073-E-1 MS	Matrix Spike	T	Water	8260C	
480-145073-E-1 MSD	Matrix Spike Duplicate	T	Water	8260C	
Analysis Batch:480-446217					
LCS 480-446217/4	Lab Control Sample	T	Water	8260C	
MB 480-446217/6	Method Blank	T	Water	8260C	
280-116888-8	MW-34C	T	Water	8260C	
280-116888-9	MW-15R	T	Water	8260C	
280-116888-10	MW-36A	T	Water	8260C	
280-116888-11	MW-19C	T	Water	8260C	
280-116888-12FD	DUP1	T	Water	8260C	
280-116888-13TB	TRIP BLANK	T	Water	8260C	
Analysis Batch:480-446599					
LCS 480-446599/7	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-446599/8	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-446599/10	Method Blank	T	Water	8260C SIM	
280-116888-1	MW-13A	T	Water	8260C SIM	
280-116888-2	MW-13B	T	Water	8260C SIM	
280-116888-3	MW-35	T	Water	8260C SIM	
280-116888-4	MW-16	T	Water	8260C SIM	
280-116888-5	MW-39	T	Water	8260C SIM	
280-116888-6FD	DUP2	T	Water	8260C SIM	
280-116888-7	MW-34A	T	Water	8260C SIM	
280-116888-8	MW-34C	T	Water	8260C SIM	
280-116888-9	MW-15R	T	Water	8260C SIM	
280-116888-10	MW-36A	T	Water	8260C SIM	
280-116888-11	MW-19C	T	Water	8260C SIM	
280-116888-12FD	DUP1	T	Water	8260C SIM	
280-116888-13TB	TRIP BLANK	T	Water	8260C SIM	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-437667					
LCS 280-437667/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437667/1-A	Method Blank	R	Water	3005A	
280-116888-1	MW-13A	D	Water	3005A	
280-116888-1MS	Matrix Spike	D	Water	3005A	
280-116888-1MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116888-2	MW-13B	D	Water	3005A	
280-116888-3	MW-35	D	Water	3005A	
280-116888-4	MW-16	D	Water	3005A	
280-116888-5	MW-39	D	Water	3005A	
280-116888-6FD	DUP2	D	Water	3005A	
280-116888-7	MW-34A	D	Water	3005A	
280-116888-8	MW-34C	D	Water	3005A	
280-116888-9	MW-15R	D	Water	3005A	
280-116888-10	MW-36A	D	Water	3005A	
280-116888-11	MW-19C	D	Water	3005A	
280-116888-12FD	DUP1	D	Water	3005A	
Prep Batch: 280-437673					
LCS 280-437673/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437673/1-A	Method Blank	R	Water	3005A	
280-116888-1	MW-13A	R	Water	3005A	
280-116888-2	MW-13B	R	Water	3005A	
280-116888-3	MW-35	R	Water	3005A	
280-116888-4	MW-16	R	Water	3005A	
280-116888-5	MW-39	R	Water	3005A	
280-116888-6FD	DUP2	R	Water	3005A	
280-116888-7	MW-34A	R	Water	3005A	
280-116888-8	MW-34C	R	Water	3005A	
280-116888-9	MW-15R	R	Water	3005A	
280-116888-10	MW-36A	R	Water	3005A	
280-116888-11	MW-19C	R	Water	3005A	
280-116888-12FD	DUP1	R	Water	3005A	
280-116888-12MS	Matrix Spike	R	Water	3005A	
280-116888-12MSD	Matrix Spike Duplicate	R	Water	3005A	

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-437675					
LCS 280-437675/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437675/1-A	Method Blank	R	Water	3005A	
280-116888-1	MW-13A	R	Water	3005A	
280-116888-2	MW-13B	R	Water	3005A	
280-116888-3	MW-35	R	Water	3005A	
280-116888-3MS	Matrix Spike	R	Water	3005A	
280-116888-3MSD	Matrix Spike Duplicate	R	Water	3005A	
280-116888-4	MW-16	R	Water	3005A	
280-116888-5	MW-39	R	Water	3005A	
280-116888-6FD	DUP2	R	Water	3005A	
280-116888-7	MW-34A	R	Water	3005A	
280-116888-8	MW-34C	R	Water	3005A	
280-116888-9	MW-15R	R	Water	3005A	
280-116888-10	MW-36A	R	Water	3005A	
280-116888-11	MW-19C	R	Water	3005A	
280-116888-12FD	DUP1	R	Water	3005A	
Analysis Batch:280-437867					
LCS 280-437673/2-A	Lab Control Sample	R	Water	6010D	280-437673
MB 280-437673/1-A	Method Blank	R	Water	6010D	280-437673
280-116888-1	MW-13A	R	Water	6010D	280-437673
280-116888-2	MW-13B	R	Water	6010D	280-437673
280-116888-3	MW-35	R	Water	6010D	280-437673
280-116888-4	MW-16	R	Water	6010D	280-437673
280-116888-5	MW-39	R	Water	6010D	280-437673
280-116888-6FD	DUP2	R	Water	6010D	280-437673
280-116888-7	MW-34A	R	Water	6010D	280-437673
280-116888-8	MW-34C	R	Water	6010D	280-437673
280-116888-9	MW-15R	R	Water	6010D	280-437673
280-116888-10	MW-36A	R	Water	6010D	280-437673
280-116888-11	MW-19C	R	Water	6010D	280-437673
280-116888-12FD	DUP1	R	Water	6010D	280-437673
280-116888-12MS	Matrix Spike	R	Water	6010D	280-437673
280-116888-12MSD	Matrix Spike Duplicate	R	Water	6010D	280-437673
Analysis Batch:280-437930					
280-116888-4	MW-16	R	Water	6010D	280-437673

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-438257					
LCS 280-437667/2-A	Lab Control Sample	R	Water	6020B	280-437667
MB 280-437667/1-A	Method Blank	R	Water	6020B	280-437667
LCS 280-437675/2-A	Lab Control Sample	R	Water	6020B	280-437675
MB 280-437675/1-A	Method Blank	R	Water	6020B	280-437675
280-116888-1	MW-13A	D	Water	6020B	280-437667
280-116888-1MS	Matrix Spike	D	Water	6020B	280-437667
280-116888-1MSD	Matrix Spike Duplicate	D	Water	6020B	280-437667
280-116888-1	MW-13A	R	Water	6020B	280-437675
280-116888-2	MW-13B	D	Water	6020B	280-437667
280-116888-2	MW-13B	R	Water	6020B	280-437675
280-116888-3	MW-35	D	Water	6020B	280-437667
280-116888-3	MW-35	R	Water	6020B	280-437675
280-116888-3MS	Matrix Spike	R	Water	6020B	280-437675
280-116888-3MSD	Matrix Spike Duplicate	R	Water	6020B	280-437675
280-116888-4	MW-16	D	Water	6020B	280-437667
280-116888-4	MW-16	R	Water	6020B	280-437675
280-116888-5	MW-39	D	Water	6020B	280-437667
280-116888-5	MW-39	R	Water	6020B	280-437675
280-116888-6FD	DUP2	D	Water	6020B	280-437667
280-116888-6FD	DUP2	R	Water	6020B	280-437675
280-116888-7	MW-34A	R	Water	6020B	280-437675
280-116888-8	MW-34C	D	Water	6020B	280-437667
280-116888-8	MW-34C	R	Water	6020B	280-437675
280-116888-9	MW-15R	R	Water	6020B	280-437675
280-116888-10	MW-36A	D	Water	6020B	280-437667
280-116888-10	MW-36A	R	Water	6020B	280-437675
280-116888-11	MW-19C	D	Water	6020B	280-437667
280-116888-11	MW-19C	R	Water	6020B	280-437675
280-116888-12FD	DUP1	D	Water	6020B	280-437667
280-116888-12FD	DUP1	R	Water	6020B	280-437675
Analysis Batch:280-438258					
LCS 280-437675/2-A	Lab Control Sample	R	Water	6020B	280-437675
MB 280-437675/1-A	Method Blank	R	Water	6020B	280-437675
280-116888-1	MW-13A	R	Water	6020B	280-437675
280-116888-2	MW-13B	R	Water	6020B	280-437675
280-116888-3	MW-35	R	Water	6020B	280-437675
280-116888-3MS	Matrix Spike	R	Water	6020B	280-437675
280-116888-3MSD	Matrix Spike Duplicate	R	Water	6020B	280-437675
280-116888-4	MW-16	R	Water	6020B	280-437675

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-438552					
280-116888-5	MW-39	R	Water	6020B	280-437675
280-116888-6FD	DUP2	R	Water	6020B	280-437675
280-116888-7	MW-34A	R	Water	6020B	280-437675
280-116888-8	MW-34C	R	Water	6020B	280-437675
280-116888-9	MW-15R	R	Water	6020B	280-437675
280-116888-10	MW-36A	R	Water	6020B	280-437675
280-116888-11	MW-19C	R	Water	6020B	280-437675
280-116888-12FD	DUP1	R	Water	6020B	280-437675
Analysis Batch:280-438701					
LCS 280-437667/2-A	Lab Control Sample	R	Water	6020B	280-437667
MB 280-437667/1-A	Method Blank	R	Water	6020B	280-437667
280-116888-7	MW-34A	D	Water	6020B	280-437667
280-116888-9	MW-15R	D	Water	6020B	280-437667
Prep Batch: 280-440357					
LCS 280-440357/2-A	Lab Control Sample	R	Water	3005A	
MB 280-440357/1-A	Method Blank	R	Water	3005A	
280-116888-1	MW-13A	D	Water	3005A	
280-116888-1MS	Matrix Spike	D	Water	3005A	
280-116888-1MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116888-2	MW-13B	D	Water	3005A	
280-116888-3	MW-35	D	Water	3005A	
280-116888-4	MW-16	D	Water	3005A	
280-116888-5	MW-39	D	Water	3005A	
280-116888-6FD	DUP2	D	Water	3005A	
280-116888-7	MW-34A	D	Water	3005A	
280-116888-8	MW-34C	D	Water	3005A	
280-116888-9	MW-15R	D	Water	3005A	
280-116888-10	MW-36A	D	Water	3005A	
280-116888-11	MW-19C	D	Water	3005A	
280-116888-12FD	DUP1	D	Water	3005A	
Analysis Batch:280-440531					
280-116888-9	MW-15R	D	Water	6020B	280-437667

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-440535					
LCS 280-440357/2-A	Lab Control Sample	R	Water	6010D	280-440357
MB 280-440357/1-A	Method Blank	R	Water	6010D	280-440357
280-116888-1	MW-13A	D	Water	6010D	280-440357
280-116888-1MS	Matrix Spike	D	Water	6010D	280-440357
280-116888-1MSD	Matrix Spike Duplicate	D	Water	6010D	280-440357
280-116888-2	MW-13B	D	Water	6010D	280-440357
280-116888-3	MW-35	D	Water	6010D	280-440357
280-116888-4	MW-16	D	Water	6010D	280-440357
280-116888-5	MW-39	D	Water	6010D	280-440357
280-116888-6FD	DUP2	D	Water	6010D	280-440357
280-116888-7	MW-34A	D	Water	6010D	280-440357
280-116888-8	MW-34C	D	Water	6010D	280-440357
280-116888-9	MW-15R	D	Water	6010D	280-440357
280-116888-10	MW-36A	D	Water	6010D	280-440357
280-116888-11	MW-19C	D	Water	6010D	280-440357
280-116888-12FD	DUP1	D	Water	6010D	280-440357
Analysis Batch:280-440690					
LCS 280-440357/2-A	Lab Control Sample	R	Water	6010D	280-440357
MB 280-440357/1-A	Method Blank	R	Water	6010D	280-440357
280-116888-1	MW-13A	D	Water	6010D	280-440357
280-116888-1MS	Matrix Spike	D	Water	6010D	280-440357
280-116888-1MSD	Matrix Spike Duplicate	D	Water	6010D	280-440357
280-116888-2	MW-13B	D	Water	6010D	280-440357
280-116888-3	MW-35	D	Water	6010D	280-440357
280-116888-4	MW-16	D	Water	6010D	280-440357
280-116888-5	MW-39	D	Water	6010D	280-440357
280-116888-6FD	DUP2	D	Water	6010D	280-440357
280-116888-7	MW-34A	D	Water	6010D	280-440357
280-116888-8	MW-34C	D	Water	6010D	280-440357
280-116888-9	MW-15R	D	Water	6010D	280-440357
280-116888-10	MW-36A	D	Water	6010D	280-440357
280-116888-11	MW-19C	D	Water	6010D	280-440357
280-116888-12FD	DUP1	D	Water	6010D	280-440357

Report Basis
D = Dissolved
R = Total Recoverable

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Field Service / Mobile Lab					
Analysis Batch:280-438054					
280-116888-1	MW-13A	T	Water	Field Sampling	
280-116888-2	MW-13B	T	Water	Field Sampling	
280-116888-3	MW-35	T	Water	Field Sampling	
280-116888-4	MW-16	T	Water	Field Sampling	
280-116888-5	MW-39	T	Water	Field Sampling	
280-116888-7	MW-34A	T	Water	Field Sampling	
280-116888-8	MW-34C	T	Water	Field Sampling	
280-116888-9	MW-15R	T	Water	Field Sampling	
280-116888-10	MW-36A	T	Water	Field Sampling	
280-116888-11	MW-19C	T	Water	Field Sampling	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-437518					
LCS 280-437518/2	Lab Control Sample	T	Water	SM 2540D	
LCSD 280-437518/3	Lab Control Sample Duplicate	T	Water	SM 2540D	
MB 280-437518/1	Method Blank	T	Water	SM 2540D	
280-116888-1	MW-13A	T	Water	SM 2540D	
280-116888-2	MW-13B	T	Water	SM 2540D	
280-116888-3	MW-35	T	Water	SM 2540D	
280-116888-4	MW-16	T	Water	SM 2540D	
280-116888-5	MW-39	T	Water	SM 2540D	
280-116888-6FD	DUP2	T	Water	SM 2540D	
280-116888-7	MW-34A	T	Water	SM 2540D	
280-116888-8	MW-34C	T	Water	SM 2540D	
280-116888-9	MW-15R	T	Water	SM 2540D	
280-116888-10	MW-36A	T	Water	SM 2540D	
280-116888-11	MW-19C	T	Water	SM 2540D	
280-116888-12FD	DUP1	T	Water	SM 2540D	
280-116900-A-1 DU	Duplicate	T	Water	SM 2540D	
Analysis Batch:280-437564					
LCS 280-437564/2	Lab Control Sample	T	Water	SM 2540C	
MB 280-437564/1	Method Blank	T	Water	SM 2540C	
280-116888-1	MW-13A	T	Water	SM 2540C	
280-116888-1DU	Duplicate	T	Water	SM 2540C	
280-116888-2	MW-13B	T	Water	SM 2540C	
280-116888-3	MW-35	T	Water	SM 2540C	
280-116888-4	MW-16	T	Water	SM 2540C	
280-116888-5	MW-39	T	Water	SM 2540C	
280-116888-6FD	DUP2	T	Water	SM 2540C	
280-116888-7	MW-34A	T	Water	SM 2540C	
280-116888-8	MW-34C	T	Water	SM 2540C	
280-116888-9	MW-15R	T	Water	SM 2540C	
280-116888-10	MW-36A	T	Water	SM 2540C	
280-116888-11	MW-19C	T	Water	SM 2540C	
280-116888-12FD	DUP1	T	Water	SM 2540C	

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-438438					
MB 280-438438/1	Method Blank	T	Water	353.2	
280-116888-1	MW-13A	T	Water	353.2	
280-116888-2	MW-13B	T	Water	353.2	
280-116888-3	MW-35	T	Water	353.2	
280-116888-4	MW-16	T	Water	353.2	
280-116888-5	MW-39	T	Water	353.2	
280-116888-6FD	DUP2	T	Water	353.2	
280-116888-7	MW-34A	T	Water	353.2	
280-116888-8	MW-34C	T	Water	353.2	
280-116888-9	MW-15R	T	Water	353.2	
280-116888-10	MW-36A	T	Water	353.2	
280-116888-11	MW-19C	T	Water	353.2	
280-116888-12FD	DUP1	T	Water	353.2	
Analysis Batch:280-438581					
LCS 280-438581/56	Lab Control Sample	T	Water	SM 2320B	
LCS 280-438581/82	Lab Control Sample	T	Water	SM 2320B	
MB 280-438581/57	Method Blank	T	Water	SM 2320B	
MB 280-438581/83	Method Blank	T	Water	SM 2320B	
280-116888-1	MW-13A	T	Water	SM 2320B	
280-116888-2	MW-13B	T	Water	SM 2320B	
280-116888-3	MW-35	T	Water	SM 2320B	
280-116888-4	MW-16	T	Water	SM 2320B	
280-116888-5	MW-39	T	Water	SM 2320B	
280-116888-6FD	DUP2	T	Water	SM 2320B	
280-116888-7	MW-34A	T	Water	SM 2320B	
280-116888-7DU	Duplicate	T	Water	SM 2320B	
280-116888-8	MW-34C	T	Water	SM 2320B	
280-116888-9	MW-15R	T	Water	SM 2320B	
280-116888-10	MW-36A	T	Water	SM 2320B	
280-116888-11	MW-19C	T	Water	SM 2320B	
280-116888-12FD	DUP1	T	Water	SM 2320B	

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-438773					
LCS 280-438773/18	Lab Control Sample	T	Water	350.1	
LCSD 280-438773/19	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-438773/20	Method Blank	T	Water	350.1	
280-116888-1	MW-13A	T	Water	350.1	
280-116888-2	MW-13B	T	Water	350.1	
280-116888-3	MW-35	T	Water	350.1	
280-116888-4	MW-16	T	Water	350.1	
280-116888-5	MW-39	T	Water	350.1	
280-116888-6FD	DUP2	T	Water	350.1	
280-116888-7	MW-34A	T	Water	350.1	
280-116888-8	MW-34C	T	Water	350.1	
280-116888-9	MW-15R	T	Water	350.1	
280-116888-10	MW-36A	T	Water	350.1	
280-116888-11	MW-19C	T	Water	350.1	
280-116888-12FD	DUP1	T	Water	350.1	
280-117049-A-11 MS	Matrix Spike	T	Water	350.1	
280-117049-A-11 MSD	Matrix Spike Duplicate	T	Water	350.1	
280-117049-A-26 MS	Matrix Spike	T	Water	350.1	
280-117049-A-26 MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:280-439057					
LCS 280-439057/4	Lab Control Sample	T	Water	300.0	
LCSD 280-439057/5	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-439057/6	Method Blank	T	Water	300.0	
280-116888-1	MW-13A	T	Water	300.0	
280-116888-1DU	Duplicate	T	Water	300.0	
280-116888-1MS	Matrix Spike	T	Water	300.0	
280-116888-1MSD	Matrix Spike Duplicate	T	Water	300.0	
280-116888-2	MW-13B	T	Water	300.0	
280-116888-3	MW-35	T	Water	300.0	
280-116888-4	MW-16	T	Water	300.0	
280-116888-5	MW-39	T	Water	300.0	
280-116888-6FD	DUP2	T	Water	300.0	
280-116888-7	MW-34A	T	Water	300.0	
280-116888-8	MW-34C	T	Water	300.0	
280-116888-9	MW-15R	T	Water	300.0	
280-116888-10	MW-36A	T	Water	300.0	
280-116888-11	MW-19C	T	Water	300.0	
280-116888-12FD	DUP1	T	Water	300.0	

Client: Waste Management Job Number: 280-116888-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-439524					
LCS 280-439524/35	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-439524/36	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-439524/37	Method Blank	T	Water	SM 5310B	
280-116888-1	MW-13A	T	Water	SM 5310B	
280-116888-1MS	Matrix Spike	T	Water	SM 5310B	
280-116888-1MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116888-2	MW-13B	T	Water	SM 5310B	
280-116888-3	MW-35	T	Water	SM 5310B	
280-116888-4	MW-16	T	Water	SM 5310B	
280-116888-5	MW-39	T	Water	SM 5310B	
280-116888-6FD	DUP2	T	Water	SM 5310B	
280-116888-7	MW-34A	T	Water	SM 5310B	
280-116888-8	MW-34C	T	Water	SM 5310B	
280-116888-9	MW-15R	T	Water	SM 5310B	
280-116888-10	MW-36A	T	Water	SM 5310B	
280-116888-11	MW-19C	T	Water	SM 5310B	
280-116888-11MS	Matrix Spike	T	Water	SM 5310B	
280-116888-11MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116888-12FD	DUP1	T	Water	SM 5310B	
Analysis Batch:280-439526					
LCS 280-439526/35	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-439526/36	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-439526/37	Method Blank	T	Water	SM 5310B	
280-116888-1	MW-13A	T	Water	SM 5310B	
280-116888-1MS	Matrix Spike	T	Water	SM 5310B	
280-116888-1MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116888-2	MW-13B	T	Water	SM 5310B	
280-116888-3	MW-35	T	Water	SM 5310B	
280-116888-4	MW-16	T	Water	SM 5310B	
280-116888-5	MW-39	T	Water	SM 5310B	
280-116888-6FD	DUP2	T	Water	SM 5310B	
280-116888-7	MW-34A	T	Water	SM 5310B	
280-116888-8	MW-34C	T	Water	SM 5310B	
280-116888-9	MW-15R	T	Water	SM 5310B	
280-116888-10	MW-36A	T	Water	SM 5310B	
280-116888-11	MW-19C	T	Water	SM 5310B	
280-116888-11MS	Matrix Spike	T	Water	SM 5310B	
280-116888-11MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116888-12FD	DUP1	T	Water	SM 5310B	

Report Basis
T = Total

Surrogate Recovery Report

8260C Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec
280-116888-1	MW-13A	101	100	99
280-116888-2	MW-13B	98	100	99
280-116888-3	MW-35	106	96	97
280-116888-4	MW-16	99	99	99
280-116888-5	MW-39	99	101	98
280-116888-6	DUP2	100	103	99
280-116888-7	MW-34A	98	97	97
280-116888-8	MW-34C	109	105	99
280-116888-9	MW-15R	107	102	97
280-116888-10	MW-36A	108	103	100
280-116888-11	MW-19C	108	100	96
280-116888-12	DUP1	109	104	97
280-116888-13	TRIP BLANK	108	102	97
MB 480-446211/7		100	98	98
MB 480-446217/6		113	104	97
LCS 480-446211/5		97	101	99
LCS 480-446217/4		107	103	98
480-145073-E-1 MS		99	98	98
480-145073-E-1 MSD		97	101	100

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	77-120
BFB = 4-Bromofluorobenzene (Surr)	73-120
TOL = Toluene-d8 (Surr)	80-120

Surrogate Recovery Report

8260C SIM Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	TBA %Rec
280-116888-1	MW-13A	106	86
280-116888-2	MW-13B	111	92
280-116888-3	MW-35	105	81
280-116888-4	MW-16	106	82
280-116888-5	MW-39	103	78
280-116888-6	DUP2	107	83
280-116888-7	MW-34A	106	80
280-116888-8	MW-34C	105	81
280-116888-9	MW-15R	109	92
280-116888-10	MW-36A	111	93
280-116888-11	MW-19C	111	92
280-116888-12	DUP1	110	80
280-116888-13	TRIP BLANK	111	96
MB 480-446599/10		105	87
LCS 480-446599/7		94	101
LCSD 480-446599/8		95	88

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	50-150
TBA = TBA-d9 (Surr)	50-150

Method Blank - Batch: 480-446211

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446211/7	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8308.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1014	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1014				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 480-446211

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446211/7	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8308.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1014	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1014				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0

Client: Waste Management

Job Number: 280-116888-1

Method Blank - Batch: 480-446211

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446211/7	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8308.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1014	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1014				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100	77 - 120
4-Bromofluorobenzene (Surr)	98	73 - 120
Toluene-d8 (Surr)	98	80 - 120

Lab Control Sample - Batch: 480-446211

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446211/5	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8306.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 0928	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 0928				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	25.0	25.1	100	80 - 120	
1,1,1-Trichloroethane	25.0	24.4	98	73 - 126	
1,1,2,2-Tetrachloroethane	25.0	25.3	101	76 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.0	100	61 - 148	
1,1,2-Trichloroethane	25.0	24.4	98	76 - 122	
1,1-Dichloroethane	25.0	25.0	100	77 - 120	
1,1-Dichloroethene	25.0	23.5	94	66 - 127	
1,1-Dichloropropene	25.0	24.8	99	72 - 122	
1,2,3-Trichlorobenzene	25.0	24.5	98	75 - 123	
1,2,3-Trichloropropane	25.0	23.5	94	68 - 122	
1,2,4-Trichlorobenzene	25.0	24.4	98	79 - 122	
1,2,4-Trimethylbenzene	25.0	24.8	99	76 - 121	
1,2-Dibromo-3-Chloropropane	25.0	23.6	95	56 - 134	
1,2-Dibromoethane (EDB)	25.0	25.3	101	77 - 120	
1,2-Dichlorobenzene	25.0	25.0	100	80 - 124	
1,2-Dichloroethane	25.0	24.5	98	75 - 120	
1,2-Dichloropropane	25.0	26.2	105	76 - 120	
1,3,5-Trimethylbenzene	25.0	24.8	99	77 - 121	
1,3-Dichlorobenzene	25.0	24.8	99	77 - 120	
1,3-Dichloropropane	25.0	25.0	100	75 - 120	
1,4-Dichlorobenzene	25.0	24.8	99	80 - 120	
1,4-Dioxane	500	499	100	50 - 150	
2,2-Dichloropropane	25.0	24.3	97	63 - 136	
2-Butanone (MEK)	125	146	117	57 - 140	
2-Chloroethyl vinyl ether	25.0	25.1	100	70 - 129	
2-Hexanone	125	128	103	65 - 127	
4-Methyl-2-pentanone (MIBK)	125	126	101	71 - 125	
Acetone	125	118	94	56 - 142	
Acrolein	125	132	105	52 - 143	
Acrylonitrile	250	295	118	63 - 125	
Benzene	25.0	25.0	100	71 - 124	
Bromobenzene	25.0	25.6	102	78 - 120	
Bromochloromethane	25.0	23.5	94	72 - 130	
Bromodichloromethane	25.0	25.2	101	80 - 122	
Bromoform	25.0	24.6	99	61 - 132	
Bromomethane	25.0	22.4	90	55 - 144	
Butyl alcohol, tert-	250	199	80	75 - 125	
Carbon disulfide	25.0	23.2	93	59 - 134	
Carbon tetrachloride	25.0	23.7	95	72 - 134	
Chlorobenzene	25.0	23.9	96	80 - 120	
Chloroethane	25.0	23.6	94	69 - 136	
Chloroform	25.0	23.6	94	73 - 127	
Chloromethane	25.0	21.2	85	68 - 124	
cis-1,2-Dichloroethene	25.0	25.0	100	74 - 124	
cis-1,3-Dichloropropene	25.0	24.4	97	74 - 124	
Cyclohexane	25.0	25.8	103	59 - 135	

Client: Waste Management

Job Number: 280-116888-1

Lab Control Sample - Batch: 480-446211

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446211/5	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8306.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 0928	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 0928				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromochloromethane	25.0	25.6	103	75 - 125	
Dibromomethane	25.0	25.4	101	76 - 127	
Dichlorodifluoromethane	25.0	19.1	76	59 - 135	
Dichlorofluoromethane	25.0	24.2	97	76 - 127	
Ethyl ether	25.0	25.9	104	76 - 123	
Ethylbenzene	25.0	24.6	98	77 - 123	
Hexachlorobutadiene	25.0	24.8	99	68 - 131	
Iodomethane	25.0	23.8	95	78 - 123	
Isobutanol	625	579	93	51 - 150	
Isopropylbenzene	25.0	24.1	96	77 - 122	
Methyl acetate	50.0	42.7	85	74 - 133	
Methyl tert-butyl ether	25.0	24.6	99	77 - 120	
Methylcyclohexane	25.0	25.4	102	68 - 134	
Methylene Chloride	25.0	25.4	102	75 - 124	
m-Xylene & p-Xylene	25.0	24.7	99	76 - 122	
Naphthalene	25.0	24.9	100	66 - 125	
n-Butylbenzene	25.0	24.2	97	71 - 128	
N-Propylbenzene	25.0	24.5	98	75 - 127	
o-Chlorotoluene	25.0	23.7	95	76 - 121	
o-Xylene	25.0	25.1	100	76 - 122	
p-Chlorotoluene	25.0	23.3	93	77 - 121	
p-Cymene	25.0	25.3	101	73 - 120	
sec-Butylbenzene	25.0	25.4	102	74 - 127	
Styrene	25.0	24.6	98	80 - 120	
tert-Butylbenzene	25.0	24.6	98	75 - 123	
Tetrachloroethene	25.0	24.7	99	74 - 122	
Tetrahydrofuran	50.0	53.3	107	62 - 132	
Toluene	25.0	24.1	96	80 - 122	
trans-1,2-Dichloroethene	25.0	23.9	96	73 - 127	
trans-1,3-Dichloropropene	25.0	24.9	100	80 - 120	
trans-1,4-Dichloro-2-butene	25.0	20.8	83	41 - 131	
Trichloroethene	25.0	24.1	96	74 - 123	
Trichlorofluoromethane	25.0	26.9	108	62 - 150	
Vinyl acetate	50.0	50.7	101	50 - 144	
Vinyl chloride	25.0	23.6	95	65 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97	77 - 120
4-Bromofluorobenzene (Surr)	101	73 - 120
Toluene-d8 (Surr)	99	80 - 120

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446211

Method: 8260C
Preparation: 5030C

MS Lab Sample ID: 480-145073-E-1 MS
Client Matrix: Water
Dilution: 20
Analysis Date: 11/17/2018 1812
Prep Date: 11/17/2018 1812
Leach Date: N/A

Analysis Batch: 480-446211
Prep Batch: N/A
Leach Batch: N/A

Instrument ID: HP5973S
Lab File ID: S8326.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
5 mL

MSD Lab Sample ID: 480-145073-E-1 MSD
Client Matrix: Water
Dilution: 20
Analysis Date: 11/17/2018 1835
Prep Date: 11/17/2018 1835
Leach Date: N/A

Analysis Batch: 480-446211
Prep Batch: N/A
Leach Batch: N/A

Instrument ID: HP5973S
Lab File ID: S8327.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
5 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1,2-Tetrachloroethane	102	105	80 - 120	3	20		
1,1,1-Trichloroethane	106	101	73 - 126	4	15		
1,1,2,2-Tetrachloroethane	104	106	76 - 120	2	15		
1,1,2-Trichloroethane	101	103	76 - 122	2	15		
1,1-Dichloroethane	105	100	77 - 120	5	20		
1,1-Dichloroethene	104	99	66 - 127	5	16		
1,2,3-Trichloropropane	98	102	68 - 122	4	14		
1,2-Dichlorobenzene	102	101	80 - 124	1	20		
1,2-Dichloroethane	98	98	75 - 120	1	20		
1,2-Dichloropropane	108	104	76 - 120	4	20		
1,4-Dichlorobenzene	101	102	78 - 124	1	20		
Benzene	109	104	71 - 124	5	13		
Bromodichloromethane	104	105	80 - 122	1	15		
Bromoform	104	102	61 - 132	2	15		
Bromomethane	98	96	55 - 144	2	15		
Carbon tetrachloride	104	102	72 - 134	2	15		
Chlorobenzene	100	102	80 - 120	1	25		
Chloroethane	104	100	69 - 136	5	15		
Chloroform	101	99	73 - 127	2	20		
Chloromethane	95	90	68 - 124	5	15		
cis-1,2-Dichloroethene	105	102	74 - 124	3	15		
cis-1,3-Dichloropropene	98	97	74 - 124	1	15		
Dibromochloromethane	105	109	75 - 125	4	15		
Dibromomethane	105	102	76 - 127	3	15		
Ethylbenzene	105	105	77 - 123	0	15		
Iodomethane	103	98	78 - 123	5	20		
Methylene Chloride	110	105	75 - 124	5	15		
m-Xylene & p-Xylene	100	101	76 - 122	0	16		
o-Xylene	104	103	76 - 122	0	16		
Styrene	103	102	80 - 120	2	20		
Tetrachloroethene	104	103	74 - 122	1	20		
Toluene	100	100	80 - 122	0	15		
trans-1,2-Dichloroethene	106	102	73 - 127	4	20		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446211

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145073-E-1 MS	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8326.D
Dilution:	20	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1812			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1812				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145073-E-1 MSD	Analysis Batch:	480-446211	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8327.D
Dilution:	20	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1835			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1835				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
trans-1,3-Dichloropropene	99	100	80 - 120	1	15		
Trichloroethene	104	100	74 - 123	4	16		
Trichlorofluoromethane	122	117	62 - 150	4	20		
Vinyl chloride	108	102	65 - 133	5	15		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99	97	77 - 120
4-Bromofluorobenzene (Surr)	98	101	73 - 120
Toluene-d8 (Surr)	98	100	80 - 120

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446211

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145073-E-1 MS	Units: ug/L	MSD Lab Sample ID:	480-145073-E-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	20		Dilution:	20	
Analysis Date:	11/17/2018 1812		Analysis Date:	11/17/2018 1835	
Prep Date:	11/17/2018 1812		Prep Date:	11/17/2018 1835	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
1,1,1,2-Tetrachloroethane	ND		500	500	508	523
1,1,1-Trichloroethane	ND		500	500	529	507
1,1,2,2-Tetrachloroethane	ND		500	500	520	530
1,1,2-Trichloroethane	ND		500	500	505	513
1,1-Dichloroethane	ND		500	500	527	502
1,1-Dichloroethene	ND		500	500	518	495
1,2,3-Trichloropropane	ND		500	500	492	510
1,2-Dichlorobenzene	ND		500	500	510	505
1,2-Dichloroethane	ND		500	500	488	492
1,2-Dichloropropane	ND		500	500	539	518
1,4-Dichlorobenzene	ND		500	500	506	509
Benzene	ND		500	500	544	520
Bromodichloromethane	ND		500	500	521	526
Bromoform	ND		500	500	519	510
Bromomethane	ND		500	500	488	480
Carbon tetrachloride	ND		500	500	520	511
Chlorobenzene	ND		500	500	501	508
Chloroethane	ND		500	500	522	498
Chloroform	ND		500	500	507	496
Chloromethane	ND		500	500	477	452
cis-1,2-Dichloroethene	ND		500	500	525	512
cis-1,3-Dichloropropene	ND		500	500	492	485
Dibromochloromethane	ND		500	500	526	545
Dibromomethane	ND		500	500	525	511
Ethylbenzene	ND		500	500	527	525
Iodomethane	ND		500	500	515	491
Methylene Chloride	22		500	500	573	547
m-Xylene & p-Xylene	16	J	500	500	518	519
o-Xylene	ND		500	500	518	516
Styrene	ND		500	500	517	508
Tetrachloroethene	ND		500	500	520	516
Toluene	29		500	500	530	530
trans-1,2-Dichloroethene	ND		500	500	530	510
trans-1,3-Dichloropropene	ND		500	500	497	501
Trichloroethene	ND		500	500	519	498
Trichlorofluoromethane	ND		500	500	609	583
Vinyl chloride	ND		500	500	538	512

Method Blank - Batch: 480-446217

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446217/6	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1056	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1056				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 480-446217

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446217/6	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1056	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1056				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0

Client: Waste Management

Job Number: 280-116888-1

Method Blank - Batch: 480-446217

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446217/6	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1056	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1056				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	113	77 - 120
4-Bromofluorobenzene (Surr)	104	73 - 120
Toluene-d8 (Surr)	97	80 - 120

Lab Control Sample - Batch: 480-446217

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446217/4	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5899.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1002	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1002				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	25.0	25.8	103	80 - 120	
1,1,1-Trichloroethane	25.0	24.6	98	73 - 126	
1,1,2,2-Tetrachloroethane	25.0	21.7	87	76 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.2	89	61 - 148	
1,1,2-Trichloroethane	25.0	23.0	92	76 - 122	
1,1-Dichloroethane	25.0	25.1	100	77 - 120	
1,1-Dichloroethene	25.0	21.2	85	66 - 127	
1,1-Dichloropropene	25.0	24.2	97	72 - 122	
1,2,3-Trichlorobenzene	25.0	26.2	105	75 - 123	
1,2,3-Trichloropropane	25.0	23.3	93	68 - 122	
1,2,4-Trichlorobenzene	25.0	27.4	110	79 - 122	
1,2,4-Trimethylbenzene	25.0	24.9	100	76 - 121	
1,2-Dibromo-3-Chloropropane	25.0	23.5	94	56 - 134	
1,2-Dibromoethane (EDB)	25.0	24.0	96	77 - 120	
1,2-Dichlorobenzene	25.0	25.2	101	80 - 124	
1,2-Dichloroethane	25.0	27.2	109	75 - 120	
1,2-Dichloropropane	25.0	24.6	98	76 - 120	
1,3,5-Trimethylbenzene	25.0	24.3	97	77 - 121	
1,3-Dichlorobenzene	25.0	25.4	101	77 - 120	
1,3-Dichloropropane	25.0	24.3	97	75 - 120	
1,4-Dichlorobenzene	25.0	24.1	96	80 - 120	
1,4-Dioxane	500	405	81	50 - 150	
2,2-Dichloropropane	25.0	23.9	96	63 - 136	
2-Butanone (MEK)	125	140	112	57 - 140	
2-Chloroethyl vinyl ether	25.0	21.5	86	70 - 129	
2-Hexanone	125	137	110	65 - 127	
4-Methyl-2-pentanone (MIBK)	125	131	105	71 - 125	
Acetone	125	172	138	56 - 142	
Acrolein	125	148	118	52 - 143	
Acrylonitrile	250	260	104	63 - 125	
Benzene	25.0	22.8	91	71 - 124	
Bromobenzene	25.0	25.2	101	78 - 120	
Bromochloromethane	25.0	24.2	97	72 - 130	
Bromodichloromethane	25.0	24.4	97	80 - 122	
Bromoform	25.0	22.9	92	61 - 132	
Bromomethane	25.0	20.9	83	55 - 144	
Butyl alcohol, tert-	250	268	107	75 - 125	
Carbon disulfide	25.0	17.5	70	59 - 134	
Carbon tetrachloride	25.0	24.8	99	72 - 134	
Chlorobenzene	25.0	24.8	99	80 - 120	
Chloroethane	25.0	23.1	92	69 - 136	
Chloroform	25.0	23.5	94	73 - 127	
Chloromethane	25.0	21.6	86	68 - 124	
cis-1,2-Dichloroethene	25.0	23.0	92	74 - 124	
cis-1,3-Dichloropropene	25.0	23.1	92	74 - 124	
Cyclohexane	25.0	24.8	99	59 - 135	

Client: Waste Management

Job Number: 280-116888-1

Lab Control Sample - Batch: 480-446217

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446217/4	Analysis Batch:	480-446217	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5899.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1002	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1002				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromochloromethane	25.0	23.1	93	75 - 125	
Dibromomethane	25.0	22.9	92	76 - 127	
Dichlorodifluoromethane	25.0	16.0	64	59 - 135	
Dichlorofluoromethane	25.0	23.8	95	76 - 127	
Ethyl ether	25.0	25.1	100	76 - 123	
Ethylbenzene	25.0	24.2	97	77 - 123	
Hexachlorobutadiene	25.0	28.6	114	68 - 131	
Iodomethane	25.0	22.1	88	78 - 123	
Isobutanol	625	674	108	51 - 150	
Isopropylbenzene	25.0	23.8	95	77 - 122	
Methyl acetate	50.0	51.0	102	74 - 133	
Methyl tert-butyl ether	25.0	23.6	94	77 - 120	
Methylcyclohexane	25.0	22.7	91	68 - 134	
Methylene Chloride	25.0	21.2	85	75 - 124	
m-Xylene & p-Xylene	25.0	24.3	97	76 - 122	
Naphthalene	25.0	23.3	93	66 - 125	
n-Butylbenzene	25.0	24.4	98	71 - 128	
N-Propylbenzene	25.0	23.3	93	75 - 127	
o-Chlorotoluene	25.0	24.2	97	76 - 121	
o-Xylene	25.0	24.1	97	76 - 122	
p-Chlorotoluene	25.0	23.5	94	77 - 121	
p-Cymene	25.0	26.4	106	73 - 120	
sec-Butylbenzene	25.0	24.4	98	74 - 127	
Styrene	25.0	23.1	92	80 - 120	
tert-Butylbenzene	25.0	26.1	104	75 - 123	
Tetrachloroethene	25.0	26.7	107	74 - 122	
Tetrahydrofuran	50.0	45.6	91	62 - 132	
Toluene	25.0	22.8	91	80 - 122	
trans-1,2-Dichloroethene	25.0	21.4	86	73 - 127	
trans-1,3-Dichloropropene	25.0	23.5	94	80 - 120	
trans-1,4-Dichloro-2-butene	25.0	16.1	64	41 - 131	
Trichloroethene	25.0	23.1	92	74 - 123	
Trichlorofluoromethane	25.0	24.5	98	62 - 150	
Vinyl acetate	50.0	48.7	97	50 - 144	
Vinyl chloride	25.0	21.6	87	65 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	107	77 - 120
4-Bromofluorobenzene (Surr)	103	73 - 120
Toluene-d8 (Surr)	98	80 - 120

Method Blank - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-446599/10	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8075.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1244	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1244				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	105	50 - 150
TBA-d9 (Surr)	87	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446599/7	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8072.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1132	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1132				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-446599/8	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8073.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1156	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1156				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	85	85	50 - 150	0	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	94	95	50 - 150
TBA-d9 (Surr)	101	88	50 - 150

Client: Waste Management

Job Number: 280-116888-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446599/7	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-446599/8
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/20/2018 1132			Analysis Date:	11/20/2018 1156
Prep Date:	11/20/2018 1132			Prep Date:	11/20/2018 1156
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.170	0.170

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437673/1-A	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0212	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

Lab Control Sample - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437673/2-A	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0216	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cobalt, Total	0.500	0.483	97	89 - 111	
Iron, Total	1.00	1.01	101	89 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-12	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0317			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-12	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0320			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cobalt, Total	96	95	82 - 119	1	20		
Iron, Total	101	100	75 - 125	1	20		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-12	Units: mg/L	MSD Lab Sample ID:	280-116888-12	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/16/2018 0317		Analysis Date:	11/16/2018 0320	
Prep Date:	11/15/2018 1630		Prep Date:	11/15/2018 1630	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Cobalt, Total	ND	0.500	0.500	0.480	0.475
Iron, Total	0.14	1.00	1.00	1.15	1.14

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-440357/1-A	Analysis Batch:	280-440535	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0118	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Calcium, Dissolved	ND		0.035	0.040
Magnesium, Dissolved	ND		0.011	0.050
Potassium, Dissolved	ND		0.24	1.0
Sodium, Dissolved	ND		0.12	1.0

Method Blank - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-440357/1-A	Analysis Batch:	280-440690	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1454	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Iron, Dissolved	ND		0.022	0.060

Client: Waste Management Job Number: 280-116888-1

Lab Control Sample - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-440357/2-A	Analysis Batch:	280-440535	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0121	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Calcium, Dissolved	50.0	50.7	101	90 - 111	
Magnesium, Dissolved	50.0	48.5	97	90 - 113	
Potassium, Dissolved	50.0	51.4	103	89 - 114	
Sodium, Dissolved	50.0	54.3	109	90 - 115	

Lab Control Sample - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-440357/2-A	Analysis Batch:	280-440690	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1457	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Iron, Dissolved	1.00	1.07	107	89 - 115	

Client: Waste Management Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-1	Analysis Batch:	280-440535	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0132			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-1	Analysis Batch:	280-440535	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A120718R.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/08/2018 0135			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Calcium, Dissolved	98	99	75 - 125	1	20		
Magnesium, Dissolved	94	95	75 - 125	1	20		
Potassium, Dissolved	100	100	76 - 125	0	20		
Sodium, Dissolved	105	106	75 - 125	1	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-1	Analysis Batch:	280-440690	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1507			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-1	Analysis Batch:	280-440690	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-440357	Lab File ID:	51A121018A.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/10/2018 1524			Final Weight/Volume:	50 mL
Prep Date:	12/07/2018 1600				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Iron, Dissolved	103	104	75 - 125	1	20		

Client: Waste Management Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-1	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/08/2018 0132		
Prep Date:	12/07/2018 1600		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-1
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/08/2018 0135
Prep Date:	12/07/2018 1600
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Calcium, Dissolved	15		50.0	50.0	63.8	64.5
Magnesium, Dissolved	8.3		50.0	50.0	55.2	55.6
Potassium, Dissolved	0.70	J	50.0	50.0	50.6	50.8
Sodium, Dissolved	5.2		50.0	50.0	57.8	58.1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-440357

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-1	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/10/2018 1507		
Prep Date:	12/07/2018 1600		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-1
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/10/2018 1524
Prep Date:	12/07/2018 1600
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Iron, Dissolved	ND	1.00	1.00	1.03	1.04

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437667/1-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	173_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2320	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Manganese, Dissolved	0.000532	J	0.00031	0.0010

Method Blank - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437667/1-A	Analysis Batch:	280-438701	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	040_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1301	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Manganese, Dissolved	0.000479	J	0.00031	0.0010

Client: Waste Management Job Number: 280-116888-1

Lab Control Sample - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437667/2-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	174_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2324	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese, Dissolved	0.0400	0.0392	98	89 - 119	

Lab Control Sample - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437667/2-A	Analysis Batch:	280-438701	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	041_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1305	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese, Dissolved	0.0400	0.0388	97	89 - 119	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-1	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	177SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2334			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-1	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	178SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2337			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Manganese, Dissolved	104	102	89 - 119	3	20		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-1	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/19/2018 2334		
Prep Date:	11/16/2018 0937		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-1
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/19/2018 2337
Prep Date:	11/16/2018 0937
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Manganese, Dissolved	0.00070 J	0.0400	0.0400	0.0425	0.0414

Method Blank - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437675/1-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	143_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2139	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	ND		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010
Manganese, Total	ND		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020
Zinc, Total	ND		0.0020	0.0050

Method Blank - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437675/1-A	Analysis Batch:	280-438258	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	244_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0320	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Selenium, Total	ND		0.00070	0.0010

Client: Waste Management Job Number: 280-116888-1

Lab Control Sample - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437675/2-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	144_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2142	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony, Total	0.0400	0.0394	99	80 - 111	
Barium, Total	0.0400	0.0429	107	92 - 117	
Beryllium, Total	0.0400	0.0423	106	87 - 118	
Cadmium, Total	0.0400	0.0402	100	91 - 114	
Chromium, Total	0.0400	0.0394	98	91 - 114	
Copper, Total	0.0400	0.0397	99	89 - 116	
Lead, Total	0.0400	0.0419	105	95 - 116	
Manganese, Total	0.0400	0.0386	97	89 - 119	
Nickel, Total	0.0400	0.0382	96	92 - 116	
Silver, Total	0.0400	0.0421	105	93 - 118	
Thallium, Total	0.0400	0.0413	103	94 - 115	
Vanadium, Total	0.0400	0.0381	95	91 - 114	
Zinc, Total	0.0400	0.0409	102	86 - 120	

Lab Control Sample - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437675/2-A	Analysis Batch:	280-438258	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	245_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0323	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Selenium, Total	0.0400	0.0369	92	90 - 115	

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-3	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	149SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2159			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-3	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	150SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2202			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony, Total	96	95	80 - 111	0	20		
Barium, Total	104	106	92 - 117	1	20		
Beryllium, Total	102	103	87 - 118	1	20		
Cadmium, Total	94	97	91 - 114	3	20		
Chromium, Total	96	96	91 - 114	0	20		
Copper, Total	96	96	89 - 116	0	20		
Lead, Total	102	103	95 - 116	2	20		
Manganese, Total	95	101	89 - 119	6	20		
Nickel, Total	96	94	92 - 116	1	20		
Silver, Total	97	89	93 - 118	9	20		F1
Thallium, Total	101	103	94 - 115	2	20		
Vanadium, Total	96	98	91 - 114	1	20		
Zinc, Total	99	99	86 - 120	0	20		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-3	Analysis Batch:	280-438258	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	250SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0340			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-3	Analysis Batch:	280-438258	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	251SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0343			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Selenium, Total	92	90	90 - 115	2	20		

Client: Waste Management Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-3	Units: mg/L	MSD Lab Sample ID:	280-116888-3	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/19/2018 2159		Analysis Date:	11/19/2018 2202	
Prep Date:	11/15/2018 1630		Prep Date:	11/15/2018 1630	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Antimony, Total	ND	0.0400	0.0400	0.0383	0.0381	
Barium, Total	0.0032	0.0400	0.0400	0.0448	0.0454	
Beryllium, Total	ND	0.0400	0.0400	0.0410	0.0413	
Cadmium, Total	ND	0.0400	0.0400	0.0376	0.0388	
Chromium, Total	0.0025 J	0.0400	0.0400	0.0409	0.0410	
Copper, Total	ND	0.0400	0.0400	0.0383	0.0383	
Lead, Total	ND	0.0400	0.0400	0.0406	0.0414	
Manganese, Total	ND	0.0400	0.0400	0.0381	0.0402	
Nickel, Total	ND	0.0400	0.0400	0.0382	0.0377	
Silver, Total	ND	0.0400	0.0400	0.0388	0.0355	F1
Thallium, Total	ND	0.0400	0.0400	0.0402	0.0412	
Vanadium, Total	0.0042	0.0400	0.0400	0.0426	0.0433	
Zinc, Total	ND	0.0400	0.0400	0.0396	0.0398	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-3	Units: mg/L	MSD Lab Sample ID:	280-116888-3	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/20/2018 0340		Analysis Date:	11/20/2018 0343	
Prep Date:	11/15/2018 1630		Prep Date:	11/15/2018 1630	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Selenium, Total	ND	0.0400	0.0400	0.0366	0.0359

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 280-439057

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-439057/6	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0006.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 1444	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chloride	ND		1.0	1.0
Sulfate	ND		1.0	1.0

Method Reporting Limit Check - Batch: 280-439057

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-439057/3	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 1346	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	ND	96	50 - 150	
Sulfate	2.50	ND	101	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439057

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439057/4	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0004.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 1406	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439057/5	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0005.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 1425	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	96	97	90 - 110	0	10		
Sulfate	97	97	90 - 110	0	10		

Client: Waste Management

Job Number: 280-116888-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439057

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439057/4	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/28/2018 1406		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-439057/5
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/28/2018 1425
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Chloride	100	100	96.2	96.5
Sulfate	100	100	97.2	97.5

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439057

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116888-1	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0020.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 2206			Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-1	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 2226			Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride	91	92	80 - 120	1	20		
Sulfate	94	95	80 - 120	1	20		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439057

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116888-1	Units: mg/L	MSD Lab Sample ID:	280-116888-1
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	11/28/2018 2206		Analysis Date:	11/28/2018 2226
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	1.9	25.0	25.0	24.6	24.8
Sulfate	2.1	25.0	25.0	25.7	25.8

Duplicate - Batch: 280-439057

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-116888-1	Analysis Batch:	280-439057	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0019.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/28/2018 2147	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	1.9	1.93	1	15	
Sulfate	2.1	2.11	0.9	15	

Method Blank - Batch: 280-438773

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-438773/20	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/26/2018 1036	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Ammonia (as N)	ND		0.030	0.030

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438773/18	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/26/2018 1032	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438773/19	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/26/2018 1034	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia (as N)	100	99	90 - 110	1	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438773/18	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-438773/19
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/26/2018 1032			Analysis Date:	11/26/2018 1034
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
Ammonia (as N)	2.50	2.50	2.50	2.48

Client: Waste Management Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-117049-A-11 MS	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1040			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117049-A-11 MSD	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1042			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	104	107	90 - 110	2	10		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-117049-A-26 MS	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1153			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117049-A-26 MSD	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1155			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	100	100	90 - 110	0	10		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-117049-A-11 MS	Units: mg/L	MSD Lab Sample ID:	280-117049-A-11 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/26/2018 1040		Analysis Date:	11/26/2018 1042	
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
Ammonia (as N)	ND	1.00	1.00	1.04	1.07

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-117049-A-26 MS	Units: mg/L	MSD Lab Sample ID:	280-117049-A-26 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/26/2018 1153		Analysis Date:	11/26/2018 1155	
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
Ammonia (as N)	ND	1.00	1.00	0.996	1.00

Client: Waste Management

Job Number: 280-116888-1

Method Blank - Batch: 280-438438

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438438/1	Analysis Batch:	280-438438	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 1056	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate as N	ND		0.050	0.050

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-438581/57	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2106	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Alkalinity, Total (As CaCO3)	ND		5.0	5.0
Alkalinity, Bicarbonate (As CaCO3)	ND		5.0	5.0

Method Blank - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-438581/83	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2343	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Alkalinity, Total (As CaCO3)	ND		5.0	5.0
Alkalinity, Bicarbonate (As CaCO3)	ND		5.0	5.0

Client: Waste Management Job Number: 280-116888-1

Lab Control Sample - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-438581/56	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2101	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Alkalinity, Total (As CaCO3)	200	196	98	89 - 109	

Lab Control Sample - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-438581/82	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2338	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Alkalinity, Total (As CaCO3)	200	198	99	89 - 109	

Duplicate - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	280-116888-7	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2354	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Alkalinity, Total (As CaCO3)	79	77.1	2	10	

Client: Waste Management Job Number: 280-116888-1

Method Blank - Batch: 280-437564

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-437564/1	Analysis Batch:	280-437564	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/14/2018 1005	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Dissolved Solids (TDS)	ND		5.0	5.0

Lab Control Sample - Batch: 280-437564

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	LCS 280-437564/2	Analysis Batch:	280-437564	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/14/2018 1005	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids (TDS)	500	496	99	93 - 110	

Duplicate - Batch: 280-437564

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-116888-1	Analysis Batch:	280-437564	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/14/2018 1005	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids (TDS)	98	102	4	10	

Method Blank - Batch: 280-437518

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	MB 280-437518/1	Analysis Batch:	280-437518	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/14/2018 0807	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Suspended Solids	ND		4.0	4.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-437518

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-437518/2	Analysis Batch:	280-437518	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/14/2018 0807	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-437518/3	Analysis Batch:	280-437518	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/14/2018 0807	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Suspended Solids	80	88	79 - 114	10	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-437518

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-437518/2	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/14/2018 0807		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-437518/3
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/14/2018 0807
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Suspended Solids	100	100	80.0	88.4

Client: Waste Management

Job Number: 280-116888-1

Duplicate - Batch: 280-437518

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	280-116900-A-1 DU	Analysis Batch:	280-437518	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/14/2018 0807	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	10	10.8	4	10	

Method Blank - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-439524/37	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0128	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Organic Carbon - Average	ND		1.0	1.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439524/35	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0053	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439524/36	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0111	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Organic Carbon - Average	102	100	88 - 112	1	15		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439524/35	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439524/36
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/30/2018 0053			Analysis Date:	11/30/2018 0111
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
Total Organic Carbon - Average	25.0	25.0	25.4	25.1

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116888-1	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0250			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-1	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0312			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	102	101	88 - 112	1	15		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116888-11	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0649			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-11	Analysis Batch:	280-439524	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112918.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0709			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	99	99	88 - 112	0	15		

Client: Waste Management

Job Number: 280-116888-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116888-1	Units: mg/L		MSD Lab Sample ID:	280-116888-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/30/2018 0250			Analysis Date:	11/30/2018 0312
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
Total Organic Carbon - Average	ND	25.0	25.0	25.5	25.2

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439524

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116888-11	Units: mg/L		MSD Lab Sample ID:	280-116888-11
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/30/2018 0649			Analysis Date:	11/30/2018 0709
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
Total Organic Carbon - Average	ND	25.0	25.0	24.8	24.8

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-1 **Client ID: MW-13A**

Sample Date/Time: 11/12/2018 10:58 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-1		480-446211		11/17/2018 11:40	1	TAL BUF	AMM
A:8260C	280-116888-E-1		480-446211		11/17/2018 11:40	1	TAL BUF	AMM
P:5030C	280-116888-J-1		480-446599		11/20/2018 13:16	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-1		480-446599		11/20/2018 13:16	1	TAL BUF	RJF
P:3005A	280-116888-C-1-D		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-1-D		280-437867	280-437673	11/16/2018 02:19	1	TAL DEN	SJS
P:3005A	280-116888-C-1-F		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-1-F		280-440535	280-440357	12/08/2018 01:25	1	TAL DEN	CML
P:3005A	280-116888-C-1-F		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-1-F		280-440690	280-440357	12/10/2018 15:00	1	TAL DEN	CML
P:3005A	280-116888-C-1-E		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-1-E		280-438257	280-437675	11/19/2018 21:46	1	TAL DEN	LMT
P:3005A	280-116888-D-1-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-A		280-438257	280-437667	11/19/2018 23:27	1	TAL DEN	LMT
P:3005A	280-116888-C-1-E		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-1-E		280-438258	280-437675	11/20/2018 03:26	1	TAL DEN	LMT
A:300.0	280-116888-L-1		280-439057		11/28/2018 21:27	1	TAL DEN	A1D
A:350.1	280-116888-B-1		280-438773		11/26/2018 10:46	1	TAL DEN	JAP
A:353.2	280-116888-A-1		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-1		280-438581		11/21/2018 22:51	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-1		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-1		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-1		280-439524		11/30/2018 01:59	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-1		280-438054		11/12/2018 11:58	1	TAL DEN	A1S

Lab ID: 280-116888-1 MS **Client ID: MW-13A**

Sample Date/Time: 11/12/2018 10:58 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116888-C-1-G MS		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-1-G MS		280-440535	280-440357	12/08/2018 01:32	1	TAL DEN	CML
P:3005A	280-116888-C-1-G MS		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-1-G MS		280-440690	280-440357	12/10/2018 15:07	1	TAL DEN	CML
P:3005A	280-116888-D-1-B MS		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-B MS		280-438257	280-437667	11/19/2018 23:34	1	TAL DEN	LMT
A:300.0	280-116888-L-1 MS		280-439057		11/28/2018 22:06	1	TAL DEN	A1D
A:SM 5310B	280-116888-B-1 MS		280-439524		11/30/2018 02:50	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-1 MSD **Client ID: MW-13A**

Sample Date/Time: 11/12/2018 10:58 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116888-C-1-H MSD		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-1-H MSD		280-440535	280-440357	12/08/2018 01:35	1	TAL DEN	CML
P:3005A	280-116888-C-1-H MSD		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-1-H MSD		280-440690	280-440357	12/10/2018 15:24	1	TAL DEN	CML
P:3005A	280-116888-D-1-C MSD		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-C MSD		280-438257	280-437667	11/19/2018 23:37	1	TAL DEN	LMT
A:300.0	280-116888-L-1 MSD		280-439057		11/28/2018 22:26	1	TAL DEN	A1D
A:SM 5310B	280-116888-B-1 MSD		280-439524		11/30/2018 03:12	1	TAL DEN	LPL

Lab ID: 280-116888-1 DU **Client ID: MW-13A**

Sample Date/Time: 11/12/2018 10:58 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-116888-L-1 DU		280-439057		11/28/2018 21:47	1	TAL DEN	A1D
A:SM 2540C	280-116888-A-1 DU		280-437564		11/14/2018 10:05	1	TAL DEN	MJS

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-2 **Client ID: MW-13B**

Sample Date/Time: 11/12/2018 11:47 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-2		480-446211		11/17/2018 12:03	1	TAL BUF	AMM
A:8260C	280-116888-E-2		480-446211		11/17/2018 12:03	1	TAL BUF	AMM
P:5030C	280-116888-J-2		480-446599		11/20/2018 13:40	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-2		480-446599		11/20/2018 13:40	1	TAL BUF	RJF
P:3005A	280-116888-C-2-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-2-B		280-437867	280-437673	11/16/2018 02:23	1	TAL DEN	SJS
P:3005A	280-116888-C-2-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-2-D		280-440535	280-440357	12/08/2018 01:42	1	TAL DEN	CML
P:3005A	280-116888-C-2-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-2-D		280-440690	280-440357	12/10/2018 15:31	1	TAL DEN	CML
P:3005A	280-116888-C-2-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-2-C		280-438257	280-437675	11/19/2018 21:49	1	TAL DEN	LMT
P:3005A	280-116888-D-2-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-2-A		280-438257	280-437667	11/19/2018 23:44	1	TAL DEN	LMT
P:3005A	280-116888-C-2-C		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-2-C		280-438258	280-437675	11/20/2018 03:30	1	TAL DEN	LMT
A:300.0	280-116888-L-2		280-439057		11/28/2018 22:45	1	TAL DEN	A1D
A:350.1	280-116888-B-2		280-438773		11/26/2018 10:48	1	TAL DEN	JAP
A:353.2	280-116888-A-2		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-2		280-438581		11/21/2018 22:57	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-2		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-2		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-2		280-439524		11/30/2018 03:32	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-2		280-438054		11/12/2018 12:47	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-3 **Client ID: MW-35**

Sample Date/Time: 11/12/2018 12:57 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-H-3		480-446211		11/17/2018 12:26	1	TAL BUF	AMM
A:8260C	280-116888-H-3		480-446211		11/17/2018 12:26	1	TAL BUF	AMM
P:5030C	280-116888-J-3		480-446599		11/20/2018 14:04	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-3		480-446599		11/20/2018 14:04	1	TAL BUF	RJF
P:3005A	280-116888-C-3-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-3-B		280-437867	280-437673	11/16/2018 02:26	1	TAL DEN	SJS
P:3005A	280-116888-C-3-F		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-3-F		280-440535	280-440357	12/08/2018 01:46	1	TAL DEN	CML
P:3005A	280-116888-C-3-F		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-3-F		280-440690	280-440357	12/10/2018 15:34	1	TAL DEN	CML
P:3005A	280-116888-C-3-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-C		280-438257	280-437675	11/19/2018 21:52	1	TAL DEN	LMT
P:3005A	280-116888-D-3-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-3-A		280-438257	280-437667	11/19/2018 23:48	1	TAL DEN	LMT
P:3005A	280-116888-C-3-C		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-C		280-438258	280-437675	11/20/2018 03:33	1	TAL DEN	LMT
A:300.0	280-116888-A-3		280-439057		11/28/2018 23:04	1	TAL DEN	A1D
A:350.1	280-116888-B-3		280-438773		11/26/2018 10:50	1	TAL DEN	JAP
A:353.2	280-116888-A-3		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-3		280-438581		11/21/2018 23:03	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-3		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-3		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-3		280-439524		11/30/2018 03:48	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-3		280-438054		11/12/2018 13:57	1	TAL DEN	A1S

Lab ID: 280-116888-3 MS **Client ID: MW-35**

Sample Date/Time: 11/12/2018 12:57 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116888-C-3-D MS		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-D MS		280-438257	280-437675	11/19/2018 21:59	1	TAL DEN	LMT
P:3005A	280-116888-C-3-D MS		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-D MS		280-438258	280-437675	11/20/2018 03:40	1	TAL DEN	LMT

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-3 MSD **Client ID: MW-35**

Sample Date/Time: 11/12/2018 12:57 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116888-C-3-E MSD		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-E MSD		280-438257	280-437675	11/19/2018 22:02	1	TAL DEN	LMT
P:3005A	280-116888-C-3-E MSD		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-E MSD		280-438258	280-437675	11/20/2018 03:43	1	TAL DEN	LMT

Lab ID: 280-116888-4 **Client ID: MW-16**

Sample Date/Time: 11/12/2018 14:00 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-H-4		480-446211		11/17/2018 12:49	1	TAL BUF	AMM
A:8260C	280-116888-H-4		480-446211		11/17/2018 12:49	1	TAL BUF	AMM
P:5030C	280-116888-J-4		480-446599		11/20/2018 14:29	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-4		480-446599		11/20/2018 14:29	1	TAL BUF	RJF
P:3005A	280-116888-C-4-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-4-B		280-437867	280-437673	11/16/2018 02:29	1	TAL DEN	SJS
P:3005A	280-116888-C-4-B		280-437930	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-4-B		280-437930	280-437673	11/16/2018 12:00	1	TAL DEN	CML
P:3005A	280-116888-C-4-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-4-D		280-440535	280-440357	12/08/2018 01:49	1	TAL DEN	CML
P:3005A	280-116888-C-4-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-4-D		280-440690	280-440357	12/10/2018 15:38	1	TAL DEN	CML
P:3005A	280-116888-C-4-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-4-C		280-438257	280-437675	11/19/2018 22:09	1	TAL DEN	LMT
P:3005A	280-116888-D-4-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-4-A		280-438257	280-437667	11/19/2018 23:58	1	TAL DEN	LMT
P:3005A	280-116888-C-4-C		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-4-C		280-438258	280-437675	11/20/2018 03:50	1	TAL DEN	LMT
A:300.0	280-116888-A-4		280-439057		11/28/2018 23:24	1	TAL DEN	A1D
A:350.1	280-116888-B-4		280-438773		11/26/2018 10:52	1	TAL DEN	JAP
A:353.2	280-116888-A-4		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-4		280-438581		11/21/2018 23:09	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-4		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-4		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-4		280-439524		11/30/2018 04:05	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-4		280-438054		11/12/2018 15:00	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-5 **Client ID: MW-39**

Sample Date/Time: 11/12/2018 15:02 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-5		480-446211		11/17/2018 13:12	1	TAL BUF	AMM
A:8260C	280-116888-E-5		480-446211		11/17/2018 13:12	1	TAL BUF	AMM
P:5030C	280-116888-J-5		480-446599		11/20/2018 14:53	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-5		480-446599		11/20/2018 14:53	1	TAL BUF	RJF
P:3005A	280-116888-C-5-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-5-B		280-437867	280-437673	11/16/2018 02:33	1	TAL DEN	SJS
P:3005A	280-116888-C-5-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-5-D		280-440535	280-440357	12/08/2018 02:06	1	TAL DEN	CML
P:3005A	280-116888-C-5-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-5-D		280-440690	280-440357	12/10/2018 15:41	1	TAL DEN	CML
P:3005A	280-116888-C-5-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-5-C		280-438257	280-437675	11/19/2018 22:40	1	TAL DEN	LMT
P:3005A	280-116888-D-5-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-5-A		280-438257	280-437667	11/20/2018 00:01	1	TAL DEN	LMT
P:3005A	280-116888-C-5-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-5-C		280-438552	280-437675	11/21/2018 16:21	1	TAL DEN	LMT
A:300.0	280-116888-L-5		280-439057		11/28/2018 23:43	1	TAL DEN	A1D
A:350.1	280-116888-B-5		280-438773		11/26/2018 10:54	1	TAL DEN	JAP
A:353.2	280-116888-A-5		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-5		280-438581		11/21/2018 23:14	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-5		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-5		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-5		280-439524		11/30/2018 04:19	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-5		280-438054		11/12/2018 16:02	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-6 **Client ID: DUP2**

Sample Date/Time: 11/12/2018 15:10 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-6		480-446211		11/17/2018 13:35	1	TAL BUF	AMM
A:8260C	280-116888-E-6		480-446211		11/17/2018 13:35	1	TAL BUF	AMM
P:5030C	280-116888-J-6		480-446599		11/20/2018 15:17	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-6		480-446599		11/20/2018 15:17	1	TAL BUF	RJF
P:3005A	280-116888-C-6-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-6-B		280-437867	280-437673	11/16/2018 02:36	1	TAL DEN	SJS
P:3005A	280-116888-C-6-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-6-D		280-440535	280-440357	12/08/2018 02:09	1	TAL DEN	CML
P:3005A	280-116888-C-6-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-6-D		280-440690	280-440357	12/10/2018 15:44	1	TAL DEN	CML
P:3005A	280-116888-C-6-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-6-C		280-438257	280-437675	11/19/2018 22:43	1	TAL DEN	LMT
P:3005A	280-116888-D-6-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-6-A		280-438257	280-437667	11/20/2018 00:04	1	TAL DEN	LMT
P:3005A	280-116888-C-6-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-6-C		280-438552	280-437675	11/21/2018 16:25	1	TAL DEN	LMT
A:300.0	280-116888-A-6		280-439057		11/29/2018 00:02	1	TAL DEN	A1D
A:350.1	280-116888-B-6		280-438773		11/26/2018 10:56	1	TAL DEN	JAP
A:353.2	280-116888-A-6		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-6		280-438581		11/21/2018 23:19	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-6		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-6		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-6		280-439524		11/30/2018 04:36	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-7 **Client ID: MW-34A**

Sample Date/Time: 11/12/2018 11:00 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-7		480-446211		11/17/2018 13:58	1	TAL BUF	AMM
A:8260C	280-116888-E-7		480-446211		11/17/2018 13:58	1	TAL BUF	AMM
P:5030C	280-116888-J-7		480-446599		11/20/2018 15:41	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-7		480-446599		11/20/2018 15:41	1	TAL BUF	RJF
P:3005A	280-116888-C-7-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-7-B		280-437867	280-437673	11/16/2018 02:40	1	TAL DEN	SJS
P:3005A	280-116888-C-7-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-7-D		280-440535	280-440357	12/08/2018 02:13	1	TAL DEN	CML
P:3005A	280-116888-C-7-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-7-D		280-440690	280-440357	12/10/2018 16:01	1	TAL DEN	CML
P:3005A	280-116888-C-7-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-7-C		280-438257	280-437675	11/19/2018 22:46	1	TAL DEN	LMT
P:3005A	280-116888-C-7-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-7-C		280-438552	280-437675	11/21/2018 16:28	1	TAL DEN	LMT
P:3005A	280-116888-D-7-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-7-A		280-438701	280-437667	11/23/2018 13:29	1	TAL DEN	LMT
A:300.0	280-116888-A-7		280-439057		11/29/2018 00:21	1	TAL DEN	A1D
A:350.1	280-116888-B-7		280-438773		11/26/2018 11:10	1	TAL DEN	JAP
A:353.2	280-116888-A-7		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-7		280-438581		11/21/2018 23:49	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-7		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-7		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-7		280-439524		11/30/2018 04:53	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-7		280-438054		11/12/2018 12:00	1	TAL DEN	A1S

Lab ID: 280-116888-7 DU **Client ID: MW-34A**

Sample Date/Time: 11/12/2018 11:00 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2320B	280-116888-L-7 DU		280-438581		11/21/2018 23:54	1	TAL DEN	SGB

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-8 **Client ID: MW-34C**

Sample Date/Time: 11/12/2018 12:00 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-8		480-446217		11/17/2018 12:21	1	TAL BUF	AMM
A:8260C	280-116888-E-8		480-446217		11/17/2018 12:21	1	TAL BUF	AMM
P:5030C	280-116888-J-8		480-446599		11/20/2018 16:05	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-8		480-446599		11/20/2018 16:05	1	TAL BUF	RJF
P:3005A	280-116888-C-8-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-8-B		280-437867	280-437673	11/16/2018 02:43	1	TAL DEN	SJS
P:3005A	280-116888-C-8-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-8-D		280-440535	280-440357	12/08/2018 02:16	1	TAL DEN	CML
P:3005A	280-116888-C-8-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-8-D		280-440690	280-440357	12/10/2018 16:05	1	TAL DEN	CML
P:3005A	280-116888-C-8-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-8-C		280-438257	280-437675	11/19/2018 22:50	1	TAL DEN	LMT
P:3005A	280-116888-D-8-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-8-A		280-438257	280-437667	11/20/2018 00:11	1	TAL DEN	LMT
P:3005A	280-116888-C-8-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-8-C		280-438552	280-437675	11/21/2018 16:31	1	TAL DEN	LMT
A:300.0	280-116888-L-8		280-439057		11/29/2018 01:19	1	TAL DEN	A1D
A:350.1	280-116888-B-8		280-438773		11/26/2018 11:12	1	TAL DEN	JAP
A:353.2	280-116888-A-8		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-8		280-438581		11/22/2018 00:00	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-8		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-8		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-8		280-439524		11/30/2018 05:11	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-8		280-438054		11/12/2018 13:00	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-9 **Client ID: MW-15R**

Sample Date/Time: 11/12/2018 13:53 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-E-9		480-446217		11/17/2018 12:48	1	TAL BUF	AMM
A:8260C	280-116888-E-9		480-446217		11/17/2018 12:48	1	TAL BUF	AMM
P:5030C	280-116888-J-9		480-446599		11/20/2018 16:30	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-9		480-446599		11/20/2018 16:30	1	TAL BUF	RJF
P:3005A	280-116888-C-9-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-9-B		280-437867	280-437673	11/16/2018 03:00	1	TAL DEN	SJS
P:3005A	280-116888-C-9-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-9-D		280-440535	280-440357	12/08/2018 02:19	1	TAL DEN	CML
P:3005A	280-116888-C-9-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-9-D		280-440690	280-440357	12/10/2018 16:08	1	TAL DEN	CML
P:3005A	280-116888-C-9-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-9-C		280-438257	280-437675	11/19/2018 22:53	1	TAL DEN	LMT
P:3005A	280-116888-C-9-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-9-C		280-438552	280-437675	11/21/2018 16:35	1	TAL DEN	LMT
P:3005A	280-116888-D-9-A		280-440531	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-9-A		280-440531	280-437667	12/07/2018 15:11	1	TAL DEN	LMT
A:300.0	280-116888-A-9		280-439057		11/29/2018 01:38	1	TAL DEN	A1D
A:350.1	280-116888-B-9		280-438773		11/26/2018 11:14	1	TAL DEN	JAP
A:353.2	280-116888-A-9		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-9		280-438581		11/22/2018 00:05	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-9		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-9		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-9		280-439524		11/30/2018 05:26	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-9		280-438054		11/12/2018 14:53	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-10 **Client ID: MW-36A**

Sample Date/Time: 11/12/2018 12:56 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-H-10		480-446217		11/17/2018 13:15	1	TAL BUF	AMM
A:8260C	280-116888-H-10		480-446217		11/17/2018 13:15	1	TAL BUF	AMM
P:5030C	280-116888-J-10		480-446599		11/20/2018 16:54	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-10		480-446599		11/20/2018 16:54	1	TAL BUF	RJF
P:3005A	280-116888-C-10-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-10-B		280-437867	280-437673	11/16/2018 03:03	1	TAL DEN	SJS
P:3005A	280-116888-C-10-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-10-D		280-440535	280-440357	12/08/2018 02:23	1	TAL DEN	CML
P:3005A	280-116888-C-10-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-10-D		280-440690	280-440357	12/10/2018 16:11	1	TAL DEN	CML
P:3005A	280-116888-C-10-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-10-C		280-438257	280-437675	11/19/2018 22:57	1	TAL DEN	LMT
P:3005A	280-116888-D-10-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-10-A		280-438257	280-437667	11/20/2018 00:18	1	TAL DEN	LMT
P:3005A	280-116888-C-10-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-10-C		280-438552	280-437675	11/21/2018 16:38	1	TAL DEN	LMT
A:300.0	280-116888-A-10		280-439057		11/29/2018 01:57	1	TAL DEN	A1D
A:350.1	280-116888-B-10		280-438773		11/26/2018 11:57	1	TAL DEN	JAP
A:353.2	280-116888-A-10		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-10		280-438581		11/22/2018 00:11	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-10		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-10		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-10		280-439524		11/30/2018 06:20	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-10		280-438054		11/12/2018 13:56	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-11 **Client ID: MW-19C**

Sample Date/Time: 11/12/2018 14:48 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-H-11		480-446217		11/17/2018 13:42	1	TAL BUF	AMM
A:8260C	280-116888-H-11		480-446217		11/17/2018 13:42	1	TAL BUF	AMM
P:5030C	280-116888-J-11		480-446599		11/20/2018 17:18	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-11		480-446599		11/20/2018 17:18	1	TAL BUF	RJF
P:3005A	280-116888-C-11-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-11-B		280-437867	280-437673	11/16/2018 03:06	1	TAL DEN	SJS
P:3005A	280-116888-C-11-D		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-11-D		280-440535	280-440357	12/08/2018 02:26	1	TAL DEN	CML
P:3005A	280-116888-C-11-D		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-11-D		280-440690	280-440357	12/10/2018 16:15	1	TAL DEN	CML
P:3005A	280-116888-C-11-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-11-C		280-438257	280-437675	11/19/2018 23:00	1	TAL DEN	LMT
P:3005A	280-116888-D-11-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-11-A		280-438257	280-437667	11/20/2018 00:21	1	TAL DEN	LMT
P:3005A	280-116888-C-11-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-11-C		280-438552	280-437675	11/21/2018 16:41	1	TAL DEN	LMT
A:300.0	280-116888-L-11		280-439057		11/29/2018 02:16	1	TAL DEN	A1D
A:350.1	280-116888-B-11		280-438773		11/26/2018 11:20	1	TAL DEN	JAP
A:353.2	280-116888-A-11		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-11		280-438581		11/22/2018 00:23	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-11		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-11		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-11		280-439524		11/30/2018 06:34	1	TAL DEN	LPL
A:Field Sampling	280-116888-A-11		280-438054		11/12/2018 15:48	1	TAL DEN	A1S

Lab ID: 280-116888-11 MS **Client ID: MW-19C**

Sample Date/Time: 11/12/2018 14:48 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 5310B	280-116888-B-11 MS		280-439524		11/30/2018 06:49	1	TAL DEN	LPL

Lab ID: 280-116888-11 MSD **Client ID: MW-19C**

Sample Date/Time: 11/12/2018 14:48 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 5310B	280-116888-B-11 MSD		280-439524		11/30/2018 07:09	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-12 **Client ID: DUP1**

Sample Date/Time: 11/12/2018 14:55 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-H-12		480-446217		11/17/2018 14:09	1	TAL BUF	AMM
A:8260C	280-116888-H-12		480-446217		11/17/2018 14:09	1	TAL BUF	AMM
P:5030C	280-116888-J-12		480-446599		11/20/2018 17:42	1	TAL BUF	RJF
A:8260C SIM	280-116888-J-12		480-446599		11/20/2018 17:42	1	TAL BUF	RJF
P:3005A	280-116888-C-12-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-12-B		280-437867	280-437673	11/16/2018 03:10	1	TAL DEN	SJS
P:3005A	280-116888-C-12-F		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-12-F		280-440535	280-440357	12/08/2018 02:29	1	TAL DEN	CML
P:3005A	280-116888-C-12-F		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	280-116888-C-12-F		280-440690	280-440357	12/10/2018 16:18	1	TAL DEN	CML
P:3005A	280-116888-C-12-E		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-12-E		280-438257	280-437675	11/19/2018 23:03	1	TAL DEN	LMT
P:3005A	280-116888-D-12-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-12-A		280-438257	280-437667	11/20/2018 00:25	1	TAL DEN	LMT
P:3005A	280-116888-C-12-E		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-12-E		280-438552	280-437675	11/21/2018 16:45	1	TAL DEN	LMT
A:300.0	280-116888-L-12		280-439057		11/29/2018 02:35	1	TAL DEN	A1D
A:350.1	280-116888-B-12		280-438773		11/26/2018 11:18	1	TAL DEN	JAP
A:353.2	280-116888-A-12		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	280-116888-L-12		280-438581		11/22/2018 00:17	1	TAL DEN	SGB
A:SM 2540C	280-116888-A-12		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	280-116888-A-12		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	280-116888-B-12		280-439524		11/30/2018 07:29	1	TAL DEN	LPL

Lab ID: 280-116888-12 MS **Client ID: DUP1**

Sample Date/Time: 11/12/2018 14:55 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116888-C-12-C MS		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-12-C MS		280-437867	280-437673	11/16/2018 03:17	1	TAL DEN	SJS

Lab ID: 280-116888-12 MSD **Client ID: DUP1**

Sample Date/Time: 11/12/2018 14:55 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116888-C-12-D MSD		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-12-D MSD		280-437867	280-437673	11/16/2018 03:20	1	TAL DEN	SJS

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: 280-116888-13 **Client ID: TRIP BLANK**

Sample Date/Time: 11/12/2018 00:00 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116888-A-13		480-446217		11/17/2018 14:37	1	TAL BUF	AMM
A:8260C	280-116888-A-13		480-446217		11/17/2018 14:37	1	TAL BUF	AMM
P:5030C	280-116888-F-13		480-446599		11/20/2018 18:06	1	TAL BUF	RJF
A:8260C SIM	280-116888-F-13		480-446599		11/20/2018 18:06	1	TAL BUF	RJF

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	MB 480-446211/7		480-446211		11/17/2018 10:14	1	TAL BUF	AMM
A:8260C	MB 480-446211/7		480-446211		11/17/2018 10:14	1	TAL BUF	AMM
P:5030C	MB 480-446217/6		480-446217		11/17/2018 10:56	1	TAL BUF	AMM
A:8260C	MB 480-446217/6		480-446217		11/17/2018 10:56	1	TAL BUF	AMM
P:5030C	MB 480-446599/10		480-446599		11/20/2018 12:44	1	TAL BUF	RJF
A:8260C SIM	MB 480-446599/10		480-446599		11/20/2018 12:44	1	TAL BUF	RJF
P:3005A	MB 280-437673/1-A		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	MB 280-437673/1-A		280-437867	280-437673	11/16/2018 02:12	1	TAL DEN	SJS
P:3005A	MB 280-440357/1-A		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	MB 280-440357/1-A		280-440535	280-440357	12/08/2018 01:18	1	TAL DEN	CML
P:3005A	MB 280-440357/1-A		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	MB 280-440357/1-A		280-440690	280-440357	12/10/2018 14:54	1	TAL DEN	CML
P:3005A	MB 280-437675/1-A		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	MB 280-437675/1-A		280-438257	280-437675	11/19/2018 21:39	1	TAL DEN	LMT
P:3005A	MB 280-437667/1-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	MB 280-437667/1-A		280-438257	280-437667	11/19/2018 23:20	1	TAL DEN	LMT
P:3005A	MB 280-437675/1-A		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	MB 280-437675/1-A		280-438258	280-437675	11/20/2018 03:20	1	TAL DEN	LMT
P:3005A	MB 280-437667/1-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	MB 280-437667/1-A		280-438701	280-437667	11/23/2018 13:01	1	TAL DEN	LMT
A:300.0	MB 280-439057/6		280-439057		11/28/2018 14:44	1	TAL DEN	A1D
A:350.1	MB 280-438773/20		280-438773		11/26/2018 10:36	1	TAL DEN	JAP
A:353.2	MB 280-438438/1		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	MB 280-438581/57		280-438581		11/21/2018 21:06	1	TAL DEN	SGB
A:SM 2320B	MB 280-438581/83		280-438581		11/21/2018 23:43	1	TAL DEN	SGB
A:SM 2540C	MB 280-437564/1		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	MB 280-437518/1		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	MB 280-439524/37		280-439524		11/30/2018 01:28	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCS 480-446211/5		480-446211		11/17/2018 09:28	1	TAL BUF	AMM
A:8260C	LCS 480-446211/5		480-446211		11/17/2018 09:28	1	TAL BUF	AMM
P:5030C	LCS 480-446217/4		480-446217		11/17/2018 10:02	1	TAL BUF	AMM
A:8260C	LCS 480-446217/4		480-446217		11/17/2018 10:02	1	TAL BUF	AMM
P:5030C	LCS 480-446599/7		480-446599		11/20/2018 11:32	1	TAL BUF	RJF
A:8260C SIM	LCS 480-446599/7		480-446599		11/20/2018 11:32	1	TAL BUF	RJF
P:3005A	LCS 280-437673/2-A		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	LCS 280-437673/2-A		280-437867	280-437673	11/16/2018 02:16	1	TAL DEN	SJS
P:3005A	LCS 280-440357/2-A		280-440535	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	LCS 280-440357/2-A		280-440535	280-440357	12/08/2018 01:21	1	TAL DEN	CML
P:3005A	LCS 280-440357/2-A		280-440690	280-440357	12/07/2018 16:00	1	TAL DEN	DAL
A:6010D	LCS 280-440357/2-A		280-440690	280-440357	12/10/2018 14:57	1	TAL DEN	CML
P:3005A	LCS 280-437675/2-A		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	LCS 280-437675/2-A		280-438257	280-437675	11/19/2018 21:42	1	TAL DEN	LMT
P:3005A	LCS 280-437667/2-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	LCS 280-437667/2-A		280-438257	280-437667	11/19/2018 23:24	1	TAL DEN	LMT
P:3005A	LCS 280-437675/2-A		280-438258	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	LCS 280-437675/2-A		280-438258	280-437675	11/20/2018 03:23	1	TAL DEN	LMT
P:3005A	LCS 280-437667/2-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	LCS 280-437667/2-A		280-438701	280-437667	11/23/2018 13:05	1	TAL DEN	LMT
A:300.0	LCS 280-439057/4		280-439057		11/28/2018 14:06	1	TAL DEN	A1D
A:350.1	LCS 280-438773/18		280-438773		11/26/2018 10:32	1	TAL DEN	JAP
A:SM 2320B	LCS 280-438581/56		280-438581		11/21/2018 21:01	1	TAL DEN	SGB
A:SM 2320B	LCS 280-438581/82		280-438581		11/21/2018 23:38	1	TAL DEN	SGB
A:SM 2540C	LCS 280-437564/2		280-437564		11/14/2018 10:05	1	TAL DEN	MJS
A:SM 2540D	LCS 280-437518/2		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	LCS 280-439524/35		280-439524		11/30/2018 00:53	1	TAL DEN	LPL

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCSD 480-446599/8		480-446599		11/20/2018 11:56	1	TAL BUF	RJF
A:8260C SIM	LCSD 480-446599/8		480-446599		11/20/2018 11:56	1	TAL BUF	RJF
A:300.0	LCSD 280-439057/5		280-439057		11/28/2018 14:25	1	TAL DEN	A1D
A:350.1	LCSD 280-438773/19		280-438773		11/26/2018 10:34	1	TAL DEN	JAP
A:SM 2540D	LCSD 280-437518/3		280-437518		11/14/2018 08:07	1	TAL DEN	MJS
A:SM 5310B	LCSD 280-439524/36		280-439524		11/30/2018 01:11	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116888-1

Laboratory Chronicle

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-439057/3		280-439057		11/28/2018 13:46	1	TAL DEN	A1D

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/09/2018 10:45 Received Date/Time: 11/10/2018 09:30

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145073-E-1 MS		480-446211		11/17/2018 18:12	20	TAL BUF	AMM
A:8260C	480-145073-E-1 MS		480-446211		11/17/2018 18:12	20	TAL BUF	AMM
A:350.1	280-117049-A-11 MS		280-438773		11/26/2018 10:40	1	TAL DEN	JAP
A:350.1	280-117049-A-26 MS		280-438773		11/26/2018 11:53	1	TAL DEN	JAP

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/09/2018 10:45 Received Date/Time: 11/10/2018 09:30

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145073-E-1 MSD		480-446211		11/17/2018 18:35	20	TAL BUF	AMM
A:8260C	480-145073-E-1 MSD		480-446211		11/17/2018 18:35	20	TAL BUF	AMM
A:350.1	280-117049-A-11 MSD		280-438773		11/26/2018 10:42	1	TAL DEN	JAP
A:350.1	280-117049-A-26 MSD		280-438773		11/26/2018 11:55	1	TAL DEN	JAP

Lab ID: DU **Client ID: N/A**

Sample Date/Time: 11/10/2018 08:41 Received Date/Time: 11/13/2018 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2540D	280-116900-A-1 DU		280-437518		11/14/2018 08:07	1	TAL DEN	MJS

Lab References:
TAL BUF = TestAmerica Buffalo
TAL DEN = TestAmerica Denver

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 December 2018

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

RE: OVSL

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

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

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

Associated Work Order(s)	Associated SDG ID(s)
18K0248	N/A

Amanda Volgardsen

Digitally signed by Amanda Volgardsen
DN: c=US, st=Washington, l=Tukwila, o=Analytical Resources, Inc., ou=Project Manager, cn=Amanda Volgardsen, email=amanda.volgardsen@arilabs.com
Date: 2018.12.04 14:26:51 -08'00'

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

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

Analytical Resources, Inc.

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.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 18K0248	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 1 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level Total Arsenic	Notes/Comments
MW-13B	11/12/18	1147	water	1	X	
MW-34C		1200				
MW-13A		1058				
MW-34A		1100				
MW-36A		1256				
MW-35		1257				
MW-15R		1353				
MW-16		1400				
MW-14C		1448				
Dup 1		1455				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Haltr	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 2 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3 °C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-39	11/12/18	1502	water	1	X	
Dup 2	"	1510	"	"	"	
MW-29A	"	1609	"	"	"	
MW-42	"	1650	"	"	"	
LP-LCD	11/13/18	930	"	"	"	
L-INF	"	1115	leachate	"	"	
OBWL-TD	"	1315	leachate	"	"	
MW-43	11/14/18	953	water	"	"	
MW-32	"	1100	"	"	"	
MW-33A	"	1300	"	"	"	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacobwalter	Printed Name:	Printed Name:
	Company: SCS	Company: ART	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 3 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic								Notes/Comments
MW-33C	11/14/18	1348	water	1	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-13B	18K0248-01	Water	12-Nov-2018 11:47	16-Nov-2018 11:40
MW-34C	18K0248-02	Water	12-Nov-2018 12:00	16-Nov-2018 11:40
MW-13A	18K0248-03	Water	12-Nov-2018 10:58	16-Nov-2018 11:40
MW-34A	18K0248-04	Water	12-Nov-2018 11:00	16-Nov-2018 11:40
MW-36A	18K0248-05	Water	12-Nov-2018 12:56	16-Nov-2018 11:40
MW-35	18K0248-06	Water	12-Nov-2018 12:57	16-Nov-2018 11:40
MW-15R	18K0248-07	Water	12-Nov-2018 13:53	16-Nov-2018 11:40
MW-16	18K0248-08	Water	12-Nov-2018 14:00	16-Nov-2018 11:40
MW-19C	18K0248-09	Water	12-Nov-2018 14:48	16-Nov-2018 11:40
DUP 1	18K0248-10	Water	12-Nov-2018 14:55	16-Nov-2018 11:40
MW-39	18K0248-11	Water	12-Nov-2018 15:02	16-Nov-2018 11:40
DUP 2	18K0248-12	Water	12-Nov-2018 15:10	16-Nov-2018 11:40
MW-29A	18K0248-13	Water	12-Nov-2018 16:09	16-Nov-2018 11:40
MW-42	18K0248-14	Water	12-Nov-2018 16:50	16-Nov-2018 11:40
LP-LCD	18K0248-15	Water	13-Nov-2018 09:30	16-Nov-2018 11:40
L-INF	18K0248-16	Water	13-Nov-2018 11:15	16-Nov-2018 11:40
OBWL-TD	18K0248-17	Water	13-Nov-2018 13:15	16-Nov-2018 11:40
MW-43	18K0248-18	Water	14-Nov-2018 09:53	16-Nov-2018 11:40
MW-32	18K0248-19	Water	14-Nov-2018 11:00	16-Nov-2018 11:40
MW-33A	18K0248-20	Water	14-Nov-2018 13:00	16-Nov-2018 11:40
MW-33C	18K0248-21	Water	14-Nov-2018 13:48	16-Nov-2018 11:40

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

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 16, 2018 under ARI work order 18K0248. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Arsenic - EPA Method 200.8

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2 fail	
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JDB
Preservation Confirmed By

11/16/18
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SCS Engineers Project Name: OUSL

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18K0248 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1140 1305 1.3

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520 6

Cooler Accepted by: SSm Date: 11/16/18 Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		(YES)	NO
What kind of packing material was used? ...	Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

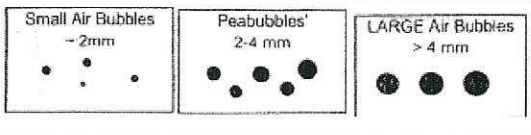
Samples Logged by: JNB Date: 11/16/18 Time: 1433

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2	fail
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JLB
Preservation Confirmed By

11/16/18
Date

preserved DP
11/19/18

Reviewed By

Date

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13B

18K0248-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:47

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000337**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34C

18K0248-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00968**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13A

18K0248-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 10:58

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000189**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34A

18K0248-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:00

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000411**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-36A

18K0248-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:56

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000532**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-35

18K0248-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:57
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000112**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-15R

18K0248-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 13:53

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000193**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-16

18K0248-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000452**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-19C

18K0248-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:48
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00276**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 1

18K0248-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:55
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00281**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-39

18K0248-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:02

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00197**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 2

18K0248-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:10

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00189**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-29A

18K0248-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:09

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00219**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-42

18K0248-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00183**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

LP-LCD

18K0248-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 09:30

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.0102**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

L-INF

18K0248-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.00370**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

OBWL-TD

18K0248-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 13:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00584**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-43

18K0248-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 09:53

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	ND	mg/L	U

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-32

18K0248-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 11:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00984**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33A

18K0248-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000607**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33C

18K0248-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:48

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00277**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGK0701 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: TCH

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGK0701-BLK1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 18:28							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGK0701-BS1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 19:11							
Arsenic	75a	0.00490	0.0000400	mg/L	0.00500		98.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGL0010 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGL0010-BLK1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:33							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGL0010-BS1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:38							
Arsenic	75a	0.00475	0.0000400	mg/L	0.00500		95.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75b	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
DoD-ELAP DW	DoD-Environmental Laboratory Accreditation - Drinking Water	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the applicable reporting or detection limit.
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.

116888

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSC

Site No.:

Sample Point: MW-13A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1038	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment... Dedicated: (Y) or N

Filter Device: (Y) or N 0.45 μ or ____ μ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): ~~58.51~~ 46.99 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (ml/min)	pH (std)	Conductance (SC/BC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1038	380	1st 6.89	1st 1171	19.4		8.95	211.8	
1043	↓	2nd 6.92	2nd 1170	19.5		8.61	209.0	
1046		3rd 6.95	3rd 1169	19.5		8.56	208.2	
1049		4th 7.00	4th 1169	19.5		8.51	207.7	
1052		7.01	1169	19.5		8.48	208.1	
1055		7.02	1169	19.5		8.46	208.4	
1058		7.02	1169	19.5	0.35	8.45	207.9	47.08
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units
11 12 18	7.02	1169	19.5	0.35	8.45	207.9	47.08

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: partly cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Grabe	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WM WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: AW-13B (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1127	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 μ or ____ μ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 60.55 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ml/min	pH (std)	Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1127	300	1st 6.91	1st 1174	10.0		7.32	184.1	
1132	↓	2nd 7.27	2nd 1174	9.9		8.59	172.2	
1135		3rd 7.49	3rd 1174	9.9		8.86	167.1	
1138		4th 7.56	4th 1174	9.9		8.91	164.1	
1141		7.63	1174	10.0		8.96	160.5	60.73
1144		7.64	1174	9.9		8.88	160.4	
1147	↓	7.65	1174	10.0	0.22	8.82	159.1	60.76
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
11 12 18	7.65	1174	10.0	0.22	8.82	159.1	60.76

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-35 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1237	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment... Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 72.68 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 04 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ml/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1237	300	1st	7.53	1st	1164	10.8		5.45	181.5	
1242	↓	2nd	7.39	2nd	1164	10.3		6.38	180.4	
1245		3rd	7.40	3rd	1164	10.3		6.43	179.9	
1248		4th	7.40	4th	1164	10.3		6.43	179.5	
1251			7.40		1164	10.3		6.43	178.2	
1254			7.40		1164	10.3		6.43	175.9	
1257	↓		7.40		1164	10.3	0.65	6.43	175.2	72.75
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ml/min DTW Units
11 12 18	7.40	1164	10.3	0.65	6.43	175.2	72.75

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

trace amount of dark particulates in sample

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TAI-8022

FIELD INFORMATION FORM

WM WASTE MANAGEMENT

Site Name: OUSL

Site No.: | Sample Point: MW-16 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	13 40	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment... Dedicated: (Y) or N

Filter Device: (Y) or N | 0.45 µ or ____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: 4 — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 60.93 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ml/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1340	300	1st 7.45	1st 1113	19.9		6.86	184.7	
1345		2nd 6.81	2nd 1112	19.7		5.31	190.6	
1348		3rd 6.37	3rd 1112	19.6		5.98	193.2	
1351		4th 6.36	4th 1112	19.6		5.99	194.7	
1354		6.35	1112	19.6		6.00	196.2	
1357		6.34	1112	19.6		6.07	197.6	
1400	↓	6.34	1112	19.6	1.68	6.04	198.8	61.02
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: fin/DTW Units
11 12 18	6.34	1112	19.6	1.68	6.04	198.8	61.02

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear Odor: None Color: — Other:

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Gabor	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-39 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1442	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment... Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ___ µ (circle or fill in)

Purging Device: C
Sampling Device: C
X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)
Depth to Water (DTW) (from TOC): 22.59 (ft)
Groundwater Elevation (site datum, from TOC): (ft/msl)
Total Well Depth (from TOC): (ft)
Stick Up (from ground elevation): (ft)
Casing ID: 02 (in)
Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1442	380	1st 6.27	1st 1264	11.7		0.67	-117.7	
1447	↓	2nd 6.20	2nd 1265	11.5		0.31	-132.7	
1450		3rd 6.20	3rd 1265	11.5		0.25	-136.2	
1453		4th 6.19	4th 1265	11.5		0.23	-138.0	
1456		6.18	1265	11.4	11.0	0.21	-139.4	
1459		6.18	1265	11.4	12.5	0.24	-140.3	
1502	↓	6.17	1267	11.4	12.0	0.38	-139.4	22.75
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (*i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DTW Units
11 12 18	6.17	1267	11.4	12.0	0.38	-139.4	22.75

Final Field Readings are required (*i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*)

FIELD COMMENTS

Sample Appearance: Clear   Odor: none   Color: —   Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: —   Outlook: Sunny   Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Dup 2 collected @ 1510

turbidity reading while filling bottles = 5.73. Turned psi down.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Sam Grabo	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TAL-8029WM (1013)

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL
Site No.:
Sample Point: MW-34A (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1032	:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N
Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)
Purging Device: C
Sampling Device: C
A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle
Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)
Sample Tube Type: D (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other)
X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	40.72	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ML/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1046	300	1st 5.27	1st 1175	11.98		4.09	318.2	
1045		2nd 5.57	2nd 1178	12.02		1.28	315.8	
1048		3rd 5.71	3rd 1180	12.02		1.05	312.7	
1051		4th 5.75	4th 1180	12.02		0.96	312.1	
1054		5.77	1180	12.02		0.90	312.1	
1057		5.79	1179	12.03	1.21	0.88	310.1	
1100	↓	5.80	1178	12.05	1.20	0.92	309.9	40.73
Suggested range for 3 consec. readings or as per Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (µmhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units Ft
11/12/18	5.80	1178	12.05	1.20	0.92	309.9	40.73

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear
Odor: —
Color: —
Other: —
Weather Conditions (required daily, or as conditions change):
Direction/Speed: —
Outlook: Sunny
Precipitation: Y or (N)
Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-34C (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1132	28			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 μ or ____ μ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sampling Device: C

X-Other:

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 42.51 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit 300 ml/min		pH (std)		Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1132	300	1st	6.25	1st	2.25	11.73		4.66	305.6	
1137		2nd	6.37	2nd	2.26	11.82		1.70	304.4	
1140		3rd	6.42	3rd	2.26	11.72		1.81	302.0	
1143		4th	6.44	4th	2.26	11.68		2.04	300.5	
1146			6.46		2.31	11.59		1.82	299.0	
1149			6.47		2.37	11.43	20.27	1.83	297.9	
1152			6.47		2.39	11.42	19.18	1.80	296.0	42.48
1200	↓		6.47		2.40	11.42	18.17	1.79	295.4	
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* **If more fields above are needed, use separate sheet or form.**

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
11 12 18	6.47	2.40	11.42	18.17	1.79	295.4	42.48

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Cloudy Odor: -- Color: orange Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Partly Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): Orange tint. Extra purge to try and bring Turbidity down.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-15R (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1333	0 2 6			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment... Dedicated: (Y) or N

Filter Device: (Y) or N | 0.45 µ or ___ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ___ (ft/msl)

Depth to Water (DTW) (from TOC): 19.63 (ft)

Groundwater Elevation (site datum, from TOC): ___ (ft/msl)

Total Well Depth (from TOC): ___ (ft)

Stick Up (from ground elevation): ___ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
1333	350	1st 6.53	1st 170	10.11		4.75	260.0	
1338		2nd 6.38	2nd 169	10.08		1.61	269.3	
1341		3rd 6.46	3rd 170	10.06		1.51	267.3	
1344		4th 6.41	4th 170	10.05		1.47	266.3	
1347		6.42	169	10.04		1.43	264.5	
1350		6.41	169	10.05		1.40	263.4	
1353	↓	6.42	171	10.05	0.0	1.50	261.8	19.68
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft
11 12 18	6.42	171	10.05	0.0	1.50	261.8	19.68

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear   Odor: —   Color: —   Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: —   Outlook: Sunny   Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TAL-8029WM (1013)

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-36A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1236	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ..: Dedicated: (Y) or N

Filter Device: (Y) or N 0.45 μ or ____ μ (circle or fill in)

Purging Device: C
Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 32.16 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit mL/min		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1236	350	1st	6.45	1st	1.35	9.57		9.51	227.0	
1241		2nd	6.11	2nd	1.35	9.52		4.25	236.9	
1244		3rd	6.05	3rd	1.35	9.53		4.04	240.1	
1247		4th	6.02	4th	1.34	9.52		3.99	242.5	
1250			6.00		1.34	9.53		3.93	245.4	
1253			5.99		1.33	9.51		3.90	247.7	
1256	↓		5.98		1.35	9.57	0.10	3.95	250.5	33.35
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units: Ft
11 12 18	5.98	1.35	9.57	0.6	3.95	250.5	33.35

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Partly Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

MW-36 DTW = 32.23

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TAL-8029WM (1013)

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL
Site No.:
Sample Point: MW-19C
Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/12/18	1428	20			

Note: For Passive Sampling, replace "Water Vol In Casing" and "Well Vols Purged" w/ Water Vol In Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C
Sampling Device: C
X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)
Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)
Sample Tube Type: B (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	35.21	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ml/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1428	200	1st 6.81	1st 1.166	11.06		4.15	254.0	
1433		2nd 6.55	2nd 1.171	10.36		2.14	221.9	
1436		3rd 6.58	3rd 1.170	10.37		0.51	197.7	
1439		4th 6.58	4th 1.169	10.36		0.41	185.0	
1442		6.60	1.169	10.46		0.34	158.8	
1445		6.61	1.169	10.37		0.31	140.6	
1448	↓	6.62	1.170	10.32	0.19	0.31	124.5	35.20
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (µmhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
11/12/18	6.62	1.170	10.32	0.19	0.31	124.5	35.20

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

FIELD COMMENTS

Sample Appearance: Clear
Odor: —
Color: ~
Other: ~

Weather Conditions (required daily, or as conditions change):
Direction/Speed: —
Outlook: Sunny
Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

*DUP1 taken at 1455

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

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

Chain of Custody Record

8113 9352 4669
8113 9352 4657

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Sam G. + TB	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 8113 9352 4679 / 8113 9352 4680	COC No: 280-17318-3224.1
Client Contact: ~~Mr. Patrick Madej~~ Dan Vanchiarutti	Phone: 425-766-3362	E-Mail: betsy.sara@testamericainc.com		Page: 042204027.21
Company: ~~Waste Management~~ SCS Engineers				Job #: 1 of 2
Address: ~~2615 Davis Street~~ 2405 140th Ave NE #107	Due Date Requested: Standard	Analysis Requested		Preservation Codes:
City: ~~San Leandro~~ Bellevue	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: ~~CA, 94577~~ WA, 98005	PO #:			
Phone: 425-284-5455	WO #:			Other:
Email: DVanchiarutti@scsengineers.com	Project #: 28002692			
Project Name: WA02|Olympic View Sanitary LF Event Desc: Quarterly GW Appl/II - Mar Jun Sep Dec	SSOW#:			
Site: Washington				

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TDS/Alks/Cl/SO4/NO3(cad)	Dissolved Metals	Ammonia/TOC	8260B - long list (TA Buffalo)	8260B SIM (TA Buffalo)	Total Metals	TSS	Total Arsenic (direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	S	A	A	D	N	D	X	
MW-13A	11/12/18	1058	G	W	Y	N	X	X	X	X	X	X	X	X	11	Short Hold: NO3(cad)
MW-13B		1147														Arsenic - Direct sub to ARI
MW-35		1257														
MW-16		1400														
MW-39		1502														
Dup 2		1510														
MW-34A		1100														
MW-34C		1200														
MW-15R		1353														
MW-36A		1256														
MW-19C	↓	1448	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	

280-116888 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/12/18 1630	SCS		11/13/18 0900	TA DEN
2						
3						

Custody Seals Intact: △ Yes △ No

Custody Seal No.: 662636, 662637, 662638, 662639

Cooler Temperature(s) °C and Other Remarks: 2.4, 2.1, 2.1, 3.8 +0.7 IR#9

12/12/2018

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

12/12/2018

Client Information	Sampler: S.G. + TB	Lab PM: Sara, Betsy A	Carrier Tracking No(s): Same as pg. 1	COC No: 280-17318-3224.1
Client Contact: ~~Mr. Patrick Madej~~ Dan Vecchiarutti	Phone: 425-~~766~~-3362	E-Mail: betsy.sara@testamericainc.com		Page: 2 of 2
Company: Waste Management Same as Page 1				Job #: 04204027.21
Address: ~~2615 Davis Street~~	Due Date Requested: Standard			
City: ~~San Leandro~~	TAT Requested (days):			
State, Zip: ~~CA, 94577~~				
Phone:	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF Event Desc: Quarterly GW Appl/II - Mar Jun Sep Dec	Project #: 28002692			
Site: Washington	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TDS/Alks/Cl/SO4/NO3(cad)	Dissolved Metals	Ammonia/TOC	8260B - long list (TA Buffalo)	8260B SIM (TA Buffalo)	Total Metals	TSS	Total Arsenic (direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A	A	D	N	D		
Dup 1	11/12/18	1455	G	W	Y	N	X	X	X	X	X	X	X	X	11	Short Hold: NO3(cad)
Trip blank	11/12/18	–	–	W	N	N				X					6	Arsenic - Direct sub to ARI

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11/12/18 1630	SCS		11/13/18 0901	TA DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Same as pg. 1	Cooler Temperature(s) °C and Other Remarks:

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-462366.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 280-116888-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 11/30/2018			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692			
Site: WA02|Olympic View Sanitary LF	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	8260C/5030C (MOD) Appendix II Volatiles	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-13A (280-116888-1)	11/12/18	10:58 Pacific		Water			X	X	6	
MW-13B (280-116888-2)	11/12/18	11:47 Pacific		Water			X	X	6	
MW-35 (280-116888-3)	11/12/18	12:57 Pacific		Water			X	X	6	
MW-16 (280-116888-4)	11/12/18	14:00 Pacific		Water			X	X	6	
MW-39 (280-116888-5)	11/12/18	15:02 Pacific		Water			X	X	6	
DUP2 (280-116888-6)	11/12/18	15:10 Pacific		Water			X	X	6	
MW-34A (280-116888-7)	11/12/18	11:00 Pacific		Water			X	X	6	
MW-34C (280-116888-8)	11/12/18	12:00 Pacific		Water			X	X	6	
MW-15R (280-116888-9)	11/12/18	13:53 Pacific		Water			X	X	6	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status 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.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Jamia Castro	11-13-18 1510	TAL Den		11/14/18 0930	TAL.
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.7c

Ver: 09/20/2016

12/12/2018

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-462366.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 280-116888-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 11/30/2018			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692			
Site: WA02|Olympic View Sanitary LF	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	8260C/5030C (MOD) Appendix II Volatiles	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-36A (280-116888-10)	11/12/18	12:56 Pacific		Water			X	X	6	
MW-19C (280-116888-11)	11/12/18	14:48 Pacific		Water			X	X	6	
DUP1 (280-116888-12)	11/12/18	14:55 Pacific		Water			X	X	6	
TRIP BLANK (280-116888-13)	11/12/18	Pacific		Water			X	X	6	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status 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.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Dalia Castro	11-13-18 1510	TALpa		11/14/18 0930	TNB.
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.7°

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116888-1

Login Number: 116888

List Source: TestAmerica Denver

List Number: 1

Creator: Diffendall, Jessica L

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: times on containers do not match the COC. Logged in per 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.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116888-1

Login Number: 116888
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 11/14/18 03:58 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	2.7 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-116945-1

Job Description: WA02|Olympic View Sanitary LF - GW

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/6/2018 11:18 AM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/06/2018

cc: Mr. Dan Venchiarutti

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF - GW

Report Number: 280-116945-1

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

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

Sample Receiving

The samples were received on 11/14/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 4.4 C.

Holding Times

All holding times were within established control limits.

Method Blanks

Carbon disulfide Method 8260C and Dissolved Manganese Method 6010B were detected in the Method Blanks below the project established reporting limits. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits.

Dissolved Magnesium Method 6010D was detected in the Method Blank above the project established reporting limit, however, the requested reporting limit for Dissolved Magnesium is below TestAmerica Denver's standard reporting limit and, therefore, no corrective action has been taken for this anomaly. It must be noted that results reported below TestAmerica Denver's standard reporting limits may result in false positive/false negative results, less accurate quantitation and potential misidentification at the lower concentrations.

All other Method Blank recoveries 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)

Sample MW-35 (116888) was selected to fulfill the laboratory batch quality control requirements for Method 6020B. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Total Silver below the lower control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Chloride Method 300.0. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

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

Organics

The analytes Acrolein, Acrylonitrile and 2-chloroethyl vinyl ether cannot be reliably quantitated in acid preserved samples, therefore, the reporting limits for the analytes Acrolein, Acrylonitrile and 2-chloroethyl vinyl ether is not reliable or defensible.

General Comments

The analysis for Volatile Organics by Method 8260C was performed by TestAmerica Buffalo. Their address and phone number are:
TestAmerica Buffalo

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

The analysis for Arsenic Method 200.8 was performed by ARI. ARI is not a TestAmerica approved subcontract laboratory and assumes no liability for the data. Their address and phone number are:
Analytical Resources, Inc.
4611 S. 134th Place
Tukwila, WA 98168-3240
Phone: 206-695-6200

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116945-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116945-1	**MW-29A**					
Depth to water		14.61			ft	Field Sampling
Specific Conductivity		90			umhos/cm	Field Sampling
Dissolved Oxygen		0.37			mg/L	Field Sampling
eH		56.8			millivolts	Field Sampling
Turbidity		0.99			NTU	Field Sampling
Temperature		10.76			Degrees C	Field Sampling
pH		6.10			SU	Field Sampling
Chloride		1.9		1.0	mg/L	300.0
Sulfate		1.1		1.0	mg/L	300.0
Ammonia (as N)		0.062		0.030	mg/L	350.1
Alkalinity, Total (As CaCO3)		36		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		36		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		54		5.0	mg/L	SM 2540C
Total Organic Carbon - Average		1.6		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		5.6		0.040	mg/L	6010D
Iron, Dissolved		3.3		0.060	mg/L	6010D
Magnesium, Dissolved		3.4	B	0.050	mg/L	6010D
Potassium, Dissolved		0.30	J	1.0	mg/L	6010D
Sodium, Dissolved		3.4		1.0	mg/L	6010D
Manganese, Dissolved		1.2	B	0.0010	mg/L	6020B
Total Recoverable						
Cobalt, Total		0.0021	J	0.0030	mg/L	6010D
Iron, Total		3.6		0.060	mg/L	6010D
Barium, Total		0.0081		0.0010	mg/L	6020B
Copper, Total		0.00073	J	0.0020	mg/L	6020B
Manganese, Total		1.2		0.0010	mg/L	6020B
Nickel, Total		0.0017	J	0.0040	mg/L	6020B
Zinc, Total		0.0034	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116945-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116945-2	**MW-42**					
Trichloroethene		0.47	J	1.0	ug/L	8260C
Vinyl chloride		0.062		0.020	ug/L	8260C SIM
Depth to water		27.90			ft	Field Sampling
Specific Conductivity		531			umhos/cm	Field Sampling
Dissolved Oxygen		0.24			mg/L	Field Sampling
eH		-22.9			millivolts	Field Sampling
Turbidity		0.19			NTU	Field Sampling
Temperature		11.94			Degrees C	Field Sampling
pH		6.52			SU	Field Sampling
Chloride		20		1.0	mg/L	300.0
Sulfate		12		1.0	mg/L	300.0
Ammonia (as N)		4.0		0.060	mg/L	350.1
Alkalinity, Total (As CaCO3)		180		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		180		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		270		5.0	mg/L	SM 2540C
Total Suspended Solids		16		4.0	mg/L	SM 2540D
Total Organic Carbon - Average		6.1		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		39		0.040	mg/L	6010D
Iron, Dissolved		23		0.060	mg/L	6010D
Magnesium, Dissolved		14	B	0.050	mg/L	6010D
Potassium, Dissolved		8.5		1.0	mg/L	6010D
Sodium, Dissolved		17		1.0	mg/L	6010D
Manganese, Dissolved		3.9	B	0.0010	mg/L	6020B
Total Recoverable						
Cobalt, Total		0.0014	J	0.0030	mg/L	6010D
Iron, Total		24		0.060	mg/L	6010D
Barium, Total		0.099		0.0010	mg/L	6020B
Chromium, Total		0.00066	J	0.0030	mg/L	6020B
Manganese, Total		3.8		0.0010	mg/L	6020B
Nickel, Total		0.0014	J	0.0040	mg/L	6020B
Vanadium, Total		0.00082	J	0.0020	mg/L	6020B
Zinc, Total		0.0037	J	0.0050	mg/L	6020B

METHOD SUMMARY

Client: Waste Management Job Number: 280-116945-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrate	TAL DEN	EPA 353.2	
Alkalinity	TAL DEN	SM SM 2320B	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	
Field Sampling	TAL DEN	EPA Field Sampling	
Volatile Organic Compounds by GC/MS	TAL BUF	SW846 8260C	
Purge and Trap	TAL BUF		SW846 5030C
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260C SIM	
Purge and Trap	TAL BUF		SW846 5030C
General Subcontract Method	SC0056	Subcontract	

Lab References:

SC0056 = Analytical Resources, Inc

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

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: Waste Management

Job Number: 280-116945-1

Method	Analyst	Analyst ID
SW846 8260C	Barone, Rachel L	RLB
SW846 8260C SIM	Farrell, Ryan J	RJF
SW846 6010D	Lackey, Cara M	CML
SW846 6010D	Scott, Samantha J	SJS
SW846 6020B	Trudell, Lynn-Anne M	LMT
EPA Field Sampling	Suporn, Arisa 1	A1S
MCAWW 300.0	Duplin, Alysha 1	A1D
MCAWW 350.1	Pedrick, Joshua A	JAP
EPA 353.2	Jewell, Connie C	CCJ
SM SM 2320B	Barker, Scott G	SGB
SM SM 2540C	Setjoadi, Mayori J	MJS
SM SM 2540D	Setjoadi, Mayori J	MJS
SM SM 5310B	Loux, Lauren P	LPL

SAMPLE SUMMARY

Client: Waste Management Job Number: 280-116945-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-116945-1	MW-29A	Water	11/12/2018 1609	11/14/2018 0915
280-116945-2	MW-42	Water	11/12/2018 1650	11/14/2018 0915
280-116945-3TB	TRIP BLANK	Water	11/12/2018 0000	11/14/2018 0915

SAMPLE RESULTS

Client Sample ID: **MW-29A**

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1969.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1150			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1150				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: **MW-29A**

Lab Sample ID: 280-116945-1
Client Matrix: Water

Date Sampled: 11/12/2018 1609
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1969.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1150			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1150				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116945-1

Client Sample ID: MW-29A

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1969.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1150			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1150				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
4-Bromofluorobenzene (Surr)	111		73 - 120
Toluene-d8 (Surr)	95		80 - 120

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: **MW-29A**

Lab Sample ID: 280-116945-1
Client Matrix: Water

Date Sampled: 11/12/2018 1609
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1969.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1150			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1150				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2 Date Sampled: 11/12/2018 1650
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1970.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1216			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1216				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2 Date Sampled: 11/12/2018 1650
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1970.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1216			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1216				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	0.47	J	0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2
Client Matrix: Water

Date Sampled: 11/12/2018 1650
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1970.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1216			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1216				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	107		77 - 120
4-Bromofluorobenzene (Surr)	108		73 - 120
Toluene-d8 (Surr)	97		80 - 120

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2
Client Matrix: Water

Date Sampled: 11/12/2018 1650
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1970.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1216			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1216				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116945-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116945-3TB Date Sampled: 11/12/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1971.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1243			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1243				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116945-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116945-3TB Date Sampled: 11/12/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1971.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1243			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1243				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116945-3TB
Client Matrix: Water

Date Sampled: 11/12/2018 0000
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1971.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1243			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1243				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
4-Bromofluorobenzene (Surr)	109		73 - 120
Toluene-d8 (Surr)	95		80 - 120

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116945-3TB
Client Matrix: Water

Date Sampled: 11/12/2018 0000
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	C1971.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1243			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1243				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116945-1

Client Sample ID: MW-29A

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8089.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1831			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1831				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	114		50 - 150
TBA-d9 (Surr)	93		50 - 150

Client: Waste Management

Job Number: 280-116945-1

Client Sample ID: MW-42

Lab Sample ID: 280-116945-2
Client Matrix: Water

Date Sampled: 11/12/2018 1650
Date Received: 11/14/2018 0915

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8090.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1855			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1855				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	0.062		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	108		50 - 150
TBA-d9 (Surr)	85		50 - 150

Client: Waste Management Job Number: 280-116945-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116945-3TB Date Sampled: 11/12/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8091.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1919			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1919				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	112		50 - 150
TBA-d9 (Surr)	89		50 - 150

Client Sample ID: **MW-29A**

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437930	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111618A.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1203			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	0.0021	J	0.0012	0.0030
Iron, Total	3.6		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438086	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437626	Lab File ID:	51A111618B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 2102			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Magnesium, Dissolved	3.4	B	0.011	0.050
Potassium, Dissolved	0.30	J	0.24	1.0
Sodium, Dissolved	3.4		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-438378	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437626	Lab File ID:	51B112018B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 0421			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	5.6		0.035	0.040
Iron, Dissolved	3.3		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	169SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2307			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0081		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	ND		0.00050	0.0030
Copper, Total	0.00073	J	0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-29A**

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	1.2		0.00031	0.0010
Nickel, Total	0.0017	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020
Zinc, Total	0.0034	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	049SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1648			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	195SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0035			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	1.2	B	0.00031	0.0010

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2 Date Sampled: 11/12/2018 1650
Client Matrix: Water Date Received: 11/14/2018 0915

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-437867	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0330			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	0.0014	J	0.0012	0.0030
Iron, Total	24		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438086	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437626	Lab File ID:	51A111618B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 2106			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Magnesium, Dissolved	14	B	0.011	0.050
Potassium, Dissolved	8.5		0.24	1.0
Sodium, Dissolved	17		0.12	1.0

Analysis Method:	6010D	Analysis Batch:	280-438378	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437626	Lab File ID:	51B112018B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 0424			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	39		0.035	0.040
Iron, Dissolved	23		0.022	0.060

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	170SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2310			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.099		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	0.00066	J	0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2 Date Sampled: 11/12/2018 1650
Client Matrix: Water Date Received: 11/14/2018 0915

6020B Metals (ICP/MS)-Total Recoverable

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Total	3.8		0.00031	0.0010
Nickel, Total	0.0014	J	0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	0.00082	J	0.00050	0.0020
Zinc, Total	0.0037	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438552	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437675	Lab File ID:	050SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1652			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Total	ND		0.00070	0.0010

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	196SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0038			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	3.9	B	0.00031	0.0010

General Chemistry

Client Sample ID: MW-29A

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1.9		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2112						
Sulfate	1.1		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2112						
Ammonia (as N)	0.062		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1249						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Alkalinity, Total (As CaCO3)	36		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0125						
Alkalinity, Bicarbonate (As CaCO3)	36		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0125						
Total Dissolved Solids (TDS)	54		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437743	Analysis Date: 11/15/2018 1013						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437900	Analysis Date: 11/16/2018 1014						
Total Organic Carbon - Average	1.6		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439562	Analysis Date: 12/01/2018 0253						

General Chemistry

Client Sample ID: MW-42

Lab Sample ID: 280-116945-2 Date Sampled: 11/12/2018 1650
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	20		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2131						
Sulfate	12		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2131						
Ammonia (as N)	4.0		mg/L	0.060	0.060	2.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1251						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Alkalinity, Total (As CaCO3)	180		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0131						
Alkalinity, Bicarbonate (As CaCO3)	180		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438581	Analysis Date: 11/22/2018 0131						
Total Dissolved Solids (TDS)	270		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437743	Analysis Date: 11/15/2018 1013						
Total Suspended Solids	16		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-437900	Analysis Date: 11/16/2018 1014						
Total Organic Carbon - Average	6.1		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439562	Analysis Date: 12/01/2018 0307						

Field Service / Mobile Lab

Client Sample ID: **MW-29A**

Lab Sample ID: 280-116945-1 Date Sampled: 11/12/2018 1609
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	14.61		ft	1.0	Field Sampling	280-438054	11/12/2018 1709
Specific Conductivity	90		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1709
Dissolved Oxygen	0.37		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1709
eH	56.8		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1709
Turbidity	0.99		NTU	1.0	Field Sampling	280-438054	11/12/2018 1709
Temperature	10.76		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1709
pH	6.10		SU	1.0	Field Sampling	280-438054	11/12/2018 1709

Field Service / Mobile Lab

Client Sample ID: **MW-42**

Lab Sample ID: 280-116945-2 Date Sampled: 11/12/2018 1650
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	27.90		ft	1.0	Field Sampling	280-438054	11/12/2018 1750
Specific Conductivity	531		umhos/cm	1.0	Field Sampling	280-438054	11/12/2018 1750
Dissolved Oxygen	0.24		mg/L	1.0	Field Sampling	280-438054	11/12/2018 1750
eH	-22.9		millivolts	1.0	Field Sampling	280-438054	11/12/2018 1750
Turbidity	0.19		NTU	1.0	Field Sampling	280-438054	11/12/2018 1750
Temperature	11.94		Degrees C	1.0	Field Sampling	280-438054	11/12/2018 1750
pH	6.52		SU	1.0	Field Sampling	280-438054	11/12/2018 1750

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-116945-1

Lab Section	Qualifier	Description
GC/MS VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	B	Compound was found in the blank and sample.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	F1	MS and/or MSD Recovery is outside acceptance limits.

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-116945-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-446210					
LCS 480-446210/5	Lab Control Sample	T	Water	8260C	
MB 480-446210/7	Method Blank	T	Water	8260C	
280-116945-1	MW-29A	T	Water	8260C	
280-116945-2	MW-42	T	Water	8260C	
280-116945-3TB	TRIP BLANK	T	Water	8260C	
480-145042-J-1 MS	Matrix Spike	T	Water	8260C	
480-145042-J-1 MSD	Matrix Spike Duplicate	T	Water	8260C	
Analysis Batch:480-446599					
LCS 480-446599/7	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-446599/8	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-446599/10	Method Blank	T	Water	8260C SIM	
280-116945-1	MW-29A	T	Water	8260C SIM	
280-116945-2	MW-42	T	Water	8260C SIM	
280-116945-3TB	TRIP BLANK	T	Water	8260C SIM	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116945-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-437626					
LCS 280-437626/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437626/1-A	Method Blank	R	Water	3005A	
280-116888-C-1-B MS	Matrix Spike	D	Water	3005A	
280-116888-C-1-C MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116945-1	MW-29A	D	Water	3005A	
280-116945-2	MW-42	D	Water	3005A	
Prep Batch: 280-437667					
LCS 280-437667/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437667/1-A	Method Blank	R	Water	3005A	
280-116888-D-1-B MS	Matrix Spike	D	Water	3005A	
280-116888-D-1-C MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116945-1	MW-29A	D	Water	3005A	
280-116945-2	MW-42	D	Water	3005A	
Prep Batch: 280-437673					
LCS 280-437673/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437673/1-A	Method Blank	R	Water	3005A	
280-116888-C-12-C MS	Matrix Spike	R	Water	3005A	
280-116888-C-12-D MSD	Matrix Spike Duplicate	R	Water	3005A	
280-116945-1	MW-29A	R	Water	3005A	
280-116945-2	MW-42	R	Water	3005A	
Prep Batch: 280-437675					
LCS 280-437675/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437675/1-A	Method Blank	R	Water	3005A	
280-116888-C-3-D MS	Matrix Spike	R	Water	3005A	
280-116888-C-3-E MSD	Matrix Spike Duplicate	R	Water	3005A	
280-116945-1	MW-29A	R	Water	3005A	
280-116945-2	MW-42	R	Water	3005A	
Analysis Batch:280-437867					
LCS 280-437673/2-A	Lab Control Sample	R	Water	6010D	280-437673
MB 280-437673/1-A	Method Blank	R	Water	6010D	280-437673
280-116888-C-12-C MS	Matrix Spike	R	Water	6010D	280-437673
280-116888-C-12-D MSD	Matrix Spike Duplicate	R	Water	6010D	280-437673
280-116945-2	MW-42	R	Water	6010D	280-437673
Analysis Batch:280-437930					
280-116945-1	MW-29A	R	Water	6010D	280-437673

Client: Waste Management Job Number: 280-116945-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-438086					
LCS 280-437626/2-A	Lab Control Sample	R	Water	6010D	280-437626
MB 280-437626/1-A	Method Blank	R	Water	6010D	280-437626
280-116888-C-1-B MS	Matrix Spike	D	Water	6010D	280-437626
280-116888-C-1-C MSD	Matrix Spike Duplicate	D	Water	6010D	280-437626
280-116945-1	MW-29A	D	Water	6010D	280-437626
280-116945-2	MW-42	D	Water	6010D	280-437626
Analysis Batch:280-438257					
LCS 280-437667/2-A	Lab Control Sample	R	Water	6020B	280-437667
MB 280-437667/1-A	Method Blank	R	Water	6020B	280-437667
LCS 280-437675/2-A	Lab Control Sample	R	Water	6020B	280-437675
MB 280-437675/1-A	Method Blank	R	Water	6020B	280-437675
280-116888-D-1-B MS	Matrix Spike	D	Water	6020B	280-437667
280-116888-D-1-C MSD	Matrix Spike Duplicate	D	Water	6020B	280-437667
280-116888-C-3-D MS	Matrix Spike	R	Water	6020B	280-437675
280-116888-C-3-E MSD	Matrix Spike Duplicate	R	Water	6020B	280-437675
280-116945-1	MW-29A	D	Water	6020B	280-437667
280-116945-1	MW-29A	R	Water	6020B	280-437675
280-116945-2	MW-42	D	Water	6020B	280-437667
280-116945-2	MW-42	R	Water	6020B	280-437675
Analysis Batch:280-438378					
LCS 280-437626/2-A	Lab Control Sample	R	Water	6010D	280-437626
MB 280-437626/1-A	Method Blank	R	Water	6010D	280-437626
280-116888-C-1-B MS	Matrix Spike	D	Water	6010D	280-437626
280-116888-C-1-C MSD	Matrix Spike Duplicate	D	Water	6010D	280-437626
280-116945-1	MW-29A	D	Water	6010D	280-437626
280-116945-2	MW-42	D	Water	6010D	280-437626
Analysis Batch:280-438552					
280-116945-1	MW-29A	R	Water	6020B	280-437675
280-116945-2	MW-42	R	Water	6020B	280-437675

Report Basis
D = Dissolved
R = Total Recoverable

Client: Waste Management Job Number: 280-116945-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Field Service / Mobile Lab					
Analysis Batch:280-438054					
280-116945-1	MW-29A	T	Water	Field Sampling	
280-116945-2	MW-42	T	Water	Field Sampling	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116945-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-437743					
LCS 280-437743/2	Lab Control Sample	T	Water	SM 2540C	
MB 280-437743/1	Method Blank	T	Water	SM 2540C	
280-116944-A-1 DU	Duplicate	T	Water	SM 2540C	
280-116945-1	MW-29A	T	Water	SM 2540C	
280-116945-2	MW-42	T	Water	SM 2540C	
Analysis Batch:280-437900					
LCS 280-437900/2	Lab Control Sample	T	Water	SM 2540D	
LCSD 280-437900/3	Lab Control Sample Duplicate	T	Water	SM 2540D	
MB 280-437900/1	Method Blank	T	Water	SM 2540D	
280-116945-1	MW-29A	T	Water	SM 2540D	
280-116945-2	MW-42	T	Water	SM 2540D	
280-117000-A-1 DU	Duplicate	T	Water	SM 2540D	
Analysis Batch:280-438438					
MB 280-438438/1	Method Blank	T	Water	353.2	
280-116945-1	MW-29A	T	Water	353.2	
280-116945-2	MW-42	T	Water	353.2	
Analysis Batch:280-438581					
LCS 280-438581/82	Lab Control Sample	T	Water	SM 2320B	
MB 280-438581/83	Method Blank	T	Water	SM 2320B	
280-116888-L-7 DU	Duplicate	T	Water	SM 2320B	
280-116945-1	MW-29A	T	Water	SM 2320B	
280-116945-2	MW-42	T	Water	SM 2320B	
Analysis Batch:280-438773					
LCS 280-438773/64	Lab Control Sample	T	Water	350.1	
LCSD 280-438773/65	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-438773/66	Method Blank	T	Water	350.1	
280-116925-B-1 MS	Matrix Spike	T	Water	350.1	
280-116925-B-1 MSD	Matrix Spike Duplicate	T	Water	350.1	
280-116945-1	MW-29A	T	Water	350.1	
280-116945-2	MW-42	T	Water	350.1	
Analysis Batch:280-439224					
LCS 280-439224/4	Lab Control Sample	T	Water	300.0	
LCSD 280-439224/5	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-439224/6	Method Blank	T	Water	300.0	
280-116925-A-1 DU	Duplicate	T	Water	300.0	
280-116925-A-1 MS	Matrix Spike	T	Water	300.0	
280-116925-A-1 MSD	Matrix Spike Duplicate	T	Water	300.0	
280-116945-1	MW-29A	T	Water	300.0	
280-116945-2	MW-42	T	Water	300.0	

Client: Waste Management Job Number: 280-116945-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-439562					
LCS 280-439562/33	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-439562/34	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-439562/35	Method Blank	T	Water	SM 5310B	
280-116928-E-3 MS	Matrix Spike	T	Water	SM 5310B	
280-116928-E-3 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116945-1	MW-29A	T	Water	SM 5310B	
280-116945-2	MW-42	T	Water	SM 5310B	
Analysis Batch:280-439563					
LCS 280-439563/33	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-439563/34	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-439563/35	Method Blank	T	Water	SM 5310B	
280-116928-E-3 MS	Matrix Spike	T	Water	SM 5310B	
280-116928-E-3 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116945-1	MW-29A	T	Water	SM 5310B	
280-116945-2	MW-42	T	Water	SM 5310B	

Report Basis
T = Total

Client: Waste Management

Job Number: 280-116945-1

Surrogate Recovery Report

8260C Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec
280-116945-1	MW-29A	102	111	95
280-116945-2	MW-42	107	108	97
280-116945-3	TRIP BLANK	102	109	95
MB 480-446210/7		100	114	97
LCS 480-446210/5		103	109	95
480-145042-J-1 MS		97	107	97
480-145042-J-1 MSD		98	108	98

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	77-120
BFB = 4-Bromofluorobenzene (Surr)	73-120
TOL = Toluene-d8 (Surr)	80-120

Client: Waste Management

Job Number: 280-116945-1

Surrogate Recovery Report

8260C SIM Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	TBA %Rec
280-116945-1	MW-29A	114	93
280-116945-2	MW-42	108	85
280-116945-3	TRIP BLANK	112	89
MB 480-446599/10		105	87
LCS 480-446599/7		94	101
LCSD 480-446599/8		95	88

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	50-150
TBA = TBA-d9 (Surr)	50-150

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 480-446210

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446210/7	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1968.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1108	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1108				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	0.290	J	0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 480-446210

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446210/7	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1968.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1108	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1108				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0

Client: Waste Management

Job Number: 280-116945-1

Method Blank - Batch: 480-446210

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446210/7	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1968.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1108	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1108				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100	77 - 120
4-Bromofluorobenzene (Surr)	114	73 - 120
Toluene-d8 (Surr)	97	80 - 120

Lab Control Sample - Batch: 480-446210

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446210/5	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1966.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 0955	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 0955				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	25.0	25.4	102	80 - 120	
1,1,1-Trichloroethane	25.0	26.7	107	73 - 126	
1,1,2,2-Tetrachloroethane	25.0	20.1	80	76 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.5	102	61 - 148	
1,1,2-Trichloroethane	25.0	22.9	92	76 - 122	
1,1-Dichloroethane	25.0	25.4	101	77 - 120	
1,1-Dichloroethene	25.0	25.7	103	66 - 127	
1,1-Dichloropropene	25.0	27.4	110	72 - 122	
1,2,3-Trichlorobenzene	25.0	22.4	90	75 - 123	
1,2,3-Trichloropropane	25.0	22.0	88	68 - 122	
1,2,4-Trichlorobenzene	25.0	22.8	91	79 - 122	
1,2,4-Trimethylbenzene	25.0	24.9	100	76 - 121	
1,2-Dibromo-3-Chloropropane	25.0	19.4	78	56 - 134	
1,2-Dibromoethane (EDB)	25.0	23.9	96	77 - 120	
1,2-Dichlorobenzene	25.0	23.5	94	80 - 124	
1,2-Dichloroethane	25.0	24.1	96	75 - 120	
1,2-Dichloropropane	25.0	26.8	107	76 - 120	
1,3,5-Trimethylbenzene	25.0	24.6	98	77 - 121	
1,3-Dichlorobenzene	25.0	24.2	97	77 - 120	
1,3-Dichloropropane	25.0	24.5	98	75 - 120	
1,4-Dichlorobenzene	25.0	25.1	101	80 - 120	
1,4-Dioxane	500	472	94	50 - 150	
2,2-Dichloropropane	25.0	28.0	112	63 - 136	
2-Butanone (MEK)	125	133	106	57 - 140	
2-Chloroethyl vinyl ether	25.0	25.1	100	70 - 129	
2-Hexanone	125	123	99	65 - 127	
4-Methyl-2-pentanone (MIBK)	125	110	88	71 - 125	
Acetone	125	118	95	56 - 142	
Acrolein	125	110	88	52 - 143	
Acrylonitrile	250	234	94	63 - 125	
Benzene	25.0	26.4	106	71 - 124	
Bromobenzene	25.0	24.3	97	78 - 120	
Bromochloromethane	25.0	25.0	100	72 - 130	
Bromodichloromethane	25.0	26.7	107	80 - 122	
Bromoform	25.0	23.0	92	61 - 132	
Bromomethane	25.0	23.5	94	55 - 144	
Butyl alcohol, tert-	250	307	123	75 - 125	
Carbon disulfide	25.0	23.5	94	59 - 134	
Carbon tetrachloride	25.0	27.8	111	72 - 134	
Chlorobenzene	25.0	24.9	99	80 - 120	
Chloroethane	25.0	25.4	102	69 - 136	
Chloroform	25.0	24.7	99	73 - 127	
Chloromethane	25.0	24.6	98	68 - 124	
cis-1,2-Dichloroethene	25.0	25.5	102	74 - 124	
cis-1,3-Dichloropropene	25.0	29.2	117	74 - 124	
Cyclohexane	25.0	26.7	107	59 - 135	

Client: Waste Management

Job Number: 280-116945-1

Lab Control Sample - Batch: 480-446210

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446210/5	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1966.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 0955	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 0955				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromochloromethane	25.0	24.9	99	75 - 125	
Dibromomethane	25.0	25.8	103	76 - 127	
Dichlorodifluoromethane	25.0	29.0	116	59 - 135	
Dichlorofluoromethane	25.0	26.3	105	76 - 127	
Ethyl ether	25.0	24.6	98	76 - 123	
Ethylbenzene	25.0	24.7	99	77 - 123	
Hexachlorobutadiene	25.0	26.1	104	68 - 131	
Iodomethane	25.0	25.4	102	78 - 123	
Isobutanol	625	708	113	51 - 150	
Isopropylbenzene	25.0	25.0	100	77 - 122	
Methyl acetate	50.0	43.7	87	74 - 133	
Methyl tert-butyl ether	25.0	25.1	100	77 - 120	
Methylcyclohexane	25.0	27.2	109	68 - 134	
Methylene Chloride	25.0	21.6	86	75 - 124	
m-Xylene & p-Xylene	25.0	25.6	102	76 - 122	
Naphthalene	25.0	20.4	82	66 - 125	
n-Butylbenzene	25.0	23.8	95	71 - 128	
N-Propylbenzene	25.0	24.2	97	75 - 127	
o-Chlorotoluene	25.0	23.6	94	76 - 121	
o-Xylene	25.0	25.1	100	76 - 122	
p-Chlorotoluene	25.0	23.8	95	77 - 121	
p-Cymene	25.0	25.5	102	73 - 120	
sec-Butylbenzene	25.0	24.0	96	74 - 127	
Styrene	25.0	25.9	103	80 - 120	
tert-Butylbenzene	25.0	26.4	106	75 - 123	
Tetrachloroethene	25.0	26.6	107	74 - 122	
Tetrahydrofuran	50.0	47.0	94	62 - 132	
Toluene	25.0	23.6	94	80 - 122	
trans-1,2-Dichloroethene	25.0	23.7	95	73 - 127	
trans-1,3-Dichloropropene	25.0	26.0	104	80 - 120	
trans-1,4-Dichloro-2-butene	25.0	12.6	50	41 - 131	
Trichloroethene	25.0	26.3	105	74 - 123	
Trichlorofluoromethane	25.0	31.7	127	62 - 150	
Vinyl acetate	50.0	56.3	113	50 - 144	
Vinyl chloride	25.0	28.2	113	65 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	103	77 - 120
4-Bromofluorobenzene (Surr)	109	73 - 120
Toluene-d8 (Surr)	95	80 - 120

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446210

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145042-J-1 MS	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1985.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1856			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1856				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145042-J-1 MSD	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1986.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1923			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1923				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1-Trichloroethane	106	113	73 - 126	7	15		
1,1,2,2-Tetrachloroethane	77	80	76 - 120	4	15		
1,1,2-Trichloro-1,2,2-trifluoroethane	99	97	61 - 148	3	20		
1,1,2-Trichloroethane	91	93	76 - 122	3	15		
1,1-Dichloroethane	100	107	77 - 120	7	20		
1,1-Dichloroethene	103	113	66 - 127	10	16		
1,2,4-Trichlorobenzene	82	94	79 - 122	13	20		
1,2-Dibromo-3-Chloropropane	77	73	56 - 134	5	15		
1,2-Dibromoethane (EDB)	95	95	77 - 120	0	15		
1,2-Dichlorobenzene	88	92	80 - 124	5	20		
1,2-Dichloroethane	94	98	75 - 120	4	20		
1,2-Dichloropropane	101	105	76 - 120	4	20		
1,3-Dichlorobenzene	90	93	77 - 120	3	20		
1,4-Dichlorobenzene	90	91	78 - 124	1	20		
2-Butanone (MEK)	93	98	57 - 140	5	20		
2-Hexanone	95	98	65 - 127	3	15		
4-Methyl-2-pentanone (MIBK)	88	91	71 - 125	4	35		
Acetone	80	86	56 - 142	8	15		
Benzene	103	111	71 - 124	7	13		
Bromodichloromethane	106	111	80 - 122	4	15		
Bromoform	92	93	61 - 132	1	15		
Bromomethane	90	91	55 - 144	1	15		
Carbon disulfide	95	101	59 - 134	6	15		
Carbon tetrachloride	108	114	72 - 134	5	15		
Chlorobenzene	96	98	80 - 120	2	25		
Chloroethane	98	102	69 - 136	5	15		
Chloroform	97	103	73 - 127	6	20		
Chloromethane	99	101	68 - 124	2	15		
cis-1,2-Dichloroethene	98	106	74 - 124	8	15		
cis-1,3-Dichloropropene	100	103	74 - 124	3	15		
Cyclohexane	97	101	59 - 135	4	20		
Dibromochloromethane	95	97	75 - 125	2	15		
Dichlorodifluoromethane	99	99	59 - 135	1	20		

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446210

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145042-J-1 MS	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1985.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1856			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1856				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145042-J-1 MSD	Analysis Batch:	480-446210	Instrument ID:	HP5973C
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C1986.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/17/2018 1923			Final Weight/Volume:	5 mL
Prep Date:	11/17/2018 1923				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethylbenzene	97	99	77 - 123	3	15		
Isopropylbenzene	94	99	77 - 122	5	20		
Methyl acetate	80	83	74 - 133	4	20		
Methyl tert-butyl ether	97	103	77 - 120	6	37		
Methylcyclohexane	96	98	68 - 134	2	20		
Methylene Chloride	86	93	75 - 124	8	15		
m-Xylene & p-Xylene	99	104	76 - 122	4	16		
o-Xylene	98	101	76 - 122	2	16		
Styrene	97	100	80 - 120	3	20		
Tetrachloroethene	106	104	74 - 122	1	20		
Toluene	95	98	80 - 122	3	15		
trans-1,2-Dichloroethene	94	106	73 - 127	12	20		
trans-1,3-Dichloropropene	89	90	80 - 120	2	15		
Trichloroethene	107	106	74 - 123	1	16		
Trichlorofluoromethane	115	120	62 - 150	4	20		
Vinyl chloride	116	115	65 - 133	1	15		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97	98	77 - 120
4-Bromofluorobenzene (Surr)	107	108	73 - 120
Toluene-d8 (Surr)	97	98	80 - 120

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446210

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145042-J-1 MS	Units: ug/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/17/2018 1856		
Prep Date:	11/17/2018 1856		
Leach Date:	N/A		

MSD Lab Sample ID:	480-145042-J-1 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/17/2018 1923
Prep Date:	11/17/2018 1923
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
1,1,1-Trichloroethane	ND		25.0	25.0	26.6	28.4
1,1,2,2-Tetrachloroethane	ND		25.0	25.0	19.3	20.1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.0	24.8	24.1
1,1,2-Trichloroethane	ND		25.0	25.0	22.7	23.3
1,1-Dichloroethane	ND		25.0	25.0	24.9	26.8
1,1-Dichloroethene	ND		25.0	25.0	25.7	28.3
1,2,4-Trichlorobenzene	ND		25.0	25.0	20.6	23.4
1,2-Dibromo-3-Chloropropane	ND		25.0	25.0	19.2	18.3
1,2-Dibromoethane (EDB)	ND		25.0	25.0	23.8	23.7
1,2-Dichlorobenzene	ND		25.0	25.0	21.9	23.0
1,2-Dichloroethane	ND		25.0	25.0	23.5	24.4
1,2-Dichloropropane	ND		25.0	25.0	25.3	26.3
1,3-Dichlorobenzene	ND		25.0	25.0	22.4	23.1
1,4-Dichlorobenzene	ND		25.0	25.0	22.5	22.9
2-Butanone (MEK)	ND		125	125	117	122
2-Hexanone	ND		125	125	119	122
4-Methyl-2-pentanone (MIBK)	ND		125	125	110	114
Acetone	ND		125	125	99.8	108
Benzene	ND		25.0	25.0	25.7	27.6
Bromodichloromethane	ND		25.0	25.0	26.5	27.7
Bromoform	ND		25.0	25.0	22.9	23.1
Bromomethane	ND		25.0	25.0	22.6	22.8
Carbon disulfide	0.30	J	25.0	25.0	24.1	25.6
Carbon tetrachloride	ND		25.0	25.0	27.0	28.4
Chlorobenzene	ND		25.0	25.0	24.0	24.5
Chloroethane	ND		25.0	25.0	24.5	25.6
Chloroform	ND		25.0	25.0	24.4	25.8
Chloromethane	ND		25.0	25.0	24.7	25.3
cis-1,2-Dichloroethene	ND		25.0	25.0	24.4	26.4
cis-1,3-Dichloropropene	ND		25.0	25.0	25.0	25.7
Cyclohexane	ND		25.0	25.0	24.4	25.4
Dibromochloromethane	ND		25.0	25.0	23.7	24.1
Dichlorodifluoromethane	ND		25.0	25.0	24.8	24.6
Ethylbenzene	ND		25.0	25.0	24.2	24.8
Isopropylbenzene	ND		25.0	25.0	23.6	24.8
Methyl acetate	ND		50.0	50.0	39.9	41.4
Methyl tert-butyl ether	ND		25.0	25.0	24.2	25.7
Methylcyclohexane	ND		25.0	25.0	24.0	24.5
Methylene Chloride	ND		25.0	25.0	21.5	23.3
m-Xylene & p-Xylene	ND		25.0	25.0	24.8	25.9
o-Xylene	ND		25.0	25.0	24.6	25.2
Styrene	ND		25.0	25.0	24.3	24.9
Tetrachloroethene	ND		25.0	25.0	26.4	26.0

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446210

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145042-J-1 MS	Units: ug/L	MSD Lab Sample ID:	480-145042-J-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/17/2018 1856		Analysis Date:	11/17/2018 1923	
Prep Date:	11/17/2018 1856		Prep Date:	11/17/2018 1923	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Toluene	ND	25.0	25.0	23.8	24.5
trans-1,2-Dichloroethene	ND	25.0	25.0	23.5	26.5
trans-1,3-Dichloropropene	ND	25.0	25.0	22.2	22.6
Trichloroethene	ND	25.0	25.0	26.7	26.4
Trichlorofluoromethane	ND	25.0	25.0	28.8	30.0
Vinyl chloride	ND	25.0	25.0	29.0	28.8

Client: Waste Management

Job Number: 280-116945-1

Method Blank - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-446599/10	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8075.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1244	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1244				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	105	50 - 150
TBA-d9 (Surr)	87	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446599/7	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8072.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1132	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1132				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-446599/8	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8073.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1156	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1156				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	85	85	50 - 150	0	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	94	95	50 - 150
TBA-d9 (Surr)	101	88	50 - 150

Client: Waste Management

Job Number: 280-116945-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446599/7	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-446599/8
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/20/2018 1132			Analysis Date:	11/20/2018 1156
Prep Date:	11/20/2018 1132			Prep Date:	11/20/2018 1156
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.170	0.170

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437626/1-A	Analysis Batch:	280-438086	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51A111618B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1934	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Magnesium, Dissolved	0.156		0.011	0.050
Potassium, Dissolved	ND		0.24	1.0
Sodium, Dissolved	ND		0.12	1.0

Method Blank - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437626/1-A	Analysis Batch:	280-438378	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51B112018B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 0307	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Calcium, Dissolved	ND		0.035	0.040
Iron, Dissolved	ND		0.022	0.060

Client: Waste Management Job Number: 280-116945-1

Lab Control Sample - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437626/2-A	Analysis Batch:	280-438086	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51A111618B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1938	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Magnesium, Dissolved	50.0	48.4	97	90 - 113	
Potassium, Dissolved	50.0	48.9	98	89 - 114	
Sodium, Dissolved	50.0	52.6	105	90 - 115	

Lab Control Sample - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437626/2-A	Analysis Batch:	280-438378	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51B112018B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 0310	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Calcium, Dissolved	50.0	48.2	96	90 - 111	
Iron, Dissolved	1.00	0.970	97	89 - 115	

Client: Waste Management Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-C-1-B MS	Analysis Batch:	280-438086	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51A111618B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 2002			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-C-1-C MSD	Analysis Batch:	280-438086	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51A111618B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 2005			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Magnesium, Dissolved	98	98	75 - 125	0	20		
Potassium, Dissolved	100	99	76 - 125	1	20		
Sodium, Dissolved	108	108	75 - 125	0	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-C-1-B MS	Analysis Batch:	280-438378	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51B112018B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 0320			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-C-1-C MSD	Analysis Batch:	280-438378	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437626	Lab File ID:	51B112018B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 0323			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Calcium, Dissolved	96	96	75 - 125	1	20		
Iron, Dissolved	97	98	75 - 125	1	20		

Client: Waste Management Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-C-1-B MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/16/2018 2002		
Prep Date:	11/16/2018 0937		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-C-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/16/2018 2005
Prep Date:	11/16/2018 0937
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Magnesium, Dissolved	8.7		50.0	50.0	57.9	57.8
Potassium, Dissolved	0.64	J	50.0	50.0	50.6	50.3
Sodium, Dissolved	5.2		50.0	50.0	59.0	59.1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437626

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-C-1-B MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/21/2018 0320		
Prep Date:	11/16/2018 0937		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-C-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/21/2018 0323
Prep Date:	11/16/2018 0937
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Calcium, Dissolved	15	50.0	50.0	62.6	63.0
Iron, Dissolved	ND	1.00	1.00	0.969	0.981

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437673/1-A	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0212	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

Lab Control Sample - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437673/2-A	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0216	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cobalt, Total	0.500	0.483	97	89 - 111	
Iron, Total	1.00	1.01	101	89 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-C-12-C MS	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0317			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-C-12-D MSD	Analysis Batch:	280-437867	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437673	Lab File ID:	51A111518bb.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 0320			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cobalt, Total	96	95	82 - 119	1	20		
Iron, Total	101	100	75 - 125	1	20		

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437673

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-C-12-C MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/16/2018 0317		
Prep Date:	11/15/2018 1630		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-C-12-D MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/16/2018 0320
Prep Date:	11/15/2018 1630
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Cobalt, Total	ND	0.500	0.500	0.480	0.475
Iron, Total	0.14	1.00	1.00	1.15	1.14

Method Blank - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437667/1-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	173_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2320	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Manganese, Dissolved	0.000532	J	0.00031	0.0010

Lab Control Sample - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437667/2-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	174_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2324	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese, Dissolved	0.0400	0.0392	98	89 - 119	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-D-1-B MS	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	177SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2334			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-D-1-C MSD	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	178SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2337			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Manganese, Dissolved	104	102	89 - 119	3	20		

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-D-1-B MS	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/19/2018 2334		
Prep Date:	11/16/2018 0937		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-D-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/19/2018 2337
Prep Date:	11/16/2018 0937
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Manganese, Dissolved	0.00070	J	0.0400	0.0400	0.0425	0.0414

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437675/1-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	143_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2139	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	ND		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Lead, Total	ND		0.00018	0.0010
Manganese, Total	ND		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020
Zinc, Total	ND		0.0020	0.0050

Lab Control Sample - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437675/2-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	144_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2142	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony, Total	0.0400	0.0394	99	80 - 111	
Barium, Total	0.0400	0.0429	107	92 - 117	
Beryllium, Total	0.0400	0.0423	106	87 - 118	
Cadmium, Total	0.0400	0.0402	100	91 - 114	
Chromium, Total	0.0400	0.0394	98	91 - 114	
Copper, Total	0.0400	0.0397	99	89 - 116	
Lead, Total	0.0400	0.0419	105	95 - 116	
Manganese, Total	0.0400	0.0386	97	89 - 119	
Nickel, Total	0.0400	0.0382	96	92 - 116	
Silver, Total	0.0400	0.0421	105	93 - 118	
Thallium, Total	0.0400	0.0413	103	94 - 115	
Vanadium, Total	0.0400	0.0381	95	91 - 114	
Zinc, Total	0.0400	0.0409	102	86 - 120	

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-C-3-D MS	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	149SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2159			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-C-3-E MSD	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437675	Lab File ID:	150SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2202			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1630				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony, Total	96	95	80 - 111	0	20		
Barium, Total	104	106	92 - 117	1	20		
Beryllium, Total	102	103	87 - 118	1	20		
Cadmium, Total	94	97	91 - 114	3	20		
Chromium, Total	96	96	91 - 114	0	20		
Copper, Total	96	96	89 - 116	0	20		
Lead, Total	102	103	95 - 116	2	20		
Manganese, Total	95	101	89 - 119	6	20		
Nickel, Total	96	94	92 - 116	1	20		
Silver, Total	97	89	93 - 118	9	20		F1
Thallium, Total	101	103	94 - 115	2	20		
Vanadium, Total	96	98	91 - 114	1	20		
Zinc, Total	99	99	86 - 120	0	20		

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437675

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116888-C-3-D MS	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/19/2018 2159		
Prep Date:	11/15/2018 1630		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-C-3-E MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/19/2018 2202
Prep Date:	11/15/2018 1630
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Antimony, Total	ND		0.0400	0.0400	0.0383	0.0381	
Barium, Total	0.0032		0.0400	0.0400	0.0448	0.0454	
Beryllium, Total	ND		0.0400	0.0400	0.0410	0.0413	
Cadmium, Total	ND		0.0400	0.0400	0.0376	0.0388	
Chromium, Total	0.0025	J	0.0400	0.0400	0.0409	0.0410	
Copper, Total	ND		0.0400	0.0400	0.0383	0.0383	
Lead, Total	ND		0.0400	0.0400	0.0406	0.0414	
Manganese, Total	ND		0.0400	0.0400	0.0381	0.0402	
Nickel, Total	ND		0.0400	0.0400	0.0382	0.0377	
Silver, Total	ND		0.0400	0.0400	0.0388	0.0355	F1
Thallium, Total	ND		0.0400	0.0400	0.0402	0.0412	
Vanadium, Total	0.0042		0.0400	0.0400	0.0426	0.0433	
Zinc, Total	ND		0.0400	0.0400	0.0396	0.0398	

Method Blank - Batch: 280-439224

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-439224/6	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	06.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1449	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chloride	ND		1.0	1.0
Sulfate	ND		1.0	1.0

Method Reporting Limit Check - Batch: 280-439224

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-439224/3	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	03.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1042	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	ND	112	50 - 150	
Sulfate	2.50	ND	106	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439224/4	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	04.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1100	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				
LCSD Lab Sample ID:	LCSD 280-439224/5	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	05.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1431	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	103	102	90 - 110	1	10		
Sulfate	99	103	90 - 110	4	10		

Client: Waste Management Job Number: 280-116945-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439224/4	Units: mg/L	LCSD Lab Sample ID:	LCSD 280-439224/5	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1100		Analysis Date:	11/29/2018 1431	
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	102
Sulfate	100	100	99.4	103

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116925-A-1 MS	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	09.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1746			Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116925-A-1 MSD	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	10.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1805			Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride	110	121	80 - 120	9	20		F1
Sulfate	103	116	80 - 120	6	20		

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116925-A-1 MS	Units: mg/L	MSD Lab Sample ID:	280-116925-A-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1746		Analysis Date:	11/29/2018 1805	
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	29.0	31.7	F1
Sulfate	31	25.0	25.0	57.1	60.4	

Duplicate - Batch: 280-439224

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-116925-A-1 DU	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	08.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1727	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	1.6	1.81	12	15	
Sulfate	31	32.3	3	15	

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 280-438773

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-438773/66	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/26/2018 1215	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Ammonia (as N)	ND		0.030	0.030

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438773/64	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/26/2018 1211	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438773/65	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/26/2018 1213	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia (as N)	100	100	90 - 110	1	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438773/64	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/26/2018 1211		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-438773/65
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/26/2018 1213
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia (as N)	2.50	2.50	2.50	2.51

Client: Waste Management Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116925-B-1 MS	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1219			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116925-B-1 MSD	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1221			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	104	104	90 - 110	0	10		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116925-B-1 MS	Units: mg/L		MSD Lab Sample ID:	280-116925-B-1 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/26/2018 1219			Analysis Date:	11/26/2018 1221
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
Ammonia (as N)	ND	1.00	1.00	1.04	1.04

Client: Waste Management

Job Number: 280-116945-1

Method Blank - Batch: 280-438438

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438438/1	Analysis Batch:	280-438438	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 1056	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate as N	ND		0.050	0.050

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-438581/83	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2343	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Alkalinity, Total (As CaCO3)	ND		5.0	5.0
Alkalinity, Bicarbonate (As CaCO3)	ND		5.0	5.0

Lab Control Sample - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-438581/82	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2338	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Alkalinity, Total (As CaCO3)	200	198	99	89 - 109	

Duplicate - Batch: 280-438581

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	280-116888-L-7 DU	Analysis Batch:	280-438581	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	ph 112218.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 2354	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Alkalinity, Total (As CaCO3)	79	77.1	2	10	

Client: Waste Management Job Number: 280-116945-1

Method Blank - Batch: 280-437743

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-437743/1	Analysis Batch:	280-437743	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/15/2018 1013	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Dissolved Solids (TDS)	ND		5.0	5.0

Lab Control Sample - Batch: 280-437743

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	LCS 280-437743/2	Analysis Batch:	280-437743	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/15/2018 1013	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids (TDS)	500	489	98	93 - 110	

Duplicate - Batch: 280-437743

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-116944-A-1 DU	Analysis Batch:	280-437743	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/15/2018 1013	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids (TDS)	1200	1200	0.4	10	

Method Blank - Batch: 280-437900

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	MB 280-437900/1	Analysis Batch:	280-437900	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/16/2018 1014	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Suspended Solids	ND		4.0	4.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-437900

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-437900/2	Analysis Batch:	280-437900	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/16/2018 1014	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-437900/3	Analysis Batch:	280-437900	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/16/2018 1014	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Suspended Solids	86	102	79 - 114	18	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-437900

Method: SM 2540D
Preparation: N/A

LCS Lab Sample ID:	LCS 280-437900/2	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/16/2018 1014		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-437900/3
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/16/2018 1014
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Suspended Solids	100	100	85.6	102

Client: Waste Management

Job Number: 280-116945-1

Duplicate - Batch: 280-437900

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	280-117000-A-1 DU	Analysis Batch:	280-437900	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/16/2018 1014	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	ND	ND	NC	10	

Method Blank - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-439562/35	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 2116	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Organic Carbon - Average	ND		1.0	1.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439562/33	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 2047	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439562/34	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 2101	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Organic Carbon - Average	106	107	88 - 112	0	15		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439562/33	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439562/34
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/30/2018 2047			Analysis Date:	11/30/2018 2101
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
Total Organic Carbon - Average	25.0	25.0	26.5	26.6

Client: Waste Management

Job Number: 280-116945-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116928-E-3 MS	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0208			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116928-E-3 MSD	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0223			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	109	110	88 - 112	1	15		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116928-E-3 MS	Units:	mg/L	MSD Lab Sample ID:	280-116928-E-3 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/01/2018 0208			Analysis Date:	12/01/2018 0223
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
Total Organic Carbon - Average	ND	25.0	25.0	27.2	27.6

Client: Waste Management Job Number: 280-116945-1

Laboratory Chronicle

Lab ID: 280-116945-1 **Client ID: MW-29A**

Sample Date/Time: 11/12/2018 16:09 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116945-F-1		480-446210		11/17/2018 11:50	1	TAL BUF	RLB
A:8260C	280-116945-F-1		480-446210		11/17/2018 11:50	1	TAL BUF	RLB
P:5030C	280-116945-F-1		480-446599		11/20/2018 18:31	1	TAL BUF	RJF
A:8260C SIM	280-116945-F-1		480-446599		11/20/2018 18:31	1	TAL BUF	RJF
P:3005A	280-116945-D-1-B		280-437930	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116945-D-1-B		280-437930	280-437673	11/16/2018 12:03	1	TAL DEN	CML
P:3005A	280-116945-D-1-A		280-438086	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116945-D-1-A		280-438086	280-437626	11/16/2018 21:02	1	TAL DEN	CML
P:3005A	280-116945-D-1-A		280-438378	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116945-D-1-A		280-438378	280-437626	11/21/2018 04:21	1	TAL DEN	CML
P:3005A	280-116945-D-1-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116945-D-1-C		280-438257	280-437675	11/19/2018 23:07	1	TAL DEN	LMT
P:3005A	280-116945-E-1-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116945-E-1-A		280-438257	280-437667	11/20/2018 00:35	1	TAL DEN	LMT
P:3005A	280-116945-D-1-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116945-D-1-C		280-438552	280-437675	11/21/2018 16:48	1	TAL DEN	LMT
A:300.0	280-116945-B-1		280-439224		11/29/2018 21:12	1	TAL DEN	A1D
A:350.1	280-116945-C-1		280-438773		11/26/2018 12:49	1	TAL DEN	JAP
A:353.2	280-116945-A-1		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-116945-A-1		280-438581		11/22/2018 01:25	1	TAL DEN	SGB
A:SM 2540C	280-116945-A-1		280-437743		11/15/2018 10:13	1	TAL DEN	MJS
A:SM 2540D	280-116945-B-1		280-437900		11/16/2018 10:14	1	TAL DEN	MJS
A:SM 5310B	280-116945-C-1		280-439562		12/01/2018 02:53	1	TAL DEN	LPL
A:Field Sampling	280-116945-A-1		280-438054		11/12/2018 17:09	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116945-1

Laboratory Chronicle

Lab ID: 280-116945-2 **Client ID: MW-42**

Sample Date/Time: 11/12/2018 16:50 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116945-F-2		480-446210		11/17/2018 12:16	1	TAL BUF	RLB
A:8260C	280-116945-F-2		480-446210		11/17/2018 12:16	1	TAL BUF	RLB
P:5030C	280-116945-F-2		480-446599		11/20/2018 18:55	1	TAL BUF	RJF
A:8260C SIM	280-116945-F-2		480-446599		11/20/2018 18:55	1	TAL BUF	RJF
P:3005A	280-116945-D-2-B		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116945-D-2-B		280-437867	280-437673	11/16/2018 03:30	1	TAL DEN	SJS
P:3005A	280-116945-D-2-A		280-438086	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116945-D-2-A		280-438086	280-437626	11/16/2018 21:06	1	TAL DEN	CML
P:3005A	280-116945-D-2-A		280-438378	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116945-D-2-A		280-438378	280-437626	11/21/2018 04:24	1	TAL DEN	CML
P:3005A	280-116945-D-2-C		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116945-D-2-C		280-438257	280-437675	11/19/2018 23:10	1	TAL DEN	LMT
P:3005A	280-116945-E-2-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116945-E-2-A		280-438257	280-437667	11/20/2018 00:38	1	TAL DEN	LMT
P:3005A	280-116945-D-2-C		280-438552	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116945-D-2-C		280-438552	280-437675	11/21/2018 16:52	1	TAL DEN	LMT
A:300.0	280-116945-A-2		280-439224		11/29/2018 21:31	1	TAL DEN	A1D
A:350.1	280-116945-C-2		280-438773		11/26/2018 12:51	2	TAL DEN	JAP
A:353.2	280-116945-A-2		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-116945-B-2		280-438581		11/22/2018 01:31	1	TAL DEN	SGB
A:SM 2540C	280-116945-B-2		280-437743		11/15/2018 10:13	1	TAL DEN	MJS
A:SM 2540D	280-116945-A-2		280-437900		11/16/2018 10:14	1	TAL DEN	MJS
A:SM 5310B	280-116945-C-2		280-439562		12/01/2018 03:07	1	TAL DEN	LPL
A:Field Sampling	280-116945-A-2		280-438054		11/12/2018 17:50	1	TAL DEN	A1S

Lab ID: 280-116945-3 **Client ID: TRIP BLANK**

Sample Date/Time: 11/12/2018 00:00 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116945-A-3		480-446210		11/17/2018 12:43	1	TAL BUF	RLB
A:8260C	280-116945-A-3		480-446210		11/17/2018 12:43	1	TAL BUF	RLB
P:5030C	280-116945-A-3		480-446599		11/20/2018 19:19	1	TAL BUF	RJF
A:8260C SIM	280-116945-A-3		480-446599		11/20/2018 19:19	1	TAL BUF	RJF

Client: Waste Management Job Number: 280-116945-1

Laboratory Chronicle

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	MB 480-446210/7		480-446210		11/17/2018 11:08	1	TAL BUF	RLB
A:8260C	MB 480-446210/7		480-446210		11/17/2018 11:08	1	TAL BUF	RLB
P:5030C	MB 480-446599/10		480-446599		11/20/2018 12:44	1	TAL BUF	RJF
A:8260C SIM	MB 480-446599/10		480-446599		11/20/2018 12:44	1	TAL BUF	RJF
P:3005A	MB 280-437673/1-A		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	MB 280-437673/1-A		280-437867	280-437673	11/16/2018 02:12	1	TAL DEN	SJS
P:3005A	MB 280-437626/1-A		280-438086	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	MB 280-437626/1-A		280-438086	280-437626	11/16/2018 19:34	1	TAL DEN	CML
P:3005A	MB 280-437626/1-A		280-438378	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	MB 280-437626/1-A		280-438378	280-437626	11/21/2018 03:07	1	TAL DEN	CML
P:3005A	MB 280-437675/1-A		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	MB 280-437675/1-A		280-438257	280-437675	11/19/2018 21:39	1	TAL DEN	LMT
P:3005A	MB 280-437667/1-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	MB 280-437667/1-A		280-438257	280-437667	11/19/2018 23:20	1	TAL DEN	LMT
A:300.0	MB 280-439224/6		280-439224		11/29/2018 14:49	1	TAL DEN	A1D
A:350.1	MB 280-438773/66		280-438773		11/26/2018 12:15	1	TAL DEN	JAP
A:353.2	MB 280-438438/1		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	MB 280-438581/83		280-438581		11/21/2018 23:43	1	TAL DEN	SGB
A:SM 2540C	MB 280-437743/1		280-437743		11/15/2018 10:13	1	TAL DEN	MJS
A:SM 2540D	MB 280-437900/1		280-437900		11/16/2018 10:14	1	TAL DEN	MJS
A:SM 5310B	MB 280-439562/35		280-439562		11/30/2018 21:16	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116945-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCS 480-446210/5		480-446210		11/17/2018 09:55	1	TAL BUF	RLB
A:8260C	LCS 480-446210/5		480-446210		11/17/2018 09:55	1	TAL BUF	RLB
P:5030C	LCS 480-446599/7		480-446599		11/20/2018 11:32	1	TAL BUF	RJF
A:8260C SIM	LCS 480-446599/7		480-446599		11/20/2018 11:32	1	TAL BUF	RJF
P:3005A	LCS 280-437673/2-A		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	LCS 280-437673/2-A		280-437867	280-437673	11/16/2018 02:16	1	TAL DEN	SJS
P:3005A	LCS 280-437626/2-A		280-438086	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	LCS 280-437626/2-A		280-438086	280-437626	11/16/2018 19:38	1	TAL DEN	CML
P:3005A	LCS 280-437626/2-A		280-438378	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	LCS 280-437626/2-A		280-438378	280-437626	11/21/2018 03:10	1	TAL DEN	CML
P:3005A	LCS 280-437675/2-A		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	LCS 280-437675/2-A		280-438257	280-437675	11/19/2018 21:42	1	TAL DEN	LMT
P:3005A	LCS 280-437667/2-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	LCS 280-437667/2-A		280-438257	280-437667	11/19/2018 23:24	1	TAL DEN	LMT
A:300.0	LCS 280-439224/4		280-439224		11/29/2018 11:00	1	TAL DEN	A1D
A:350.1	LCS 280-438773/64		280-438773		11/26/2018 12:11	1	TAL DEN	JAP
A:SM 2320B	LCS 280-438581/82		280-438581		11/21/2018 23:38	1	TAL DEN	SGB
A:SM 2540C	LCS 280-437743/2		280-437743		11/15/2018 10:13	1	TAL DEN	MJS
A:SM 2540D	LCS 280-437900/2		280-437900		11/16/2018 10:14	1	TAL DEN	MJS
A:SM 5310B	LCS 280-439562/33		280-439562		11/30/2018 20:47	1	TAL DEN	LPL

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCSD 480-446599/8		480-446599		11/20/2018 11:56	1	TAL BUF	RJF
A:8260C SIM	LCSD 480-446599/8		480-446599		11/20/2018 11:56	1	TAL BUF	RJF
A:300.0	LCSD 280-439224/5		280-439224		11/29/2018 14:31	1	TAL DEN	A1D
A:350.1	LCSD 280-438773/65		280-438773		11/26/2018 12:13	1	TAL DEN	JAP
A:SM 2540D	LCSD 280-437900/3		280-437900		11/16/2018 10:14	1	TAL DEN	MJS
A:SM 5310B	LCSD 280-439562/34		280-439562		11/30/2018 21:01	1	TAL DEN	LPL

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-439224/3		280-439224		11/29/2018 10:42	1	TAL DEN	A1D

Client: Waste Management Job Number: 280-116945-1

Laboratory Chronicle

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/09/2018 11:15 Received Date/Time: 11/09/2018 14:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145042-J-1 MS		480-446210		11/17/2018 18:56	1	TAL BUF	RLB
A:8260C	480-145042-J-1 MS		480-446210		11/17/2018 18:56	1	TAL BUF	RLB
P:3005A	280-116888-C-12-C MS		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-12-C MS		280-437867	280-437673	11/16/2018 03:17	1	TAL DEN	SJS
P:3005A	280-116888-C-1-B MS		280-438086	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116888-C-1-B MS		280-438086	280-437626	11/16/2018 20:02	1	TAL DEN	CML
P:3005A	280-116888-C-1-B MS		280-438378	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116888-C-1-B MS		280-438378	280-437626	11/21/2018 03:20	1	TAL DEN	CML
P:3005A	280-116888-C-3-D MS		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-D MS		280-438257	280-437675	11/19/2018 21:59	1	TAL DEN	LMT
P:3005A	280-116888-D-1-B MS		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-B MS		280-438257	280-437667	11/19/2018 23:34	1	TAL DEN	LMT
A:300.0	280-116925-A-1 MS		280-439224		11/29/2018 17:46	1	TAL DEN	A1D
A:350.1	280-116925-B-1 MS		280-438773		11/26/2018 12:19	1	TAL DEN	JAP
A:SM 5310B	280-116928-E-3 MS		280-439562		12/01/2018 02:08	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116945-1

Laboratory Chronicle

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/09/2018 11:15 Received Date/Time: 11/09/2018 14:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145042-J-1 MSD		480-446210		11/17/2018 19:23	1	TAL BUF	RLB
A:8260C	480-145042-J-1 MSD		480-446210		11/17/2018 19:23	1	TAL BUF	RLB
P:3005A	280-116888-C-12-D MSD		280-437867	280-437673	11/15/2018 16:30	1	TAL DEN	DAL
A:6010D	280-116888-C-12-D MSD		280-437867	280-437673	11/16/2018 03:20	1	TAL DEN	SJS
P:3005A	280-116888-C-1-C MSD		280-438086	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116888-C-1-C MSD		280-438086	280-437626	11/16/2018 20:05	1	TAL DEN	CML
P:3005A	280-116888-C-1-C MSD		280-438378	280-437626	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116888-C-1-C MSD		280-438378	280-437626	11/21/2018 03:23	1	TAL DEN	CML
P:3005A	280-116888-C-3-E MSD		280-438257	280-437675	11/15/2018 16:30	1	TAL DEN	DAL
A:6020B	280-116888-C-3-E MSD		280-438257	280-437675	11/19/2018 22:02	1	TAL DEN	LMT
P:3005A	280-116888-D-1-C MSD		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-C MSD		280-438257	280-437667	11/19/2018 23:37	1	TAL DEN	LMT
A:300.0	280-116925-A-1 MSD		280-439224		11/29/2018 18:05	1	TAL DEN	A1D
A:350.1	280-116925-B-1 MSD		280-438773		11/26/2018 12:21	1	TAL DEN	JAP
A:SM 5310B	280-116928-E-3 MSD		280-439562		12/01/2018 02:23	1	TAL DEN	LPL

Lab ID: DU **Client ID: N/A**

Sample Date/Time: 11/13/2018 08:20 Received Date/Time: 11/14/2018 11:11

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-116925-A-1 DU		280-439224		11/29/2018 17:27	1	TAL DEN	A1D
A:SM 2320B	280-116888-L-7 DU		280-438581		11/21/2018 23:54	1	TAL DEN	SGB
A:SM 2540C	280-116944-A-1 DU		280-437743		11/15/2018 10:13	1	TAL DEN	MJS
A:SM 2540D	280-117000-A-1 DU		280-437900		11/16/2018 10:14	1	TAL DEN	MJS

Lab References:

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 December 2018

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

RE: OVSL

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

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

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

Associated Work Order(s)	Associated SDG ID(s)
18K0248	N/A

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

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

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 18K0248	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 1 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level Total Arsenic	Notes/Comments
MW-13B	11/12/18	1147	water	1	X	
MW-34C		1200				
MW-13A		1058				
MW-34A		1100				
MW-36A		1256				
MW-35		1257				
MW-15R		1353				
MW-16		1400				
MW-14C		1448				
Dup 1		1455				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 2 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-39	11/12/18	1502	water	1	X	
Dup 2	"	1510	"	"	"	
MW-29A	"	1609	"	"	"	
MW-42	"	1650	"	"	"	
LP-LCD	11/13/18	930	"	"	"	
L-INF	"	1115	leachate	"	"	
OBWL-TD	"	1315	leachate	"	"	
MW-43	11/14/18	953	water	"	"	
MW-32	"	1100	"	"	"	
MW-33A	"	1300	"	"	"	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Waltz	Printed Name:	Printed Name:
	Company: SCS	Company: ART	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 3 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

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206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-33C	11/14/18	1348	water	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or pre-signed agreement between ARI and the Client.*

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-13B	18K0248-01	Water	12-Nov-2018 11:47	16-Nov-2018 11:40
MW-34C	18K0248-02	Water	12-Nov-2018 12:00	16-Nov-2018 11:40
MW-13A	18K0248-03	Water	12-Nov-2018 10:58	16-Nov-2018 11:40
MW-34A	18K0248-04	Water	12-Nov-2018 11:00	16-Nov-2018 11:40
MW-36A	18K0248-05	Water	12-Nov-2018 12:56	16-Nov-2018 11:40
MW-35	18K0248-06	Water	12-Nov-2018 12:57	16-Nov-2018 11:40
MW-15R	18K0248-07	Water	12-Nov-2018 13:53	16-Nov-2018 11:40
MW-16	18K0248-08	Water	12-Nov-2018 14:00	16-Nov-2018 11:40
MW-19C	18K0248-09	Water	12-Nov-2018 14:48	16-Nov-2018 11:40
DUP 1	18K0248-10	Water	12-Nov-2018 14:55	16-Nov-2018 11:40
MW-39	18K0248-11	Water	12-Nov-2018 15:02	16-Nov-2018 11:40
DUP 2	18K0248-12	Water	12-Nov-2018 15:10	16-Nov-2018 11:40
MW-29A	18K0248-13	Water	12-Nov-2018 16:09	16-Nov-2018 11:40
MW-42	18K0248-14	Water	12-Nov-2018 16:50	16-Nov-2018 11:40
LP-LCD	18K0248-15	Water	13-Nov-2018 09:30	16-Nov-2018 11:40
L-INF	18K0248-16	Water	13-Nov-2018 11:15	16-Nov-2018 11:40
OBWL-TD	18K0248-17	Water	13-Nov-2018 13:15	16-Nov-2018 11:40
MW-43	18K0248-18	Water	14-Nov-2018 09:53	16-Nov-2018 11:40
MW-32	18K0248-19	Water	14-Nov-2018 11:00	16-Nov-2018 11:40
MW-33A	18K0248-20	Water	14-Nov-2018 13:00	16-Nov-2018 11:40
MW-33C	18K0248-21	Water	14-Nov-2018 13:48	16-Nov-2018 11:40

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 16, 2018 under ARI work order 18K0248. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Arsenic - EPA Method 200.8

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

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WORK ORDER

18K0248

Client: Test America - Denver | **Project Manager:** Amanda Volgardsen

Project: OVSL | **Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2 fail	
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JDB
Preservation Confirmed By

11/16/18
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SCS Engineers Project Name: OUSL

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18K0248 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1402 1305 1.3

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520 6

Cooler Accepted by: SSm Date: 11/16/18 Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		(YES)	NO
What kind of packing material was used? ...	Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

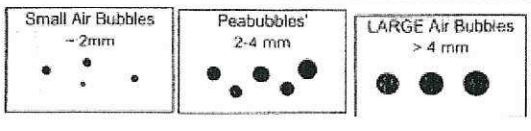
Samples Logged by: JNB Date: 11/16/18 Time: 1433

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2	fail
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JLB
Preservation Confirmed By

11/16/18
Date

preserved DP
11/19/18

Reviewed By

Date

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13B

18K0248-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:47

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000337**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34C

18K0248-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00968**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13A

18K0248-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 10:58

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000189**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34A

18K0248-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:00

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000411**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-36A

18K0248-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:56

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000532**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-35

18K0248-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:57
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000112**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-15R

18K0248-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 13:53

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000193**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-16

18K0248-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000452**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-19C

18K0248-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:48

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00276**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 1

18K0248-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:55
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00281**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-39

18K0248-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:02

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00197**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 2

18K0248-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:10
Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 — Sample Size: 100 mL
Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00189**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-29A

18K0248-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:09

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00219**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-42

18K0248-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00183**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

LP-LCD

18K0248-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 09:30

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.0102**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

L-INF

18K0248-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.00370**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

OBWL-TD

18K0248-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 13:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00584**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-43

18K0248-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 09:53

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	ND	mg/L	U

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-32

18K0248-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 11:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00984**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33A

18K0248-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000607**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33C

18K0248-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:48

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00277**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGK0701 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: TCH

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGK0701-BLK1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 18:28							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGK0701-BS1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 19:11							
Arsenic	75a	0.00490	0.0000400	mg/L	0.00500		98.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGL0010 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGL0010-BLK1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:33							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGL0010-BS1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:38							
Arsenic	75a	0.00475	0.0000400	mg/L	0.00500		95.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75b	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
DoD-ELAP DW	DoD-Environmental Laboratory Accreditation - Drinking Water	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the applicable reporting or detection limit.
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.

1160945

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-29A (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1549	120			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment,.. Dedicated: (Y) or N

Filter Device: (Y) or N; 0.45 µ or _____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

X-Other:

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 146.1 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Rate/Unit: 300 (mL/min)

Sample Time (2400 Hr Clock)	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1549	1st 6.64	1st 8.6	11.12		6.34	162	
1554	2nd 6.25	2nd 8.9	10.83		0.95	73.7	
1557	3rd 6.19	3rd 9.6	10.80		0.61	69.6	
1600	4th 6.17	4th 9.1	10.79		0.51	61.1	
1603	6.14	9.1	10.78		0.44	58.8	
1606	6.12	9.1	10.77		0.39	57.3	
1609	6.10	9.0	10.76	0.99	0.37	56.8	146.13

Suggested range for 3 consec. readings or note Permit/State requirements: +/- 0.2 | +/- 3% | — | — | +/- 10% | +/- 25 mV | Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units ft.
11 12 18	6.10	9.0	10.76	0.99	0.37	56.8	146.13

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

FIELD COMMENTS

Sample Appearance: Clear

Odor: —

Color: —

Other: —

Weather Conditions (required daily, or as conditions change):

Direction/Speed: —

Outlook: Cloudy

Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11, 12, 18	Travis Berndahl		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WM WASTE MANAGEMENT

Site Name: OVSL

Site No.:

Sample Point: MW-42 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 12 18	1630	26			

Note: *For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.*

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 27.90 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 2 (in)

Casing Material: PVC

Note: *Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.*

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ml/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1630	300	1st 5.96	1st 523	11.94		1.80	123.0	
1635		2nd 6.18	2nd 528	11.95		0.46	20.4	
1638		3rd 6.44	3rd 530	11.95		0.38	4.2	
1641		4th 6.49	4th 531	11.95		0.33	-19.5	
1644		6.50	532	11.95		0.28	-14.6	
1647		6.52	532	11.93		0.27	-19.6	
1650	✓	6.52	531	11.94	0.19	0.24	-22.9	~~28.92~~ 27.92
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. **If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW Units: FT
11 12 18	6.52	531	11.94	0.19	0.24	-22.9	27.92

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Clear Sky Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/12/18	Travis Berndahl	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TAL-8029WM (1013)

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: SG.	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 8113 9352 4749	COC No: 280-17318-3224.1
Client Contact: ~~Mr. Patrick Madej~~ D Vanchiarutti	Phone: 425-766-3362	E-Mail: betsy.sara@testamericainc.com		Page: 1 of 1
Company: ~~Waste Management~~ SCS				Job #: 04204027.21
Address: ~~2615 Davis Street~~ 2405 140th Ave NE #107	Due Date Requested: Standard			
City: ~~San Leandro~~ Bellevue	TAT Requested (days):			
State, Zip: ~~CA, 94577~~ WA 98005				
Phone: 425-289-5455	PO #:			
Email: DVanchiarutti@scsengineers.com	WO #:			
Project Name: WA02|Olympic View Sanitary LF Event Desc: Quarterly GW Appl/II - Mar Jun Sep Dec	Project #: 28002692			
Site: Washington	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TDS/Alks/Cl/SO4/NO3(cad)	Dissolved Metals	Ammonia/TOC	8260B - long list (TA Buffalo)	8260B SIM (TA Buffalo)	Total Metals	TSS	Total Arsenic (direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A	A	D	N	D		
MW-29A	11/12/18	1609	G	W	Y	N	X	X	X	X	X	X	X	X	11	Short Hold: NO3(cad)
MW-42	11/12/18	1650	G	W	Y	N	X	X	X	X	X	X	X	X	11	Arsenic - Direct sub to ARI
Trip blank	11/12/18	—	—	W	N	N				X					3	

280-116945 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/13/18 1630	SCS		11/14/18 0915	TA DEN
2						
3				+1.0		

Custody Seals Intact: △ Yes △ No
Custody Seal No.: 662642

Cooler Temperature(s) °C and Other Remarks: 3.4 ~~+0.7~~ IR #75

Page 120 of 123

12/06/2018

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-462621.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 280-116945-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 12/3/2018			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692			
Site: WA02|Olympic View Sanitary LF	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	8260C/5030C (MOD) Appendix II Volatiles	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-29A (280-116945-1)	11/12/18	16:09 Pacific		Water			X	X	6	
MW-42 (280-116945-2)	11/12/18	16:50 Pacific		Water			X	X	6	
TRIP BLANK (280-116945-3)	11/12/18	Pacific		Water			X	X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status 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.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Christina Baca	11-15-18 1408	TAden		11/16/18 1645	TAD.
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.3°,

Ver: 09/20/2016

12/06/2018

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116945-1

Login Number: 116945
List Number: 1
Creator: Quint, Jessica A

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.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116945-1

Login Number: 116945
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 11/16/18 05:24 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3 #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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-116946-1

Job Description: WA02|Olympic View Sanitary LF-Leachate

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/6/2018 11:42 AM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/06/2018

cc: Mr. Dan Venchiarutti

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF-Leachate

Report Number: 280-116946-1

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

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

Sample Receiving

The samples were received on 11/14/2018; the samples arrived in good condition and on ice. The temperatures of the coolers at receipt were 2.6º C, 3.1º C and 5.8º C.

Holding Times

All holding times were within established control limits.

Method Blanks

Dissolved Barium, Dissolved Manganese, Dissolved Nickel Method 6020B were detected in the Method Blank below the project established reporting limits. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits.

All other Method Blank recoveries were within established control limits.

Laboratory Control Samples (LCS)

All Laboratory Control Samples were within established control limits.

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

The percent recoveries and/or relative percent difference of the MS/MSD performed on sample L-INF were outside control limits for Dissolved Sodium Method 6010D because the sample concentration was greater than four times the spike amount. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, no corrective action was taken.

The percent recoveries and/or relative percent difference of the MS/MSD performed on sample L-INF were outside control limits for Chloride Method 300.0 because the sample concentration was greater than four times the spike amount. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, no corrective action was taken.

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

Organics

The sample L-INF was analyzed at a dilution for Method 8260C due to foaming at the time of purging during the analysis. Elevated reporting limits (RL) are provided.

The sample L-INF was analyzed at a dilution for Method 8260C SIM due to foaming at the time of purging during the analysis. Elevated reporting limits (RL) are provided.

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.

The prepreserved hydrochloric acid preserved vials for Method 8260C and 8260C SIM analyses for the sample L-INF exhibited pH values greater than 2. This is non-compliant with Method 8260C and 8260C SIM which require samples to be preserved with hydrochloric acid to

a pH of less than 2. Because this sample is a leachate sample, a buffering effect was suspected.

General Comments

The analyses for Volatile Organics by Method 8260C and Volatile Organics by Method 8260C SIM were performed by TestAmerica Buffalo. Their address and phone number are:
TestAmerica Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228
716-691-2600

For samples requiring analysis at a dilution, the dilution factor has been multiplied by the Method Detection Limit (MDL) for each analyte and evaluated versus the project-specific reporting limit (PSRL). If the obtained value is below the PSRL, then the PSRL is preserved as the reporting limit for the diluted result, otherwise, the obtained value becomes the reporting limit. This is done in order to maintain the PSRL to meet permit requirements at the request of the client and to report the lowest possible RL for each analyte.

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116946-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116946-1	**L-INF**					
Butyl alcohol, tert-		210		100	ug/L	8260C
Methylene Chloride		7.8	J	10	ug/L	8260C
Tetrahydrofuran		77		50	ug/L	8260C
Chloride		1100		10	mg/L	300.0
Sulfate		250		10	mg/L	300.0
Ammonia (as N)		190		1.5	mg/L	350.1
Nitrate/Nitrite		0.056		0.050	mg/L	353.2
Nitrate as N		0.056		0.050	mg/L	353.2
Chemical Oxygen Demand (COD)		410		50	mg/L	410.4
Alkalinity, Total (As CaCO3)		2100		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		2100		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		3400		10	mg/L	SM 2540C
Total Organic Carbon - Average		130		3.5	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		160		0.040	mg/L	6010D
Cobalt, Dissolved		0.0097		0.0030	mg/L	6010D
Iron, Dissolved		0.72		0.060	mg/L	6010D
Magnesium, Dissolved		110		0.050	mg/L	6010D
Potassium, Dissolved		120		1.0	mg/L	6010D
Sodium, Dissolved		840		1.0	mg/L	6010D
Barium, Dissolved		0.25	B	0.0010	mg/L	6020B
Chromium, Dissolved		0.0075		0.0030	mg/L	6020B
Manganese, Dissolved		2.8	B	0.0010	mg/L	6020B
Nickel, Dissolved		0.078	B	0.0040	mg/L	6020B
Selenium, Dissolved		0.00072	J	0.0010	mg/L	6020B
Vanadium, Dissolved		0.0099		0.0020	mg/L	6020B
Zinc, Dissolved		0.0036	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116946-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116946-2	**OBWL-TD**					
Sulfate		62		5.0	mg/L	300.0
Nitrate/Nitrite		2.1		0.050	mg/L	353.2
Nitrate as N		2.1		0.050	mg/L	353.2
Chemical Oxygen Demand (COD)		21		10	mg/L	410.4
Alkalinity, Total (As CaCO3)		50		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		50		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		150		5.0	mg/L	SM 2540C
Total Organic Carbon - Average		4.1		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		25		0.040	mg/L	6010D
Magnesium, Dissolved		12		0.050	mg/L	6010D
Potassium, Dissolved		1.1		1.0	mg/L	6010D
Sodium, Dissolved		1.3		1.0	mg/L	6010D
Antimony, Dissolved		0.021		0.0010	mg/L	6020B
Barium, Dissolved		0.059	B	0.0010	mg/L	6020B
Chromium, Dissolved		0.0035		0.0030	mg/L	6020B
Copper, Dissolved		0.0053		0.0020	mg/L	6020B
Manganese, Dissolved		0.0031	B	0.0010	mg/L	6020B
Nickel, Dissolved		0.14	B	0.0040	mg/L	6020B
Vanadium, Dissolved		0.00078	J	0.0020	mg/L	6020B
Zinc, Dissolved		0.014		0.0050	mg/L	6020B

METHOD SUMMARY

Client: Waste Management Job Number: 280-116946-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrate	TAL DEN	EPA 353.2	
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
COD	TAL DEN	MCAWW 410.4	
Alkalinity	TAL DEN	SM SM 2320B	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	
Volatile Organic Compounds by GC/MS	TAL BUF	SW846 8260C	
Purge and Trap	TAL BUF		SW846 5030C
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260C SIM	
Purge and Trap	TAL BUF		SW846 5030C
General Subcontract Method	SC0056	Subcontract	

Lab References:

SC0056 = Analytical Resources, Inc

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

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: Waste Management

Job Number: 280-116946-1

Method	Analyst	Analyst ID
SW846 8260C	Moffat, Alyssa M	AMM
SW846 8260C SIM	Farrell, Ryan J	RJF
SW846 6010D	Lackey, Cara M	CML
SW846 6020B	Trudell, Lynn-Anne M	LMT
MCAWW 300.0	Duplin, Alysha 1	A1D
MCAWW 350.1	Pedrick, Joshua A	JAP
MCAWW 353.2	Cherry, Scott V	SVC
EPA 353.2	Jewell, Connie C	CCJ
MCAWW 410.4	Loux, Lauren P	LPL
SM SM 2320B	Barker, Scott G	SGB
SM SM 2540C	Setjoadi, Mayori J	MJS
SM SM 5310B	Loux, Lauren P	LPL

SAMPLE SUMMARY

Client: Waste Management

Job Number: 280-116946-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-116946-1	L-INF	Water	11/13/2018 1115	11/14/2018 0915
280-116946-2	OBWL-TD	Water	11/13/2018 1315	11/14/2018 0915
280-116946-3TB	TRIP BLANK	Water	11/13/2018 0000	11/14/2018 0915

SAMPLE RESULTS

Client Sample ID: **L-INF**

Lab Sample ID: 280-116946-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5989.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2350			Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2350				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		3.5	10
1,1,1-Trichloroethane	ND		8.2	10
1,1,2,2-Tetrachloroethane	ND		2.1	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.1	10
1,1,2-Trichloroethane	ND		2.3	10
1,1-Dichloroethane	ND		3.8	10
1,1-Dichloroethene	ND		2.9	10
1,1-Dichloropropene	ND		7.2	10
1,2,3-Trichlorobenzene	ND		4.1	10
1,2,3-Trichloropropane	ND		8.9	10
1,2,4-Trichlorobenzene	ND		4.1	10
1,2,4-Trimethylbenzene	ND		7.5	10
1,2-Dibromo-3-Chloropropane	ND		3.9	10
1,2-Dibromoethane (EDB)	ND		7.3	10
1,2-Dichlorobenzene	ND		7.9	10
1,2-Dichloroethane	ND		2.1	10
1,2-Dichloroethene, Total	ND		8.1	20
1,2-Dichloropropane	ND		7.2	10
1,3,5-Trichlorobenzene	ND		2.3	10
1,3,5-Trimethylbenzene	ND		7.7	10
1,3-Dichlorobenzene	ND		7.8	10
1,3-Dichloropropane	ND		7.5	10
1,4-Dichlorobenzene	ND		8.4	10
1,4-Dioxane	ND		93	400
2,2-Dichloropropane	ND		4.0	10
2-Butanone (MEK)	ND		13	100
2-Chloroethyl vinyl ether	ND		9.6	50
2-Hexanone	ND		12	50
4-Methyl-2-pentanone (MIBK)	ND		21	50
Acetone	ND		30	100
Acetonitrile	ND		49	150
Acrolein	ND		9.1	200
Acrylonitrile	ND		8.3	50
Benzene	ND		4.1	10
Bromobenzene	ND		8.0	10
Bromochloromethane	ND		8.7	10
Bromodichloromethane	ND		3.9	10
Bromoform	ND		2.6	10
Bromomethane	ND		6.9	10
Butyl alcohol, n-	ND		89	400
Butyl alcohol, tert-	210		33	100
Carbon disulfide	ND		1.9	10
Carbon tetrachloride	ND		2.7	10
Chlorobenzene	ND		7.5	10
Chlorodifluoromethane	ND		2.6	10
Chloroethane	ND		3.2	10

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: L-INF

Lab Sample ID: 280-116946-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5989.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2350			Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2350				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		3.4	10
Chloromethane	ND		3.5	10
cis-1,2-Dichloroethene	ND		8.1	10
cis-1,3-Dichloropropene	ND		3.6	10
Cyclohexane	ND		1.8	10
Dibromochloromethane	ND		3.2	10
Dibromomethane	ND		4.1	10
Dichlorodifluoromethane	ND		6.8	10
Dichlorofluoromethane	ND		3.4	10
Ethyl acetate	ND		6.6	10
Ethyl ether	ND		7.2	10
Ethyl tert-butyl ether	ND		2.9	10
Ethylbenzene	ND		7.4	10
Hexachlorobutadiene	ND		2.8	10
Hexane	ND		4.0	100
Iodomethane	ND		3.0	10
Isobutanol	ND		48	250
Isopropyl ether	ND		5.9	10
Isopropylbenzene	ND		7.9	10
Methacrylonitrile	ND		6.9	50
Methyl acetate	ND		13	25
Methyl tert-butyl ether	ND		1.6	10
Methylcyclohexane	ND		1.6	10
Methylene Chloride	7.8	J	4.4	10
m-Xylene & p-Xylene	ND		6.6	20
Naphthalene	ND		4.3	10
n-Butylbenzene	ND		6.4	10
N-Propylbenzene	ND		6.9	10
o-Chlorotoluene	ND		8.6	10
o-Xylene	ND		7.6	10
p-Chlorotoluene	ND		8.4	10
p-Cymene	ND		3.1	10
sec-Butylbenzene	ND		7.5	10
Styrene	ND		7.3	10
Tert-amyl methyl ether	ND		2.7	10
tert-Butylbenzene	ND		8.1	10
Tetrachloroethene	ND		3.6	10
Tetrahydrofuran	77		13	50
Toluene	ND		5.1	10
trans-1,2-Dichloroethene	ND		9.0	10
trans-1,3-Dichloropropene	ND		3.7	10
trans-1,4-Dichloro-2-butene	ND		2.2	10
Trichloroethene	ND		4.6	10
Trichlorofluoromethane	ND		8.8	10
Vinyl acetate	ND		8.5	50
Vinyl chloride	ND		9.0	10

Client: Waste Management

Job Number: 280-116946-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116946-1
Client Matrix: Water

Date Sampled: 11/13/2018 1115
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5989.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2350			Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2350				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		77 - 120
4-Bromofluorobenzene (Surr)	105		73 - 120
Toluene-d8 (Surr)	96		80 - 120

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: L-INF

Lab Sample ID: 280-116946-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5989.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2350			Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2350				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: OBWL-TD

Lab Sample ID: 280-116946-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5990.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0017			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0017				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116946-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116946-2
Client Matrix: Water

Date Sampled: 11/13/2018 1315
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5990.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0017			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0017				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: OBWL-TD

Lab Sample ID: 280-116946-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5990.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0017			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0017				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	112		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	98		80 - 120

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116946-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5990.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0017			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0017				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116946-3TB
Client Matrix: Water

Date Sampled: 11/13/2018 0000
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5991.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0044			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0044				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116946-3TB Date Sampled: 11/13/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5991.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0044			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0044				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116946-3TB Date Sampled: 11/13/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5991.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0044			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0044				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111		77 - 120
4-Bromofluorobenzene (Surr)	106		73 - 120
Toluene-d8 (Surr)	98		80 - 120

Client: Waste Management Job Number: 280-116946-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116946-3TB
Client Matrix: Water

Date Sampled: 11/13/2018 0000
Date Received: 11/14/2018 0915

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N5991.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0044			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0044				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management

Job Number: 280-116946-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116946-1
Client Matrix: Water

Date Sampled: 11/13/2018 1115
Date Received: 11/14/2018 0915

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8092.D
Dilution:	10			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1943			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1943				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.040	0.20

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	108		50 - 150
TBA-d9 (Surr)	85		50 - 150

Client: Waste Management

Job Number: 280-116946-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116946-2
Client Matrix: Water

Date Sampled: 11/13/2018 1315
Date Received: 11/14/2018 0915

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8093.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 2007			Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 2007				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	115		50 - 150
TBA-d9 (Surr)	89		50 - 150

Client Sample ID: L-INF

Lab Sample ID: 280-116946-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438086	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437729	Lab File ID:	51A111618B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1706			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	160		0.035	0.040
Cobalt, Dissolved	0.0097		0.0012	0.0030
Iron, Dissolved	0.72		0.022	0.060
Magnesium, Dissolved	110		0.011	0.050
Potassium, Dissolved	120		0.24	1.0
Sodium, Dissolved	840		0.12	1.0

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	197SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0042			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Dissolved	ND		0.00040	0.0010
Barium, Dissolved	0.25	B	0.00029	0.0010
Beryllium, Dissolved	ND		0.000080	0.0010
Cadmium, Dissolved	ND		0.00027	0.00030
Chromium, Dissolved	0.0075		0.00050	0.0030
Copper, Dissolved	ND		0.00056	0.0020
Lead, Dissolved	ND		0.00018	0.0010
Manganese, Dissolved	2.8	B	0.00031	0.0010
Nickel, Dissolved	0.078	B	0.00030	0.0040
Silver, Dissolved	ND		0.000033	0.0020
Thallium, Dissolved	ND		0.000050	0.0010
Vanadium, Dissolved	0.0099		0.00050	0.0020
Zinc, Dissolved	0.0036	J	0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438701	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	048SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1336			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Dissolved	0.00072	J	0.00070	0.0010

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116946-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438086	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-437729	Lab File ID:	51A111618B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1723			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	25		0.035	0.040
Cobalt, Dissolved	ND		0.0012	0.0030
Iron, Dissolved	ND		0.022	0.060
Magnesium, Dissolved	12		0.011	0.050
Potassium, Dissolved	1.1		0.24	1.0
Sodium, Dissolved	1.3		0.12	1.0

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-438257	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	198SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/20/2018 0045			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Dissolved	0.021		0.00040	0.0010
Barium, Dissolved	0.059	B	0.00029	0.0010
Beryllium, Dissolved	ND		0.000080	0.0010
Cadmium, Dissolved	ND		0.00027	0.00030
Chromium, Dissolved	0.0035		0.00050	0.0030
Copper, Dissolved	0.0053		0.00056	0.0020
Lead, Dissolved	ND		0.00018	0.0010
Manganese, Dissolved	0.0031	B	0.00031	0.0010
Nickel, Dissolved	0.14	B	0.00030	0.0040
Silver, Dissolved	ND		0.000033	0.0020
Thallium, Dissolved	ND		0.000050	0.0010
Vanadium, Dissolved	0.00078	J	0.00050	0.0020
Zinc, Dissolved	0.014		0.0020	0.0050

Analysis Method:	6020B	Analysis Batch:	280-438701	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-437667	Lab File ID:	049SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1340			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium, Dissolved	ND		0.00070	0.0010

General Chemistry

Client Sample ID: **L-INF**

Lab Sample ID: 280-116946-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1100		mg/L	10	10	10	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2149						
Sulfate	250		mg/L	10	10	10	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2149						
Ammonia (as N)	190		mg/L	1.5	1.5	50	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1253						
Nitrate as N	0.056		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Nitrate/Nitrite	0.056		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438364	Analysis Date: 11/20/2018 1909						
Chemical Oxygen Demand (COD)	410		mg/L	50	50	5.0	410.4
Analysis Batch: 280-438214	Analysis Date: 11/20/2018 0651						
Alkalinity, Total (As CaCO3)	2100		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/26/2018 2216						
Alkalinity, Bicarbonate (As CaCO3)	2100		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/26/2018 2216						
Total Dissolved Solids (TDS)	3400		mg/L	10	10	1.0	SM 2540C
Analysis Batch: 280-437898	Analysis Date: 11/16/2018 1011						
Total Organic Carbon - Average	130		mg/L	3.5	3.5	3.45	SM 5310B
Analysis Batch: 280-439562	Analysis Date: 12/01/2018 0324						

General Chemistry

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116946-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	ND		mg/L	5.0	5.0	5.0	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2304						
Sulfate	62		mg/L	5.0	5.0	5.0	300.0
Analysis Batch: 280-439224	Analysis Date: 11/29/2018 2304						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-438773	Analysis Date: 11/26/2018 1255						
Nitrate as N	2.1		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Nitrate/Nitrite	2.1		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438364	Analysis Date: 11/20/2018 1911						
Chemical Oxygen Demand (COD)	21		mg/L	10	10	1.0	410.4
Analysis Batch: 280-438214	Analysis Date: 11/20/2018 0651						
Alkalinity, Total (As CaCO3)	50		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/26/2018 2222						
Alkalinity, Bicarbonate (As CaCO3)	50		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/26/2018 2222						
Total Dissolved Solids (TDS)	150		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-437898	Analysis Date: 11/16/2018 1011						
Total Organic Carbon - Average	4.1		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439562	Analysis Date: 12/01/2018 0343						

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-116946-1

Lab Section	Qualifier	Description
GC/MS VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	B	Compound was found in the blank and sample.
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-116946-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-446526					
LCS 480-446526/5	Lab Control Sample	T	Water	8260C	
MB 480-446526/7	Method Blank	T	Water	8260C	
280-116946-1	L-INF	T	Water	8260C	
280-116946-2	OBWL-TD	T	Water	8260C	
280-116946-3TB	TRIP BLANK	T	Water	8260C	
480-145165-D-6 MS	Matrix Spike	T	Water	8260C	
480-145165-D-6 MSD	Matrix Spike Duplicate	T	Water	8260C	
Analysis Batch:480-446599					
LCS 480-446599/7	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-446599/8	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-446599/10	Method Blank	T	Water	8260C SIM	
280-116946-1	L-INF	T	Water	8260C SIM	
280-116946-2	OBWL-TD	T	Water	8260C SIM	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116946-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-437667					
LCS 280-437667/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437667/1-A	Method Blank	R	Water	3005A	
280-116888-D-1-B MS	Matrix Spike	D	Water	3005A	
280-116888-D-1-C MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116946-1	L-INF	D	Water	3005A	
280-116946-2	OBWL-TD	D	Water	3005A	
Prep Batch: 280-437729					
LCS 280-437729/2-A	Lab Control Sample	R	Water	3005A	
MB 280-437729/1-A	Method Blank	R	Water	3005A	
280-116946-1	L-INF	D	Water	3005A	
280-116946-1MS	Matrix Spike	D	Water	3005A	
280-116946-1MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116946-2	OBWL-TD	D	Water	3005A	
Analysis Batch:280-438086					
LCS 280-437729/2-A	Lab Control Sample	R	Water	6010D	280-437729
MB 280-437729/1-A	Method Blank	R	Water	6010D	280-437729
280-116946-1	L-INF	D	Water	6010D	280-437729
280-116946-1MS	Matrix Spike	D	Water	6010D	280-437729
280-116946-1MSD	Matrix Spike Duplicate	D	Water	6010D	280-437729
280-116946-2	OBWL-TD	D	Water	6010D	280-437729
Analysis Batch:280-438257					
LCS 280-437667/2-A	Lab Control Sample	R	Water	6020B	280-437667
MB 280-437667/1-A	Method Blank	R	Water	6020B	280-437667
280-116888-D-1-B MS	Matrix Spike	D	Water	6020B	280-437667
280-116888-D-1-C MSD	Matrix Spike Duplicate	D	Water	6020B	280-437667
280-116946-1	L-INF	D	Water	6020B	280-437667
280-116946-2	OBWL-TD	D	Water	6020B	280-437667
Analysis Batch:280-438701					
LCS 280-437667/2-A	Lab Control Sample	R	Water	6020B	280-437667
MB 280-437667/1-A	Method Blank	R	Water	6020B	280-437667
280-116888-D-1-B MS	Matrix Spike	D	Water	6020B	280-437667
280-116888-D-1-C MSD	Matrix Spike Duplicate	D	Water	6020B	280-437667
280-116946-1	L-INF	D	Water	6020B	280-437667
280-116946-2	OBWL-TD	D	Water	6020B	280-437667

Report Basis
D = Dissolved
R = Total Recoverable

Client: Waste Management Job Number: 280-116946-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-437898					
LCS 280-437898/2	Lab Control Sample	T	Water	SM 2540C	
LCSD 280-437898/3	Lab Control Sample Duplicate	T	Water	SM 2540C	
MB 280-437898/1	Method Blank	T	Water	SM 2540C	
280-116946-1	L-INF	T	Water	SM 2540C	
280-116946-1DU	Duplicate	T	Water	SM 2540C	
280-116946-2	OBWL-TD	T	Water	SM 2540C	
Analysis Batch:280-438214					
LCS 280-438214/3	Lab Control Sample	T	Water	410.4	
LCSD 280-438214/4	Lab Control Sample Duplicate	T	Water	410.4	
MB 280-438214/5	Method Blank	T	Water	410.4	
280-116742-A-1 MS	Matrix Spike	T	Water	410.4	
280-116742-A-1 MSD	Matrix Spike Duplicate	T	Water	410.4	
280-116742-A-3 MS	Matrix Spike	T	Water	410.4	
280-116742-A-3 MSD	Matrix Spike Duplicate	T	Water	410.4	
280-116946-1	L-INF	T	Water	410.4	
280-116946-2	OBWL-TD	T	Water	410.4	
Analysis Batch:280-438364					
LCS 280-438364/21	Lab Control Sample	T	Water	353.2	
MB 280-438364/22	Method Blank	T	Water	353.2	
280-116888-B-11 MS	Matrix Spike	T	Water	353.2	
280-116888-B-11 MSD	Matrix Spike Duplicate	T	Water	353.2	
280-116946-1	L-INF	T	Water	353.2	
280-116946-2	OBWL-TD	T	Water	353.2	
Analysis Batch:280-438438					
MB 280-438438/1	Method Blank	T	Water	353.2	
280-116946-1	L-INF	T	Water	353.2	
280-116946-2	OBWL-TD	T	Water	353.2	
Analysis Batch:280-438773					
LCS 280-438773/64	Lab Control Sample	T	Water	350.1	
LCSD 280-438773/65	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-438773/66	Method Blank	T	Water	350.1	
280-116925-B-1 MS	Matrix Spike	T	Water	350.1	
280-116925-B-1 MSD	Matrix Spike Duplicate	T	Water	350.1	
280-116946-1	L-INF	T	Water	350.1	
280-116946-2	OBWL-TD	T	Water	350.1	

Client: Waste Management Job Number: 280-116946-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-438873					
LCS 280-438873/30	Lab Control Sample	T	Water	SM 2320B	
MB 280-438873/31	Method Blank	T	Water	SM 2320B	
280-116925-A-1 DU	Duplicate	T	Water	SM 2320B	
280-116946-1	L-INF	T	Water	SM 2320B	
280-116946-2	OBWL-TD	T	Water	SM 2320B	
Analysis Batch:280-439005					
LCS 280-439005/3	Lab Control Sample	T	Water	410.4	
LCSD 280-439005/4	Lab Control Sample Duplicate	T	Water	410.4	
MB 280-439005/5	Method Blank	T	Water	410.4	
280-116946-1	L-INF	T	Water	410.4	
280-116946-2	OBWL-TD	T	Water	410.4	
280-117354-F-5 MS	Matrix Spike	T	Water	410.4	
280-117354-F-5 MSD	Matrix Spike Duplicate	T	Water	410.4	
Analysis Batch:280-439224					
LCS 280-439224/4	Lab Control Sample	T	Water	300.0	
LCSD 280-439224/5	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-439224/6	Method Blank	T	Water	300.0	
280-116946-1	L-INF	T	Water	300.0	
280-116946-1DU	Duplicate	T	Water	300.0	
280-116946-1MS	Matrix Spike	T	Water	300.0	
280-116946-1MSD	Matrix Spike Duplicate	T	Water	300.0	
280-116946-2	OBWL-TD	T	Water	300.0	
Analysis Batch:280-439562					
LCS 280-439562/33	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-439562/34	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-439562/35	Method Blank	T	Water	SM 5310B	
280-116928-E-3 MS	Matrix Spike	T	Water	SM 5310B	
280-116928-E-3 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116946-1	L-INF	T	Water	SM 5310B	
280-116946-2	OBWL-TD	T	Water	SM 5310B	
Analysis Batch:280-439563					
LCS 280-439563/33	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-439563/34	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-439563/35	Method Blank	T	Water	SM 5310B	
280-116928-E-3 MS	Matrix Spike	T	Water	SM 5310B	
280-116928-E-3 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116946-1	L-INF	T	Water	SM 5310B	
280-116946-2	OBWL-TD	T	Water	SM 5310B	

Client: Waste Management Job Number: 280-116946-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch

Report Basis
T = Total

Client: Waste Management

Job Number: 280-116946-1

Surrogate Recovery Report

8260C Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec
280-116946-1	L-INF	110	105	96
280-116946-2	OBWL-TD	112	103	98
280-116946-3	TRIP BLANK	111	106	98
MB 480-446526/7		106	103	93
LCS 480-446526/5		111	104	97
480-145165-D-6 MS		110	106	96
480-145165-D-6 MSD		108	105	98

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	77-120
BFB = 4-Bromofluorobenzene (Surr)	73-120
TOL = Toluene-d8 (Surr)	80-120

Surrogate Recovery Report

8260C SIM Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	TBA %Rec
280-116946-1	L-INF	108	85
280-116946-2	OBWL-TD	115	89
MB 480-446599/10		105	87
LCS 480-446599/7		94	101
LCSD 480-446599/8		95	88

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	50-150
TBA = TBA-d9 (Surr)	50-150

Method Blank - Batch: 480-446526

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446526/7	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5986.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2217	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2217				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0

Client: Waste Management Job Number: 280-116946-1

Method Blank - Batch: 480-446526

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446526/7	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5986.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2217	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2217				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0

Client: Waste Management

Job Number: 280-116946-1

Method Blank - Batch: 480-446526

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-446526/7	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5986.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2217	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2217				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	106	77 - 120
4-Bromofluorobenzene (Surr)	103	73 - 120
Toluene-d8 (Surr)	93	80 - 120

Lab Control Sample - Batch: 480-446526

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446526/5	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5984.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2122	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2122				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	25.0	24.7	99	80 - 120	
1,1,1-Trichloroethane	25.0	24.4	98	73 - 126	
1,1,2,2-Tetrachloroethane	25.0	19.3	77	76 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.7	95	61 - 148	
1,1,2-Trichloroethane	25.0	21.8	87	76 - 122	
1,1-Dichloroethane	25.0	24.3	97	77 - 120	
1,1-Dichloroethene	25.0	22.0	88	66 - 127	
1,1-Dichloropropene	25.0	22.8	91	72 - 122	
1,2,3-Trichlorobenzene	25.0	23.0	92	75 - 123	
1,2,3-Trichloropropane	25.0	20.8	83	68 - 122	
1,2,4-Trichlorobenzene	25.0	24.9	100	79 - 122	
1,2,4-Trimethylbenzene	25.0	22.6	91	76 - 121	
1,2-Dibromo-3-Chloropropane	25.0	22.1	89	56 - 134	
1,2-Dibromoethane (EDB)	25.0	23.0	92	77 - 120	
1,2-Dichlorobenzene	25.0	22.7	91	80 - 124	
1,2-Dichloroethane	25.0	26.6	106	75 - 120	
1,2-Dichloropropane	25.0	23.5	94	76 - 120	
1,3,5-Trimethylbenzene	25.0	22.4	90	77 - 121	
1,3-Dichlorobenzene	25.0	23.0	92	77 - 120	
1,3-Dichloropropane	25.0	22.6	90	75 - 120	
1,4-Dichlorobenzene	25.0	21.8	87	80 - 120	
1,4-Dioxane	500	343	69	50 - 150	
2,2-Dichloropropane	25.0	23.9	96	63 - 136	
2-Butanone (MEK)	125	126	101	57 - 140	
2-Chloroethyl vinyl ether	25.0	20.4	82	70 - 129	
2-Hexanone	125	130	104	65 - 127	
4-Methyl-2-pentanone (MIBK)	125	123	98	71 - 125	
Acetone	125	141	113	56 - 142	
Acrolein	125	146	117	52 - 143	
Acrylonitrile	250	251	100	63 - 125	
Benzene	25.0	21.8	87	71 - 124	
Bromobenzene	25.0	23.1	93	78 - 120	
Bromochloromethane	25.0	22.6	91	72 - 130	
Bromodichloromethane	25.0	23.6	95	80 - 122	
Bromoform	25.0	23.0	92	61 - 132	
Bromomethane	25.0	22.5	90	55 - 144	
Butyl alcohol, tert-	250	230	92	75 - 125	
Carbon disulfide	25.0	20.1	80	59 - 134	
Carbon tetrachloride	25.0	24.5	98	72 - 134	
Chlorobenzene	25.0	23.9	95	80 - 120	
Chloroethane	25.0	24.5	98	69 - 136	
Chloroform	25.0	22.6	91	73 - 127	
Chloromethane	25.0	24.6	98	68 - 124	
cis-1,2-Dichloroethene	25.0	21.3	85	74 - 124	
cis-1,3-Dichloropropene	25.0	22.1	88	74 - 124	
Cyclohexane	25.0	25.9	104	59 - 135	

Client: Waste Management

Job Number: 280-116946-1

Lab Control Sample - Batch: 480-446526

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-446526/5	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N5984.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/19/2018 2122	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/19/2018 2122				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromochloromethane	25.0	22.9	91	75 - 125	
Dibromomethane	25.0	22.5	90	76 - 127	
Dichlorodifluoromethane	25.0	23.2	93	59 - 135	
Dichlorofluoromethane	25.0	24.6	98	76 - 127	
Ethyl ether	25.0	25.7	103	76 - 123	
Ethylbenzene	25.0	22.8	91	77 - 123	
Hexachlorobutadiene	25.0	26.2	105	68 - 131	
Iodomethane	25.0	22.9	92	78 - 123	
Isobutanol	625	613	98	51 - 150	
Isopropylbenzene	25.0	22.1	89	77 - 122	
Methyl acetate	50.0	47.9	96	74 - 133	
Methyl tert-butyl ether	25.0	22.6	90	77 - 120	
Methylcyclohexane	25.0	23.3	93	68 - 134	
Methylene Chloride	25.0	21.1	84	75 - 124	
m-Xylene & p-Xylene	25.0	23.7	95	76 - 122	
Naphthalene	25.0	20.4	81	66 - 125	
n-Butylbenzene	25.0	22.1	88	71 - 128	
N-Propylbenzene	25.0	21.3	85	75 - 127	
o-Chlorotoluene	25.0	21.0	84	76 - 121	
o-Xylene	25.0	23.0	92	76 - 122	
p-Chlorotoluene	25.0	21.8	87	77 - 121	
p-Cymene	25.0	24.1	96	73 - 120	
sec-Butylbenzene	25.0	22.1	89	74 - 127	
Styrene	25.0	21.7	87	80 - 120	
tert-Butylbenzene	25.0	25.0	100	75 - 123	
Tetrachloroethene	25.0	25.9	104	74 - 122	
Tetrahydrofuran	50.0	43.2	86	62 - 132	
Toluene	25.0	21.7	87	80 - 122	
trans-1,2-Dichloroethene	25.0	21.2	85	73 - 127	
trans-1,3-Dichloropropene	25.0	23.0	92	80 - 120	
trans-1,4-Dichloro-2-butene	25.0	17.7	71	41 - 131	
Trichloroethene	25.0	22.5	90	74 - 123	
Trichlorofluoromethane	25.0	26.4	106	62 - 150	
Vinyl acetate	50.0	48.6	97	50 - 144	
Vinyl chloride	25.0	24.2	97	65 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111	77 - 120
4-Bromofluorobenzene (Surr)	104	73 - 120
Toluene-d8 (Surr)	97	80 - 120

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446526

Method: 8260C
Preparation: 5030C

MS Lab Sample ID: 480-145165-D-6 MS
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/20/2018 0635
Prep Date: 11/20/2018 0635
Leach Date: N/A

Analysis Batch: 480-446526
Prep Batch: N/A
Leach Batch: N/A

Instrument ID: HP5973N
Lab File ID: N6004.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
5 mL

MSD Lab Sample ID: 480-145165-D-6 MSD
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/20/2018 0702
Prep Date: 11/20/2018 0702
Leach Date: N/A

Analysis Batch: 480-446526
Prep Batch: N/A
Leach Batch: N/A

Instrument ID: HP5973N
Lab File ID: N6005.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
5 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1-Trichloroethane	106	112	73 - 126	6	15		
1,1,2,2-Tetrachloroethane	82	85	76 - 120	3	15		
1,1,2-Trichloro-1,2,2-trifluoroethane	92	96	61 - 148	4	20		
1,1,2-Trichloroethane	88	93	76 - 122	5	15		
1,1-Dichloroethane	105	113	77 - 120	7	20		
1,1-Dichloroethene	96	104	66 - 127	9	16		
1,2,4-Trichlorobenzene	96	105	79 - 122	8	20		
1,2-Dibromo-3-Chloropropane	84	90	56 - 134	6	15		
1,2-Dibromoethane (EDB)	91	97	77 - 120	6	15		
1,2-Dichlorobenzene	97	102	80 - 124	5	20		
1,2-Dichloroethane	108	117	75 - 120	8	20		
1,2-Dichloropropane	99	105	76 - 120	6	20		
1,3-Dichlorobenzene	95	100	77 - 120	5	20		
1,4-Dichlorobenzene	93	98	78 - 124	5	20		
2-Butanone (MEK)	98	103	57 - 140	4	20		
2-Hexanone	98	109	65 - 127	11	15		
4-Methyl-2-pentanone (MIBK)	93	104	71 - 125	11	35		
Acetone	97	107	56 - 142	9	15		
Benzene	95	99	71 - 124	5	13		
Bromodichloromethane	96	104	80 - 122	8	15		
Bromoform	79	90	61 - 132	13	15		
Bromomethane	101	102	55 - 144	1	15		
Carbon disulfide	83	87	59 - 134	5	15		
Carbon tetrachloride	110	116	72 - 134	5	15		
Chlorobenzene	97	110	80 - 120	7	25		
Chloroethane	112	110	69 - 136	2	15		
Chloroform	96	103	73 - 127	7	20		
Chloromethane	118	113	68 - 124	4	15		
cis-1,2-Dichloroethene	92	97	74 - 124	5	15		
cis-1,3-Dichloropropene	91	94	74 - 124	4	15		
Cyclohexane	103	112	59 - 135	8	20		
Dibromochloromethane	89	96	75 - 125	8	15		
Dichlorodifluoromethane	97	95	59 - 135	3	20		

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446526

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145165-D-6 MS	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N6004.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0635			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0635				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145165-D-6 MSD	Analysis Batch:	480-446526	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N6005.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 0702			Final Weight/Volume:	5 mL
Prep Date:	11/20/2018 0702				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethylbenzene	95	104	77 - 123	9	15		
Isopropylbenzene	96	102	77 - 122	6	20		
Methyl acetate	91	95	74 - 133	5	20		
Methyl tert-butyl ether	91	97	77 - 120	6	37		
Methylcyclohexane	87	95	68 - 134	8	20		
Methylene Chloride	84	86	75 - 124	3	15		
m-Xylene & p-Xylene	95	106	76 - 122	11	16		
o-Xylene	92	102	76 - 122	10	16		
Styrene	85	95	80 - 120	11	20		
Tetrachloroethene	110	119	74 - 122	8	20		
Toluene	90	99	80 - 122	10	15		
trans-1,2-Dichloroethene	93	97	73 - 127	5	20		
trans-1,3-Dichloropropene	89	94	80 - 120	6	15		
Trichloroethene	99	102	74 - 123	3	16		
Trichlorofluoromethane	121	122	62 - 150	0	20		
Vinyl chloride	116	113	65 - 133	2	15		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110	108	77 - 120
4-Bromofluorobenzene (Surr)	106	105	73 - 120
Toluene-d8 (Surr)	96	98	80 - 120

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446526

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145165-D-6 MS	Units: ug/L	MSD Lab Sample ID:	480-145165-D-6 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/20/2018 0635		Analysis Date:	11/20/2018 0702	
Prep Date:	11/20/2018 0635		Prep Date:	11/20/2018 0702	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
1,1,1-Trichloroethane	ND		25.0	25.0	26.5	28.0
1,1,2,2-Tetrachloroethane	ND		25.0	25.0	20.5	21.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	25.0	22.9	23.9
1,1,2-Trichloroethane	ND		25.0	25.0	22.1	23.2
1,1-Dichloroethane	ND		25.0	25.0	26.4	28.3
1,1-Dichloroethene	ND		25.0	25.0	23.9	26.1
1,2,4-Trichlorobenzene	ND		25.0	25.0	24.1	26.1
1,2-Dibromo-3-Chloropropane	ND		25.0	25.0	21.1	22.4
1,2-Dibromoethane (EDB)	ND		25.0	25.0	22.9	24.2
1,2-Dichlorobenzene	ND		25.0	25.0	24.3	25.5
1,2-Dichloroethane	ND		25.0	25.0	27.0	29.3
1,2-Dichloropropane	ND		25.0	25.0	24.7	26.2
1,3-Dichlorobenzene	ND		25.0	25.0	23.7	25.0
1,4-Dichlorobenzene	ND		25.0	25.0	23.3	24.6
2-Butanone (MEK)	ND		125	125	123	128
2-Hexanone	ND		125	125	122	137
4-Methyl-2-pentanone (MIBK)	ND		125	125	116	130
Acetone	ND		125	125	122	133
Benzene	ND		25.0	25.0	23.6	24.8
Bromodichloromethane	ND		25.0	25.0	23.9	26.0
Bromoform	ND		25.0	25.0	19.8	22.5
Bromomethane	ND		25.0	25.0	25.3	25.5
Carbon disulfide	ND		25.0	25.0	20.8	21.8
Carbon tetrachloride	ND		25.0	25.0	27.5	29.0
Chlorobenzene	24		25.0	25.0	47.9	51.2
Chloroethane	ND		25.0	25.0	27.9	27.5
Chloroform	ND		25.0	25.0	24.0	25.7
Chloromethane	ND		25.0	25.0	29.5	28.4
cis-1,2-Dichloroethene	ND		25.0	25.0	22.9	24.1
cis-1,3-Dichloropropene	ND		25.0	25.0	22.7	23.6
Cyclohexane	ND		25.0	25.0	25.8	28.0
Dibromochloromethane	ND		25.0	25.0	22.2	24.1
Dichlorodifluoromethane	ND		25.0	25.0	24.4	23.7
Ethylbenzene	ND		25.0	25.0	23.8	26.1
Isopropylbenzene	ND		25.0	25.0	24.0	25.5
Methyl acetate	ND		50.0	50.0	45.3	47.7
Methyl tert-butyl ether	ND		25.0	25.0	22.7	24.1
Methylcyclohexane	ND		25.0	25.0	21.8	23.7
Methylene Chloride	0.48	J	25.0	25.0	21.4	22.1
m-Xylene & p-Xylene	ND		25.0	25.0	23.7	26.5
o-Xylene	ND		25.0	25.0	23.0	25.5
Styrene	ND		25.0	25.0	21.2	23.7
Tetrachloroethene	ND		25.0	25.0	27.6	29.8

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-446526

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145165-D-6 MS	Units: ug/L	MSD Lab Sample ID:	480-145165-D-6 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/20/2018 0635		Analysis Date:	11/20/2018 0702	
Prep Date:	11/20/2018 0635		Prep Date:	11/20/2018 0702	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Toluene	ND	25.0	25.0	22.6	24.9
trans-1,2-Dichloroethene	ND	25.0	25.0	23.2	24.3
trans-1,3-Dichloropropene	ND	25.0	25.0	22.1	23.5
Trichloroethene	ND	25.0	25.0	24.9	25.6
Trichlorofluoromethane	ND	25.0	25.0	30.3	30.4
Vinyl chloride	ND	25.0	25.0	29.0	28.3

Method Blank - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-446599/10	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8075.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1244	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1244				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	105	50 - 150
TBA-d9 (Surr)	87	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446599/7	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8072.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1132	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1132				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-446599/8	Analysis Batch:	480-446599	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8073.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/20/2018 1156	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/20/2018 1156				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	85	85	50 - 150	0	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	94	95	50 - 150
TBA-d9 (Surr)	101	88	50 - 150

Client: Waste Management

Job Number: 280-116946-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-446599

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446599/7	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-446599/8
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/20/2018 1132			Analysis Date:	11/20/2018 1156
Prep Date:	11/20/2018 1132			Prep Date:	11/20/2018 1156
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.170	0.170

Client: Waste Management Job Number: 280-116946-1

Method Blank - Batch: 280-437729

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437729/1-A	Analysis Batch:	280-438086	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437729	Lab File ID:	51A111618B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1659	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Calcium, Dissolved	ND		0.035	0.040
Cobalt, Dissolved	ND		0.0012	0.0030
Iron, Dissolved	ND		0.022	0.060
Magnesium, Dissolved	ND		0.011	0.050
Potassium, Dissolved	ND		0.24	1.0
Sodium, Dissolved	ND		0.12	1.0

Lab Control Sample - Batch: 280-437729

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437729/2-A	Analysis Batch:	280-438086	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-437729	Lab File ID:	51A111618B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1702	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Calcium, Dissolved	50.0	47.8	96	90 - 111	
Cobalt, Dissolved	0.500	0.466	93	89 - 111	
Iron, Dissolved	1.00	0.974	97	89 - 115	
Magnesium, Dissolved	50.0	46.6	93	90 - 113	
Potassium, Dissolved	50.0	48.2	96	89 - 114	
Sodium, Dissolved	50.0	50.8	102	90 - 115	

Client: Waste Management Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437729

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID: 280-116946-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/16/2018 1712
Prep Date: 11/16/2018 0937
Leach Date: N/A

Analysis Batch: 280-438086
Prep Batch: 280-437729
Leach Batch: N/A

Instrument ID: MT_051
Lab File ID: 51A111618B.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 280-116946-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/16/2018 1716
Prep Date: 11/16/2018 0937
Leach Date: N/A

Analysis Batch: 280-438086
Prep Batch: 280-437729
Leach Batch: N/A

Instrument ID: MT_051
Lab File ID: 51A111618B.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Calcium, Dissolved	100	89	75 - 125	3	20		
Cobalt, Dissolved	101	98	82 - 119	3	20		
Iron, Dissolved	103	97	75 - 125	3	20		
Magnesium, Dissolved	102	93	75 - 125	3	20		
Potassium, Dissolved	109	99	76 - 125	3	20		
Sodium, Dissolved	115	64	75 - 125	3	20	4	4

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437729

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID: 280-116946-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/16/2018 1712
Prep Date: 11/16/2018 0937
Leach Date: N/A

Units: mg/L

MSD Lab Sample ID: 280-116946-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/16/2018 1716
Prep Date: 11/16/2018 0937
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Calcium, Dissolved	160	50.0	50.0	209		204	
Cobalt, Dissolved	0.0097	0.500	0.500	0.515		0.501	
Iron, Dissolved	0.72	1.00	1.00	1.75		1.70	
Magnesium, Dissolved	110	50.0	50.0	158		153	
Potassium, Dissolved	120	50.0	50.0	170		166	
Sodium, Dissolved	840	50.0	50.0	899	4	873	4

Method Blank - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437667/1-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	173_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2320	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony, Dissolved	ND		0.00040	0.0010
Barium, Dissolved	0.000520	J	0.00029	0.0010
Beryllium, Dissolved	ND		0.000080	0.0010
Cadmium, Dissolved	ND		0.00027	0.00030
Chromium, Dissolved	ND		0.00050	0.0030
Copper, Dissolved	ND		0.00056	0.0020
Lead, Dissolved	ND		0.00018	0.0010
Manganese, Dissolved	0.000532	J	0.00031	0.0010
Nickel, Dissolved	0.000514	J	0.00030	0.0040
Silver, Dissolved	ND		0.000033	0.0020
Thallium, Dissolved	ND		0.000050	0.0010
Vanadium, Dissolved	ND		0.00050	0.0020
Zinc, Dissolved	ND		0.0020	0.0050

Method Blank - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-437667/1-A	Analysis Batch:	280-438701	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	040_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1301	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Selenium, Dissolved	ND		0.00070	0.0010

Client: Waste Management Job Number: 280-116946-1

Lab Control Sample - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437667/2-A	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	174_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2324	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony, Dissolved	0.0400	0.0381	95	80 - 111	
Barium, Dissolved	0.0400	0.0380	95	92 - 117	
Beryllium, Dissolved	0.0400	0.0401	100	87 - 118	
Cadmium, Dissolved	0.0400	0.0384	96	91 - 114	
Chromium, Dissolved	0.0400	0.0389	97	91 - 114	
Copper, Dissolved	0.0400	0.0384	96	89 - 116	
Lead, Dissolved	0.0400	0.0408	102	95 - 116	
Manganese, Dissolved	0.0400	0.0392	98	89 - 119	
Nickel, Dissolved	0.0400	0.0390	98	92 - 116	
Silver, Dissolved	0.0400	0.0405	101	93 - 118	
Thallium, Dissolved	0.0400	0.0407	102	94 - 115	
Vanadium, Dissolved	0.0400	0.0390	97	91 - 114	
Zinc, Dissolved	0.0400	0.0397	99	86 - 120	

Lab Control Sample - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-437667/2-A	Analysis Batch:	280-438701	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	041_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1305	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Selenium, Dissolved	0.0400	0.0377	94	90 - 115	

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-D-1-B MS	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	177SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2334			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-D-1-C MSD	Analysis Batch:	280-438257	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	178SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 2337			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony, Dissolved	104	99	80 - 111	5	20		
Barium, Dissolved	105	107	92 - 117	2	20		
Beryllium, Dissolved	105	105	87 - 118	0	20		
Cadmium, Dissolved	101	100	91 - 114	1	20		
Chromium, Dissolved	102	102	91 - 114	0	20		
Copper, Dissolved	102	102	89 - 116	1	20		
Lead, Dissolved	104	103	95 - 116	1	20		
Manganese, Dissolved	104	102	89 - 119	3	20		
Nickel, Dissolved	100	102	92 - 116	1	20		
Silver, Dissolved	108	104	93 - 118	4	20		
Thallium, Dissolved	106	104	94 - 115	1	20		
Vanadium, Dissolved	104	103	91 - 114	1	20		
Zinc, Dissolved	101	106	86 - 120	5	20		

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-D-1-B MS	Analysis Batch:	280-438701	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	052SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1352			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-D-1-C MSD	Analysis Batch:	280-438701	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-437667	Lab File ID:	053SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 1355			Final Weight/Volume:	50 mL
Prep Date:	11/16/2018 0937				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Selenium, Dissolved	96	97	90 - 115	0	20		

Client: Waste Management Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-D-1-B MS	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/19/2018 2334		
Prep Date:	11/16/2018 0937		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-D-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/19/2018 2337
Prep Date:	11/16/2018 0937
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Antimony, Dissolved	ND		0.0400	0.0400	0.0417	0.0397
Barium, Dissolved	0.0027		0.0400	0.0400	0.0448	0.0455
Beryllium, Dissolved	ND		0.0400	0.0400	0.0420	0.0420
Cadmium, Dissolved	ND		0.0400	0.0400	0.0404	0.0400
Chromium, Dissolved	0.0021	J	0.0400	0.0400	0.0431	0.0429
Copper, Dissolved	ND		0.0400	0.0400	0.0406	0.0410
Lead, Dissolved	ND		0.0400	0.0400	0.0415	0.0411
Manganese, Dissolved	0.00070	J	0.0400	0.0400	0.0425	0.0414
Nickel, Dissolved	ND		0.0400	0.0400	0.0402	0.0407
Silver, Dissolved	ND		0.0400	0.0400	0.0432	0.0416
Thallium, Dissolved	ND		0.0400	0.0400	0.0422	0.0416
Vanadium, Dissolved	0.0036		0.0400	0.0400	0.0452	0.0448
Zinc, Dissolved	0.0020	J	0.0400	0.0400	0.0403	0.0423

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437667

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116888-D-1-B MS	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/23/2018 1352		
Prep Date:	11/16/2018 0937		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116888-D-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/23/2018 1355
Prep Date:	11/16/2018 0937
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Selenium, Dissolved	ND	0.0400	0.0400	0.0385	0.0386

Method Blank - Batch: 280-439224

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-439224/6	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	06.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1449	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chloride	ND		1.0	1.0
Sulfate	ND		1.0	1.0

Method Reporting Limit Check - Batch: 280-439224

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-439224/3	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	03.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1042	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	ND	112	50 - 150	
Sulfate	2.50	ND	106	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439224/4	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	04.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1100	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				
LCSD Lab Sample ID:	LCSD 280-439224/5	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	05.0000.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1431	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	103	102	90 - 110	1	10		
Sulfate	99	103	90 - 110	4	10		

Client: Waste Management

Job Number: 280-116946-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439224/4	Units: mg/L	LCSD Lab Sample ID:	LCSD 280-439224/5	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1100		Analysis Date:	11/29/2018 1431	
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	102
Sulfate	100	100	99.4	103

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116946-1	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	24.0000.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 2227			Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116946-1	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	25.0000.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 2246			Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride	75	55	80 - 120	4	20	4	4
Sulfate	102	105	80 - 120	1	20		

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439224

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116946-1	Units: mg/L	
Client Matrix:	Water		
Dilution:	10		
Analysis Date:	11/29/2018 2227		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116946-1
Client Matrix:	Water
Dilution:	10
Analysis Date:	11/29/2018 2246
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Chloride	1100	250	250	1250	4	1210	4
Sulfate	250	250	250	503		511	

Duplicate - Batch: 280-439224

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-116946-1	Analysis Batch:	280-439224	Instrument ID:	WC_IonChrom8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	23.0000.d
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 2208	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				25 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	1100	1060	0.8	15	
Sulfate	250	235	6	15	

Method Blank - Batch: 280-438773

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-438773/66	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/26/2018 1215	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Ammonia (as N)	ND		0.030	0.030

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438773/64	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/26/2018 1211	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438773/65	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/26/2018 1213	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia (as N)	100	100	90 - 110	1	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438773/64	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/26/2018 1211		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-438773/65
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/26/2018 1213
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia (as N)	2.50	2.50	2.50	2.51

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116925-B-1 MS	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1219			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116925-B-1 MSD	Analysis Batch:	280-438773	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112618.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/26/2018 1221			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	104	104	90 - 110	0	10		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438773

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116925-B-1 MS	Units: mg/L		MSD Lab Sample ID:	280-116925-B-1 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/26/2018 1219			Analysis Date:	11/26/2018 1221
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
Ammonia (as N)	ND	1.00	1.00	1.04	1.04

Client: Waste Management Job Number: 280-116946-1

Method Blank - Batch: 280-438364

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438364/22	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1759	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate/Nitrite	ND		0.050	0.050

Lab Control Sample - Batch: 280-438364

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-438364/21	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1757	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate/Nitrite	5.00	4.85	97	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438364

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	280-116888-B-11 MS	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 1839			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116888-B-11 MSD	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 1841			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate/Nitrite	104	106	90 - 110	2	10		

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438364

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	280-116888-B-11 MS	Units: mg/L	MSD Lab Sample ID:	280-116888-B-11 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/20/2018 1839		Analysis Date:	11/20/2018 1841	
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
Nitrate/Nitrite	ND	4.00	4.00	4.18	4.25

Client: Waste Management

Job Number: 280-116946-1

Method Blank - Batch: 280-438438

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438438/1	Analysis Batch:	280-438438	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 1056	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate as N	ND		0.050	0.050

Client: Waste Management Job Number: 280-116946-1

Method Blank - Batch: 280-438214 **Method: 410.4**
Preparation: N/A

Lab Sample ID:	MB 280-438214/5	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	2 mL
Analysis Date:	11/20/2018 0651	Units:	mg/L	Final Weight/Volume:	2 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chemical Oxygen Demand (COD)	ND		10	10

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438214 **Method: 410.4**
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438214/3	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438214/4	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chemical Oxygen Demand (COD)	105	104	90 - 110	2	11		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438214 **Method: 410.4**
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438214/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-438214/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/20/2018 0651			Analysis Date:	11/20/2018 0651
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
Chemical Oxygen Demand (COD)	100	100	105	104

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438214

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-116742-A-1 MS	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116742-A-1 MSD	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chemical Oxygen Demand (COD)	97	94	90 - 110	2	11		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438214

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-116742-A-3 MS	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116742-A-3 MSD	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chemical Oxygen Demand (COD)	91	95	90 - 110	3	11		

Client: Waste Management Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438214

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-116742-A-1 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/20/2018 0651		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116742-A-1 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/20/2018 0651
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chemical Oxygen Demand (COD)	25	50.0	50.0	73.1	71.8

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438214

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-116742-A-3 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/20/2018 0651		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116742-A-3 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/20/2018 0651
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chemical Oxygen Demand (COD)	13	50.0	50.0	58.4	60.4

Client: Waste Management Job Number: 280-116946-1

Method Blank - Batch: 280-439005 **Method: 410.4**
Preparation: N/A

Lab Sample ID:	MB 280-439005/5	Analysis Batch:	280-439005	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	2 mL
Analysis Date:	11/28/2018 0816	Units:	mg/L	Final Weight/Volume:	2 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chemical Oxygen Demand (COD)	ND		10	10

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439005 **Method: 410.4**
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439005/3	Analysis Batch:	280-439005	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/28/2018 0816	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439005/4	Analysis Batch:	280-439005	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/28/2018 0816	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chemical Oxygen Demand (COD)	91	90	90 - 110	1	11		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439005 **Method: 410.4**
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439005/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439005/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/28/2018 0816			Analysis Date:	11/28/2018 0816
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
Chemical Oxygen Demand (COD)	100	100	91.4	90.1

Client: Waste Management Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439005

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-117354-F-5 MS	Analysis Batch:	280-439005	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/28/2018 0816			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117354-F-5 MSD	Analysis Batch:	280-439005	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/28/2018 0816			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chemical Oxygen Demand (COD)	105	102	90 - 110	3	11		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439005

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-117354-F-5 MS	Units:	mg/L	MSD Lab Sample ID:	280-117354-F-5 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/28/2018 0816			Analysis Date:	11/28/2018 0816
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
Chemical Oxygen Demand (COD)	ND	50.0	50.0	52.7	51.1

Client: Waste Management Job Number: 280-116946-1

Method Blank - Batch: 280-438873

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-438873/31	Analysis Batch:	280-438873	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112618.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/26/2018 1940	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Alkalinity, Total (As CaCO3)	ND		5.0	5.0
Alkalinity, Bicarbonate (As CaCO3)	ND		5.0	5.0

Lab Control Sample - Batch: 280-438873

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-438873/30	Analysis Batch:	280-438873	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112618.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/26/2018 1935	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Alkalinity, Total (As CaCO3)	200	197	98	89 - 109	

Duplicate - Batch: 280-438873

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	280-116925-A-1 DU	Analysis Batch:	280-438873	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112618.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/26/2018 1954	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Alkalinity, Total (As CaCO3)	320	315	0.5	10	

Method Blank - Batch: 280-437898

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-437898/1	Analysis Batch:	280-437898	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/16/2018 1011	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Dissolved Solids (TDS)	ND		5.0	5.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-437898

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-437898/2	Analysis Batch:	280-437898	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/16/2018 1011	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-437898/3	Analysis Batch:	280-437898	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/16/2018 1011	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Dissolved Solids (TDS)	99	99	93 - 110	0	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-437898

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-437898/2	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-437898/3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/16/2018 1011			Analysis Date:	11/16/2018 1011
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
Total Dissolved Solids (TDS)	500	500	494	493

Client: Waste Management

Job Number: 280-116946-1

Duplicate - Batch: 280-437898

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-116946-1	Analysis Batch:	280-437898	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/16/2018 1011	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids (TDS)	3400	3440	1	10	

Method Blank - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-439562/35	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 2116	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Organic Carbon - Average	ND		1.0	1.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439562/33	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 2047	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439562/34	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 2101	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Organic Carbon - Average	106	107	88 - 112	0	15		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439562/33	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439562/34
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/30/2018 2047			Analysis Date:	11/30/2018 2101
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
Total Organic Carbon - Average	25.0	25.0	26.5	26.6

Client: Waste Management

Job Number: 280-116946-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116928-E-3 MS	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0208			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116928-E-3 MSD	Analysis Batch:	280-439562	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	113018B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0223			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	109	110	88 - 112	1	15		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439562

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116928-E-3 MS	Units:	mg/L	MSD Lab Sample ID:	280-116928-E-3 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/01/2018 0208			Analysis Date:	12/01/2018 0223
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
Total Organic Carbon - Average	ND	25.0	25.0	27.2	27.6

Client: Waste Management Job Number: 280-116946-1

Laboratory Chronicle

Lab ID: 280-116946-1 **Client ID: L-INF**

Sample Date/Time: 11/13/2018 11:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116946-E-1		480-446526		11/19/2018 23:50	10	TAL BUF	AMM
A:8260C	280-116946-E-1		480-446526		11/19/2018 23:50	10	TAL BUF	AMM
P:5030C	280-116946-E-1		480-446599		11/20/2018 19:43	10	TAL BUF	RJF
A:8260C SIM	280-116946-E-1		480-446599		11/20/2018 19:43	10	TAL BUF	RJF
P:3005A	280-116946-D-1-B		280-438086	280-437729	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116946-D-1-B		280-438086	280-437729	11/16/2018 17:06	1	TAL DEN	CML
P:3005A	280-116946-D-1-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116946-D-1-A		280-438257	280-437667	11/20/2018 00:42	1	TAL DEN	LMT
P:3005A	280-116946-D-1-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116946-D-1-A		280-438701	280-437667	11/23/2018 13:36	1	TAL DEN	LMT
A:300.0	280-116946-A-1		280-439224		11/29/2018 21:49	10	TAL DEN	A1D
A:350.1	280-116946-B-1		280-438773		11/26/2018 12:53	50	TAL DEN	JAP
A:353.2	280-116946-B-1		280-438364		11/20/2018 19:09	1	TAL DEN	SVC
A:353.2	280-116946-A-1		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:410.4	280-116946-B-1		280-438214		11/20/2018 06:51	5	TAL DEN	LPL
A:SM 2320B	280-116946-A-1		280-438873		11/26/2018 22:16	1	TAL DEN	SGB
A:SM 2540C	280-116946-A-1		280-437898		11/16/2018 10:11	1	TAL DEN	MJS
A:SM 5310B	280-116946-B-1		280-439562		12/01/2018 03:24	3.45	TAL DEN	LPL

Lab ID: 280-116946-1 MS **Client ID: L-INF**

Sample Date/Time: 11/13/2018 11:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116946-D-1-C MS		280-438086	280-437729	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116946-D-1-C MS		280-438086	280-437729	11/16/2018 17:12	1	TAL DEN	CML
A:300.0	280-116946-A-1 MS		280-439224		11/29/2018 22:27	10	TAL DEN	A1D

Lab ID: 280-116946-1 MSD **Client ID: L-INF**

Sample Date/Time: 11/13/2018 11:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116946-D-1-D MSD		280-438086	280-437729	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116946-D-1-D MSD		280-438086	280-437729	11/16/2018 17:16	1	TAL DEN	CML
A:300.0	280-116946-A-1 MSD		280-439224		11/29/2018 22:46	10	TAL DEN	A1D

Client: Waste Management Job Number: 280-116946-1

Laboratory Chronicle

Lab ID: 280-116946-1 DU **Client ID: L-INF**

Sample Date/Time: 11/13/2018 11:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-116946-A-1 DU		280-439224		11/29/2018 22:08	10	TAL DEN	A1D
A:SM 2540C	280-116946-A-1 DU		280-437898		11/16/2018 10:11	1	TAL DEN	MJS

Lab ID: 280-116946-2 **Client ID: OBWL-TD**

Sample Date/Time: 11/13/2018 13:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116946-E-2		480-446526		11/20/2018 00:17	1	TAL BUF	AMM
A:8260C	280-116946-E-2		480-446526		11/20/2018 00:17	1	TAL BUF	AMM
P:5030C	280-116946-E-2		480-446599		11/20/2018 20:07	1	TAL BUF	RJF
A:8260C SIM	280-116946-E-2		480-446599		11/20/2018 20:07	1	TAL BUF	RJF
P:3005A	280-116946-D-2-B		280-438086	280-437729	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	280-116946-D-2-B		280-438086	280-437729	11/16/2018 17:23	1	TAL DEN	CML
P:3005A	280-116946-D-2-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116946-D-2-A		280-438257	280-437667	11/20/2018 00:45	1	TAL DEN	LMT
P:3005A	280-116946-D-2-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116946-D-2-A		280-438701	280-437667	11/23/2018 13:40	1	TAL DEN	LMT
A:300.0	280-116946-A-2		280-439224		11/29/2018 23:04	5	TAL DEN	A1D
A:350.1	280-116946-B-2		280-438773		11/26/2018 12:55	1	TAL DEN	JAP
A:353.2	280-116946-B-2		280-438364		11/20/2018 19:11	1	TAL DEN	SVC
A:353.2	280-116946-A-2		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:410.4	280-116946-B-2		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:SM 2320B	280-116946-A-2		280-438873		11/26/2018 22:22	1	TAL DEN	SGB
A:SM 2540C	280-116946-A-2		280-437898		11/16/2018 10:11	1	TAL DEN	MJS
A:SM 5310B	280-116946-B-2		280-439562		12/01/2018 03:43	1	TAL DEN	LPL

Lab ID: 280-116946-3 **Client ID: TRIP BLANK**

Sample Date/Time: 11/13/2018 00:00 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116946-A-3		480-446526		11/20/2018 00:44	1	TAL BUF	AMM
A:8260C	280-116946-A-3		480-446526		11/20/2018 00:44	1	TAL BUF	AMM

Client: Waste Management Job Number: 280-116946-1

Laboratory Chronicle

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	MB 480-446526/7		480-446526		11/19/2018 22:17	1	TAL BUF	AMM
A:8260C	MB 480-446526/7		480-446526		11/19/2018 22:17	1	TAL BUF	AMM
P:5030C	MB 480-446599/10		480-446599		11/20/2018 12:44	1	TAL BUF	RJF
A:8260C SIM	MB 480-446599/10		480-446599		11/20/2018 12:44	1	TAL BUF	RJF
P:3005A	MB 280-437729/1-A		280-438086	280-437729	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	MB 280-437729/1-A		280-438086	280-437729	11/16/2018 16:59	1	TAL DEN	CML
P:3005A	MB 280-437667/1-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	MB 280-437667/1-A		280-438257	280-437667	11/19/2018 23:20	1	TAL DEN	LMT
P:3005A	MB 280-437667/1-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	MB 280-437667/1-A		280-438701	280-437667	11/23/2018 13:01	1	TAL DEN	LMT
A:300.0	MB 280-439224/6		280-439224		11/29/2018 14:49	1	TAL DEN	A1D
A:350.1	MB 280-438773/66		280-438773		11/26/2018 12:15	1	TAL DEN	JAP
A:353.2	MB 280-438364/22		280-438364		11/20/2018 17:59	1	TAL DEN	SVC
A:353.2	MB 280-438438/1		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:410.4	MB 280-438214/5		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	MB 280-439005/5		280-439005		11/28/2018 08:16	1	TAL DEN	LPL
A:SM 2320B	MB 280-438873/31		280-438873		11/26/2018 19:40	1	TAL DEN	SGB
A:SM 2540C	MB 280-437898/1		280-437898		11/16/2018 10:11	1	TAL DEN	MJS
A:SM 5310B	MB 280-439562/35		280-439562		11/30/2018 21:16	1	TAL DEN	LPL

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCS 480-446526/5		480-446526		11/19/2018 21:22	1	TAL BUF	AMM
A:8260C	LCS 480-446526/5		480-446526		11/19/2018 21:22	1	TAL BUF	AMM
P:5030C	LCS 480-446599/7		480-446599		11/20/2018 11:32	1	TAL BUF	RJF
A:8260C SIM	LCS 480-446599/7		480-446599		11/20/2018 11:32	1	TAL BUF	RJF
P:3005A	LCS 280-437729/2-A		280-438086	280-437729	11/16/2018 09:37	1	TAL DEN	MRJ
A:6010D	LCS 280-437729/2-A		280-438086	280-437729	11/16/2018 17:02	1	TAL DEN	CML
P:3005A	LCS 280-437667/2-A		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	LCS 280-437667/2-A		280-438257	280-437667	11/19/2018 23:24	1	TAL DEN	LMT
P:3005A	LCS 280-437667/2-A		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	LCS 280-437667/2-A		280-438701	280-437667	11/23/2018 13:05	1	TAL DEN	LMT
A:300.0	LCS 280-439224/4		280-439224		11/29/2018 11:00	1	TAL DEN	A1D
A:350.1	LCS 280-438773/64		280-438773		11/26/2018 12:11	1	TAL DEN	JAP
A:353.2	LCS 280-438364/21		280-438364		11/20/2018 17:57	1	TAL DEN	SVC
A:410.4	LCS 280-438214/3		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	LCS 280-439005/3		280-439005		11/28/2018 08:16	1	TAL DEN	LPL
A:SM 2320B	LCS 280-438873/30		280-438873		11/26/2018 19:35	1	TAL DEN	SGB
A:SM 2540C	LCS 280-437898/2		280-437898		11/16/2018 10:11	1	TAL DEN	MJS
A:SM 5310B	LCS 280-439562/33		280-439562		11/30/2018 20:47	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116946-1

Laboratory Chronicle

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCSD 480-446599/8		480-446599		11/20/2018 11:56	1	TAL BUF	RJF
A:8260C SIM	LCSD 480-446599/8		480-446599		11/20/2018 11:56	1	TAL BUF	RJF
A:300.0	LCSD 280-439224/5		280-439224		11/29/2018 14:31	1	TAL DEN	A1D
A:350.1	LCSD 280-438773/65		280-438773		11/26/2018 12:13	1	TAL DEN	JAP
A:410.4	LCSD 280-438214/4		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	LCSD 280-439005/4		280-439005		11/28/2018 08:16	1	TAL DEN	LPL
A:SM 2540C	LCSD 280-437898/3		280-437898		11/16/2018 10:11	1	TAL DEN	MJS
A:SM 5310B	LCSD 280-439562/34		280-439562		11/30/2018 21:01	1	TAL DEN	LPL

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-439224/3		280-439224		11/29/2018 10:42	1	TAL DEN	A1D

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/13/2018 10:20 Received Date/Time: 11/13/2018 15:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145165-D-6 MS		480-446526		11/20/2018 06:35	1	TAL BUF	AMM
A:8260C	480-145165-D-6 MS		480-446526		11/20/2018 06:35	1	TAL BUF	AMM
P:3005A	280-116888-D-1-B MS		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-B MS		280-438257	280-437667	11/19/2018 23:34	1	TAL DEN	LMT
P:3005A	280-116888-D-1-B MS		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-B MS		280-438701	280-437667	11/23/2018 13:52	1	TAL DEN	LMT
A:350.1	280-116925-B-1 MS		280-438773		11/26/2018 12:19	1	TAL DEN	JAP
A:353.2	280-116888-B-11 MS		280-438364		11/20/2018 18:39	1	TAL DEN	SVC
A:410.4	280-116742-A-1 MS		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	280-116742-A-3 MS		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	280-117354-F-5 MS		280-439005		11/28/2018 08:16	1	TAL DEN	LPL
A:SM 5310B	280-116928-E-3 MS		280-439562		12/01/2018 02:08	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116946-1

Laboratory Chronicle

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/13/2018 10:20 Received Date/Time: 11/13/2018 15:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145165-D-6 MSD		480-446526		11/20/2018 07:02	1	TAL BUF	AMM
A:8260C	480-145165-D-6 MSD		480-446526		11/20/2018 07:02	1	TAL BUF	AMM
P:3005A	280-116888-D-1-C MSD		280-438257	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-C MSD		280-438257	280-437667	11/19/2018 23:37	1	TAL DEN	LMT
P:3005A	280-116888-D-1-C MSD		280-438701	280-437667	11/16/2018 09:37	1	TAL DEN	MRJ
A:6020B	280-116888-D-1-C MSD		280-438701	280-437667	11/23/2018 13:55	1	TAL DEN	LMT
A:350.1	280-116925-B-1 MSD		280-438773		11/26/2018 12:21	1	TAL DEN	JAP
A:353.2	280-116888-B-11 MSD		280-438364		11/20/2018 18:41	1	TAL DEN	SVC
A:410.4	280-116742-A-1 MSD		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	280-116742-A-3 MSD		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:410.4	280-117354-F-5 MSD		280-439005		11/28/2018 08:16	1	TAL DEN	LPL
A:SM 5310B	280-116928-E-3 MSD		280-439562		12/01/2018 02:23	1	TAL DEN	LPL

Lab ID: DU **Client ID: N/A**

Sample Date/Time: 11/13/2018 08:20 Received Date/Time: 11/14/2018 11:11

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2320B	280-116925-A-1 DU		280-438873		11/26/2018 19:54	1	TAL DEN	SGB

Lab References:

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 December 2018

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

RE: OVSL

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

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

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

Associated Work Order(s)	Associated SDG ID(s)
18K0248	N/A

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

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

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 18K0248	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 1 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Low level Total Arsenic	Notes/Comments
MW-13B	11/12/18	1147	water	1	X	
MW-34C		1200				
MW-13A		1058				
MW-34A		1100				
MW-36A		1256				
MW-35		1257				
MW-15R		1353				
MW-16		1400				
MW-14C		1448				
Dup 1		1455				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Haltr	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 2 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3 °C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-39	11/12/18	1502	water	1	X	
Dup 2	"	1510	"	"	"	
MW-29A	"	1609	"	"	"	
MW-42	"	1650	"	"	"	
LP-LCD	11/13/18	930	"	"	"	
L-INF	"	1115	leachate	"	"	
OBWL-TD	"	1315	leachate	"	"	
MW-43	11/14/18	953	water	"	"	
MW-32	"	1100	"	"	"	
MW-33A	"	1300	"	"	"	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacobwalter	Printed Name:	Printed Name:
	Company: SCS	Company: ART	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 3 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-33C	11/14/18	1348	water	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-13B	18K0248-01	Water	12-Nov-2018 11:47	16-Nov-2018 11:40
MW-34C	18K0248-02	Water	12-Nov-2018 12:00	16-Nov-2018 11:40
MW-13A	18K0248-03	Water	12-Nov-2018 10:58	16-Nov-2018 11:40
MW-34A	18K0248-04	Water	12-Nov-2018 11:00	16-Nov-2018 11:40
MW-36A	18K0248-05	Water	12-Nov-2018 12:56	16-Nov-2018 11:40
MW-35	18K0248-06	Water	12-Nov-2018 12:57	16-Nov-2018 11:40
MW-15R	18K0248-07	Water	12-Nov-2018 13:53	16-Nov-2018 11:40
MW-16	18K0248-08	Water	12-Nov-2018 14:00	16-Nov-2018 11:40
MW-19C	18K0248-09	Water	12-Nov-2018 14:48	16-Nov-2018 11:40
DUP 1	18K0248-10	Water	12-Nov-2018 14:55	16-Nov-2018 11:40
MW-39	18K0248-11	Water	12-Nov-2018 15:02	16-Nov-2018 11:40
DUP 2	18K0248-12	Water	12-Nov-2018 15:10	16-Nov-2018 11:40
MW-29A	18K0248-13	Water	12-Nov-2018 16:09	16-Nov-2018 11:40
MW-42	18K0248-14	Water	12-Nov-2018 16:50	16-Nov-2018 11:40
LP-LCD	18K0248-15	Water	13-Nov-2018 09:30	16-Nov-2018 11:40
L-INF	18K0248-16	Water	13-Nov-2018 11:15	16-Nov-2018 11:40
OBWL-TD	18K0248-17	Water	13-Nov-2018 13:15	16-Nov-2018 11:40
MW-43	18K0248-18	Water	14-Nov-2018 09:53	16-Nov-2018 11:40
MW-32	18K0248-19	Water	14-Nov-2018 11:00	16-Nov-2018 11:40
MW-33A	18K0248-20	Water	14-Nov-2018 13:00	16-Nov-2018 11:40
MW-33C	18K0248-21	Water	14-Nov-2018 13:48	16-Nov-2018 11:40

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

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 16, 2018 under ARI work order 18K0248. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Arsenic - EPA Method 200.8

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2 fail	
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JDB
Preservation Confirmed By

11/16/18
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SCS Engineers Project Name: OUSL

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18K0248 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 1.3

Time: 1402 1405

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520 6

Cooler Accepted by: SSm Date: 11/16/18 Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		(YES)	NO
What kind of packing material was used? ...	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

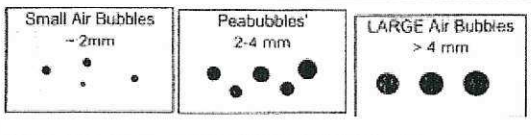
Samples Logged by: JNB Date: 11/16/18 Time: 1433

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2	fail
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JLB
Preservation Confirmed By

11/16/18
Date

preserved DP
11/19/18

Reviewed By

Date

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13B

18K0248-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:47

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000337**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34C

18K0248-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00968**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13A

18K0248-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 10:58

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000189**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34A

18K0248-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:00

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000411**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-36A

18K0248-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:56

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000532**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-35

18K0248-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:57
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000112**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-15R

18K0248-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 13:53

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000193**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-16

18K0248-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000452**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-19C

18K0248-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:48

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00276**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 1

18K0248-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:55
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00281**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-39

18K0248-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:02

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00197**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 2

18K0248-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:10

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00189**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-29A

18K0248-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:09

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00219**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-42

18K0248-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00183**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

LP-LCD

18K0248-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 09:30

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.0102**	mg/L	D

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

L-INF

18K0248-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.00370**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

OBWL-TD

18K0248-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 13:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00584**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-43

18K0248-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 09:53

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	ND	mg/L	U

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-32

18K0248-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 11:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00984**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33A

18K0248-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000607**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33C

18K0248-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:48
Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 — Sample Size: 100 mL
Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00277**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGK0701 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: TCH

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGK0701-BLK1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 18:28							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGK0701-BS1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 19:11							
Arsenic	75a	0.00490	0.0000400	mg/L	0.00500		98.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGL0010 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGL0010-BLK1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:33							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGL0010-BS1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:38							
Arsenic	75a	0.00475	0.0000400	mg/L	0.00500		95.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75b	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
DoD-ELAP DW	DoD-Environmental Laboratory Accreditation - Drinking Water	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the applicable reporting or detection limit.
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.

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

9113 9352 4690

Client Information	Sampler: S.G.	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 9113 9352 4705 / 9113 9352 4727	COC No: 280-29114-4071.1
Client Contact: SCS Dan Vanchiatti	Phone: 425-766-3362	E-Mail: betsy.sara@testamericainc.com		Page: Page 1 of 2
Company: Olympic View Transfer Station SCS Engineers				Job #: 04704027.21
Address: 9300 Southwest Barney White Road 2405 140th Ave NE #107	Due Date Requested: Standard			
City: Bremerton Bellevue	TAT Requested (days):			
State, Zip: WA, 98312 WA 98005				
Phone: 425-294-5455	PO #:			
Email: DVanchiatti@scsengineers.com	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692-Annual OBW-TB/L-INF App I/II -Dec			
Site: Washington	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOA	8260B_SIM - Vinyl chloride	Cl/SO4/Alks/TDS/NO3 (353.2-cad)	Dissolved Metals	Ammonia/NOX/TOC	LL Total Arsenic (direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	D	S	D		
L-INF *	11/13/18	1115	G	W	Y	N	X	X	X	X	X	X	10	short hold: Nitrate (353.2-cad)
OBWL-TD *	↓	1315	G	W	Y	N	X	X	X	X	X	X	10	LL Total As is direct ship to ARI
Trip blank	↓	—	—	W	N	N	X						3	
														* Samples likely reactive

280-116946 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Date/Time	Company		Date/Time	Company
Relinquished by:	11/13/18 1630	SCS	Received by:	11/14/18 0915	TA DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No
Custody Seal No.: 662643, 662641, 662640
Cooler Temperature(s) °C and Other Remarks: 2.1, 4.8 +0.0 IR #5 transferby JO
1.6

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12/06/2018

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-462622.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 280-116946-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 12/3/2018			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692			
Site: WA02|Olympic View Sanitary LF	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	8260C/5030C (MOD) Appendix II Volatiles	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
L-INF (280-116946-1)	11/13/18	11:15 Pacific		Water			X	X	6	
OBWL-TD (280-116946-2)	11/13/18	13:15 Pacific		Water			X	X	6	
TRIP BLANK (280-116946-3)	11/13/18	Pacific		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status 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.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Christina Baca	11.13.18 1408	TAL DEN		11/16/18 1045	TAL.
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.3°,

Ver: 09/20/2016

12/06/2018

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116946-1

Login Number: 116946
List Number: 1
Creator: Quint, Jessica A

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.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116946-1

Login Number: 116946
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 11/16/18 05:25 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3 #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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-116950-1

Job Description: WA02|Olympic View Sanitary LF - Leachate

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/10/2018 1:15 PM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/10/2018

cc: Mr. Dan Venchiarutti

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF - Leachate

Report Number: 280-116950-1

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

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

Sample Receiving

The samples were received on 11/14/2018; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 2.6º C, 3.1º C and 5.8º C.

Holding Times

All holding times were within established control limits.

Trip Blank

Acetone, a common laboratory contaminant, was detected in the trip blank sample at a level below the requested reporting limit. Acetone was also detected in the sample L-INF at a similar level, therefore, the Acetone in this sample is likely due to laboratory artifact.

Method Blanks

The Method 8141A Method Blank exhibited a surrogate recovery of Triphenylphosphate below the lower control limit at 59% (control limits 60%-154%). Because the associated samples surrogate recoveries were within control limits, corrective action was deemed unnecessary.

All other Method Blank recoveries were within established control limits.

Laboratory Control Samples (LCS)

The Method 8270C LCSD recovery for Pronamide was above control limits. Because the data are considered to be biased high and all associated samples were non-detect above the reporting limit for Pronamide, corrective action was deemed unnecessary.

All other Laboratory Control Samples were within established control limits.

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

The method required MS/MSD could not be performed for Method 8081A and Method 8082 due to insufficient sample volume, however, LCS/LCSD pairs were analyzed to demonstrate method precision and accuracy.

The Matrix Spikes and Matrix Spike Duplicates performed on samples from other clients exhibited recoveries outside control limits for Pronamide Method 8270C, Dimethoate Method 8141A, 2,4-D, Dinoseb Method 8151A and Total Cyanide Method 9012A. Because the corresponding Laboratory Control Samples and the Method Blank samples were within control limits, these anomalies may be due to matrix interference and no corrective action was taken.

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

Organics

The prepreserved hydrochloric acid preserved vials for Method 8260B analysis for the sample L-INF exhibited pH values greater than 2. This is non-compliant with Method 8260B which requires samples to be preserved with hydrochloric acid to a pH of less than 2. Because this sample is a leachate sample, a buffering effect was suspected.

Sample L-INF was analyzed at a dilution for Method 8270C due to the nature of the sample matrix. As a result, the reporting limits were elevated.

Kepone is a well-known poor performing compound, and the Method 8081A results for this compound should be considered qualified. The Method 8081A continuing calibration requirement (control limit of ± 15% difference) is not routinely achievable. A similar EPA method (1656) suggests calibration verification recovery limits of 47-134%, and TestAmerica's ICV and CCV results are within those limits.

The samples L-INF and OBWL-TD required a mercury clean-up and a sulfuric acid cleab-up to reduce matrix interferences during Method 8082.

The samples L-INF and OBWL-TD formed emulsions during the Method 8141A extraction procedure.

Sample OBWL-TD was analyzed at a dilution for Method 8151A due to the nature of the sample matrix. As a result, the reporting limits were elevated.

The relative percent differences between the primary and confirmation columns exceeded 40% for the Method 8151A target compound Dinoseb during the analysis of the sample L-INF. Because matrix interference was evident, the lower of the two values was reported and the result was flagged with "p".

The sample OBWL-TD formed emulsions during the Method 8151A extraction procedure.

During Method 8151A pH adjustment, the sample L-INF required 15 mL of 37% KOH base to reach the desired pH. Most samples take less than 10 mL to reach the desired range.

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116950-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116950-1	**L-INF**					
1,4-Dichlorobenzene		0.68	J	1.0	ug/L	8260B
Acetone		11		10	ug/L	8260B
Acetonitrile		90		30	ug/L	8260B
Benzene		0.19	J	1.0	ug/L	8260B
Chlorobenzene		0.34	J	1.0	ug/L	8260B
Dinoseb		20	D p	4.8	ug/L	8151A
Specific Conductivity		6578			umhos/cm	Field Sampling
Dissolved Oxygen		7.04			mg/L	Field Sampling
eH		229.5			millivolts	Field Sampling
Turbidity		10.02			NTU	Field Sampling
Temperature		13.56			Degrees C	Field Sampling
pH		7.22			SU	Field Sampling
Biochemical Oxygen Demand		29	b	13	mg/L	SM5210B
Total Recoverable						
Nickel		0.080		0.0040	mg/L	6010D
280-116950-2	**OBWL-TD**					
Specific Conductivity		243			umhos/cm	Field Sampling
Dissolved Oxygen		6.30			mg/L	Field Sampling
eH		242.0			millivolts	Field Sampling
Turbidity		2.61			NTU	Field Sampling
Temperature		10.43			Degrees C	Field Sampling
pH		6.94			SU	Field Sampling
Biochemical Oxygen Demand		7.2	b	2.5	mg/L	SM5210B
Total Recoverable						
Nickel		0.16		0.0040	mg/L	6010D
280-116950-3TB	**TRIP BLANK**					
Acetone		2.3	J	10	ug/L	8260B

METHOD SUMMARY

Client: Waste Management Job Number: 280-116950-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL DEN	SW846 8260B	
Purge and Trap	TAL DEN		SW846 5030B
Semivolatile Organic Compounds (GC/MS)	TAL DEN	SW846 8270C	
Liquid-Liquid Extraction (Continuous)	TAL DEN		SW846 3520C
Organochlorine Pesticides (GC)	TAL DEN	SW846 8081A	
Liquid-Liquid Extraction (Separatory Funnel)	TAL DEN		SW846 3510C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Liquid-Liquid Extraction (Separatory Funnel)	TAL DEN		SW846 3510C
Organophosphorous Pesticides (GC)	TAL DEN	SW846 8141A	
Liquid-Liquid Extraction (Separatory Funnel)	TAL DEN		SW846 3510C
Herbicides (GC)	TAL DEN	SW846 8151A	
Extraction (Herbicides)	TAL DEN		SW846 8151A
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Mercury (CVAA)	TAL DEN	SW846 7470A	
Preparation, Mercury	TAL DEN		SW846 7470A
Cyanide, Total and/or Amenable	TAL DEN	SW846 9012A	
Cyanide, Total and/or Amenable, Distillation	TAL DEN		SW846 9012A
Sulfide, Acid Soluble and Insoluble (Titrimetric)	TAL DEN	SW846 9034	
Sulfide, Distillation (Acid Soluble and Insoluble)	TAL DEN		SW846 9030B
BOD, 5 Day	TAL DEN	SM SM5210B	
Field Sampling	TAL DEN	EPA Field Sampling	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

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: Waste Management

Job Number: 280-116950-1

Method	Analyst	Analyst ID
SW846 8260B	Dobransky, Michael E	MD
SW846 8270C	Hoefler, Alexandra F	AFH
SW846 8081A	Baca, Tessa E	TEB
SW846 8082	Patadia, Bansari J	BJP
SW846 8141A	Moore, Tegan E	TEM
SW846 8151A	Byl, Amelia M	AMB1
SW846 6010D	Lackey, Cara M	CML
SW846 7470A	Perry, Tara H	THP
EPA Field Sampling	Suporn, Arisa 1	A1S
SW846 9012A	Allen, Andrew J	AJA
SW846 9034	Citrone, Elias	EC
SM SM5210B	Moser, Angela R	ARM

SAMPLE SUMMARY

Client: Waste Management

Job Number: 280-116950-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-116950-1	L-INF	Water	11/13/2018 1115	11/14/2018 0915
280-116950-2	OBWL-TD	Water	11/13/2018 1315	11/14/2018 0915
280-116950-3TB	TRIP BLANK	Water	11/13/2018 0000	11/14/2018 0915

SAMPLE RESULTS

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1
Client Matrix: Water

Date Sampled: 11/13/2018 1115
Date Received: 11/14/2018 0915

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	MS9_8157.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1203			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1203				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.21	1.0
1,1,1-Trichloroethane	ND		0.16	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.22	1.0
1,1-Dichloroethene	ND		0.23	1.0
1,1-Dichloropropene	ND		0.19	1.0
1,2,3-Trichloropropane	ND		0.33	2.5
1,2,4-Trichlorobenzene	ND		0.21	1.0
1,2-Dibromo-3-Chloropropane	ND		0.47	5.0
1,2-Dibromoethane	ND		0.18	1.0
1,2-Dichlorobenzene	ND		0.15	1.0
1,2-Dichloroethane	ND		0.13	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3-Dichlorobenzene	ND		0.13	1.0
1,3-Dichloropropane	ND		0.22	1.0
1,4-Dichlorobenzene	0.68	J	0.16	1.0
2,2-Dichloropropane	ND		0.18	1.0
2-Butanone (MEK)	ND		2.0	6.0
2-Hexanone	ND		1.7	5.0
Acetone	11		1.9	10
Acetonitrile	90		9.6	30
Acrolein	ND		2.8	20
Acrylonitrile	ND		1.4	20
Allyl chloride	ND		0.17	2.0
Benzene	0.19	J	0.16	1.0
Bromochloromethane	ND		0.10	1.0
Bromodichloromethane	ND		0.17	1.0
Bromoform	ND		0.19	1.0
Bromomethane	ND		0.21	2.0
Carbon disulfide	ND		0.45	2.0
Carbon tetrachloride	ND		0.19	1.0
Chlorobenzene	0.34	J	0.17	1.0
Chloroethane	ND		0.41	2.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	2.0
Chloroprene	ND		0.21	1.0
cis-1,2-Dichloroethene	ND		0.15	1.0
cis-1,3-Dichloropropene	ND		0.16	1.0
Dibromochloromethane	ND		0.17	1.0
Dibromomethane	ND		0.17	1.0
Dichlorodifluoromethane	ND		0.31	2.0
Ethyl methacrylate	ND		0.86	3.0
Ethylbenzene	ND		0.16	1.0
Iodomethane	ND		0.23	1.0
Isobutyl alcohol	ND		37	110

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: L-INF

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	MS9_8157.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1203			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1203				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methacrylonitrile	ND		1.6	10
Methyl isobutyl ketone (MIBK)	ND		0.98	5.0
Methyl methacrylate	ND		1.1	4.0
Methylene Chloride	ND		0.32	2.0
Naphthalene	ND		0.22	1.0
Propionitrile	ND		3.7	20
Styrene	ND		0.17	1.0
Tetrachloroethene	ND		0.20	1.0
Toluene	ND		0.17	1.0
trans-1,2-Dichloroethene	ND		0.15	1.0
trans-1,3-Dichloropropene	ND		0.19	3.0
trans-1,4-Dichloro-2-butene	ND		0.80	3.0
Trichloroethene	ND		0.16	1.0
Trichlorofluoromethane	ND		0.29	2.0
Vinyl acetate	ND		0.94	3.0
Vinyl chloride	ND		0.10	1.0
Xylenes (total)	ND		0.19	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 127
4-Bromofluorobenzene (Surr)	93		78 - 120
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	95		80 - 125

Client: Waste Management | Job Number: 280-116950-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2 | Date Sampled: 11/13/2018 1315
Client Matrix: Water | Date Received: 11/14/2018 0915

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	MS9_8156.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1142			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1142				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.21	1.0
1,1,1-Trichloroethane	ND		0.16	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.22	1.0
1,1-Dichloroethene	ND		0.23	1.0
1,1-Dichloropropene	ND		0.19	1.0
1,2,3-Trichloropropane	ND		0.33	2.5
1,2,4-Trichlorobenzene	ND		0.21	1.0
1,2-Dibromo-3-Chloropropane	ND		0.47	5.0
1,2-Dibromoethane	ND		0.18	1.0
1,2-Dichlorobenzene	ND		0.15	1.0
1,2-Dichloroethane	ND		0.13	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3-Dichlorobenzene	ND		0.13	1.0
1,3-Dichloropropane	ND		0.22	1.0
1,4-Dichlorobenzene	ND		0.16	1.0
2,2-Dichloropropane	ND		0.18	1.0
2-Butanone (MEK)	ND		2.0	6.0
2-Hexanone	ND		1.7	5.0
Acetone	ND		1.9	10
Acetonitrile	ND		9.6	30
Acrolein	ND		2.8	20
Acrylonitrile	ND		1.4	20
Allyl chloride	ND		0.17	2.0
Benzene	ND		0.16	1.0
Bromochloromethane	ND		0.10	1.0
Bromodichloromethane	ND		0.17	1.0
Bromoform	ND		0.19	1.0
Bromomethane	ND		0.21	2.0
Carbon disulfide	ND		0.45	2.0
Carbon tetrachloride	ND		0.19	1.0
Chlorobenzene	ND		0.17	1.0
Chloroethane	ND		0.41	2.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	2.0
Chloroprene	ND		0.21	1.0
cis-1,2-Dichloroethene	ND		0.15	1.0
cis-1,3-Dichloropropene	ND		0.16	1.0
Dibromochloromethane	ND		0.17	1.0
Dibromomethane	ND		0.17	1.0
Dichlorodifluoromethane	ND		0.31	2.0
Ethyl methacrylate	ND		0.86	3.0
Ethylbenzene	ND		0.16	1.0
Iodomethane	ND		0.23	1.0
Isobutyl alcohol	ND		37	110

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: OBWL-TD

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	MS9_8156.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1142			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1142				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methacrylonitrile	ND		1.6	10
Methyl isobutyl ketone (MIBK)	ND		0.98	5.0
Methyl methacrylate	ND		1.1	4.0
Methylene Chloride	ND		0.32	2.0
Naphthalene	ND		0.22	1.0
Propionitrile	ND		3.7	20
Styrene	ND		0.17	1.0
Tetrachloroethene	ND		0.20	1.0
Toluene	ND		0.17	1.0
trans-1,2-Dichloroethene	ND		0.15	1.0
trans-1,3-Dichloropropene	ND		0.19	3.0
trans-1,4-Dichloro-2-butene	ND		0.80	3.0
Trichloroethene	ND		0.16	1.0
Trichlorofluoromethane	ND		0.29	2.0
Vinyl acetate	ND		0.94	3.0
Vinyl chloride	ND		0.10	1.0
Xylenes (total)	ND		0.19	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	93		78 - 120
Dibromofluoromethane (Surr)	92		77 - 120
Toluene-d8 (Surr)	96		80 - 125

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116950-3TB Date Sampled: 11/13/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	MS9_8155.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1120			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1120				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.21	1.0
1,1,1-Trichloroethane	ND		0.16	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.22	1.0
1,1-Dichloroethene	ND		0.23	1.0
1,1-Dichloropropene	ND		0.19	1.0
1,2,3-Trichloropropane	ND		0.33	2.5
1,2,4-Trichlorobenzene	ND		0.21	1.0
1,2-Dibromo-3-Chloropropane	ND		0.47	5.0
1,2-Dibromoethane	ND		0.18	1.0
1,2-Dichlorobenzene	ND		0.15	1.0
1,2-Dichloroethane	ND		0.13	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3-Dichlorobenzene	ND		0.13	1.0
1,3-Dichloropropane	ND		0.22	1.0
1,4-Dichlorobenzene	ND		0.16	1.0
2,2-Dichloropropane	ND		0.18	1.0
2-Butanone (MEK)	ND		2.0	6.0
2-Hexanone	ND		1.7	5.0
Acetone	2.3	J	1.9	10
Acetonitrile	ND		9.6	30
Acrolein	ND		2.8	20
Acrylonitrile	ND		1.4	20
Allyl chloride	ND		0.17	2.0
Benzene	ND		0.16	1.0
Bromochloromethane	ND		0.10	1.0
Bromodichloromethane	ND		0.17	1.0
Bromoform	ND		0.19	1.0
Bromomethane	ND		0.21	2.0
Carbon disulfide	ND		0.45	2.0
Carbon tetrachloride	ND		0.19	1.0
Chlorobenzene	ND		0.17	1.0
Chloroethane	ND		0.41	2.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	2.0
Chloroprene	ND		0.21	1.0
cis-1,2-Dichloroethene	ND		0.15	1.0
cis-1,3-Dichloropropene	ND		0.16	1.0
Dibromochloromethane	ND		0.17	1.0
Dibromomethane	ND		0.17	1.0
Dichlorodifluoromethane	ND		0.31	2.0
Ethyl methacrylate	ND		0.86	3.0
Ethylbenzene	ND		0.16	1.0
Iodomethane	ND		0.23	1.0
Isobutyl alcohol	ND		37	110

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116950-3TB Date Sampled: 11/13/2018 0000
Client Matrix: Water Date Received: 11/14/2018 0915

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	MS9_8155.D
Dilution:	1.0			Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1120			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1120				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methacrylonitrile	ND		1.6	10
Methyl isobutyl ketone (MIBK)	ND		0.98	5.0
Methyl methacrylate	ND		1.1	4.0
Methylene Chloride	ND		0.32	2.0
Naphthalene	ND		0.22	1.0
Propionitrile	ND		3.7	20
Styrene	ND		0.17	1.0
Tetrachloroethene	ND		0.20	1.0
Toluene	ND		0.17	1.0
trans-1,2-Dichloroethene	ND		0.15	1.0
trans-1,3-Dichloropropene	ND		0.19	3.0
trans-1,4-Dichloro-2-butene	ND		0.80	3.0
Trichloroethene	ND		0.16	1.0
Trichlorofluoromethane	ND		0.29	2.0
Vinyl acetate	ND		0.94	3.0
Vinyl chloride	ND		0.10	1.0
Xylenes (total)	ND		0.19	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 127
4-Bromofluorobenzene (Surr)	95		78 - 120
Dibromofluoromethane (Surr)	92		77 - 120
Toluene-d8 (Surr)	98		80 - 125

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Prep Method:	3520C	Prep Batch:	280-437863	Lab File ID:	D30365.D
Dilution:	4.0			Initial Weight/Volume:	1016.4 mL
Analysis Date:	11/22/2018 0224			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL	RL
1,2,4,5-Tetrachlorobenzene	ND		39	39
1,3,5-Trinitrobenzene	ND		200	200
1,3-Dinitrobenzene	ND		39	39
1,4-Naphthoquinone	ND		200	200
1-Naphthylamine	ND		39	39
2,2'-oxybis(1-chloropropane)	ND		39	39
2,3,4,6-Tetrachlorophenol	ND		200	200
2,4,5-Trichlorophenol	ND		39	39
2,4,6-Trichlorophenol	ND		39	39
2,4-Dichlorophenol	ND		39	39
2,4-Dimethylphenol	ND		39	39
2,4-Dinitrophenol	ND		120	120
2,4-Dinitrotoluene	ND		39	39
2,6-Dichlorophenol	ND		39	39
2,6-Dinitrotoluene	ND		39	39
2-Acetylaminofluorene	ND		390	390
2-Chloronaphthalene	ND		16	16
2-Chlorophenol	ND		39	39
2-Methylnaphthalene	ND		16	16
2-Methylphenol	ND		39	39
2-Naphthylamine	ND		39	39
2-Nitroaniline	ND		39	39
2-Nitrophenol	ND		39	39
3,3'-Dichlorobenzidine	ND		200	200
3-Methylcholanthrene	ND		79	79
3-Methylphenol & 4-Methylphenol	ND		39	39
3-Nitroaniline	ND		39	39
4,6-Dinitro-2-methylphenol	ND		200	200
4-Aminobiphenyl	ND		200	200
4-Bromophenyl phenyl ether	ND		39	39
4-Chloro-3-methylphenol	ND		39	39
4-Chloroaniline	ND		39	39
4-Chlorophenyl phenyl ether	ND		39	39
4-Dimethylaminoazobenzene	ND		79	79
4-Nitroaniline	ND		39	39
4-Nitrophenol	ND		39	39
5-Nitro-o-toluidine	ND		79	79
7,12-Dimethylbenz(a)anthracene	ND		79	79
Acenaphthene	ND		16	16
Acenaphthylene	ND		16	16
Acetophenone	ND		39	39
Anthracene	ND		16	16
Benz(a)anthracene	ND		16	16
Benzo(a)pyrene	ND		16	16
Benzo(b)fluoranthene	ND		16	16
Benzo(ghi)perylene	ND		16	16

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Prep Method:	3520C	Prep Batch:	280-437863	Lab File ID:	D30365.D
Dilution:	4.0			Initial Weight/Volume:	1016.4 mL
Analysis Date:	11/22/2018 0224			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL	RL
Benzo(k)fluoranthene	ND		16	16
Benzyl alcohol	ND		39	39
Bis(2-chloroethoxy)methane	ND		39	39
bis(2-Chloroethyl) ether	ND		39	39
Bis(2-ethylhexyl) phthalate	ND		39	39
Butyl benzyl phthalate	ND		16	16
Chlorobenzilate	ND		39	39
Chrysene	ND		16	16
Diallate	ND		22	22
Dibenz(a,h)anthracene	ND		16	16
Dibenzofuran	ND		16	16
Diethyl phthalate	ND		16	16
Dimethyl phthalate	ND		16	16
Di-n-butyl phthalate	ND		16	16
Di-n-octyl phthalate	ND		16	16
Diphenylamine	ND		39	39
Ethyl methanesulfonate	ND		39	39
Famphur	ND		390	390
Fluoranthene	ND		16	16
Fluorene	ND		16	16
Hexachlorobenzene	ND		39	39
Hexachlorobutadiene	ND		39	39
Hexachlorocyclopentadiene	ND		200	200
Hexachloroethane	ND		39	39
Hexachloropropene	ND		390	390
Indeno(1,2,3-cd)pyrene	ND		16	16
Isodrin	ND		39	39
Isophorone	ND		39	39
Isosafrole	ND		14	14
Methapyrilene	ND		200	200
Methyl methanesulfonate	ND		39	39
Methyl parathion	ND		200	200
Nitrobenzene	ND		39	39
N-Nitrosodiethylamine	ND		39	39
N-Nitrosodimethylamine	ND		39	39
N-Nitrosodi-n-butylamine	ND		39	39
N-Nitrosodi-n-propylamine	ND		39	39
N-Nitrosodiphenylamine	ND		39	39
N-Nitrosomethylethylamine	ND		39	39
N-Nitrosopiperidine	ND		39	39
N-Nitrosopyrrolidine	ND		39	39
O,O,O-Triethyl phosphorothioate	ND		200	200
o-Toluidine	ND		39	39
Parathion	ND		200	200
Pentachlorobenzene	ND		39	39
Pentachloronitrobenzene	ND		200	200

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: L-INF

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Prep Method:	3520C	Prep Batch:	280-437863	Lab File ID:	D30365.D
Dilution:	4.0			Initial Weight/Volume:	1016.4 mL
Analysis Date:	11/22/2018 0224			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL	RL
Pentachlorophenol	ND		200	200
Phenacetin	ND		79	79
Phenanthrene	ND		16	16
Phenol	ND		39	39
p-Phenylene diamine	ND		390	390
Pronamide	ND	*	79	79
Pyrene	ND		39	39
Safrole	ND		79	79

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol	92	D	48 - 135
2-Fluorobiphenyl	83	D	48 - 135
2-Fluorophenol	92	D	41 - 135
Nitrobenzene-d5	92	D	42 - 135
Phenol-d5	95	D	46 - 135
Terphenyl-d14	73	D	20 - 135

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Prep Method:	3520C	Prep Batch:	280-437863	Lab File ID:	D30366.D
Dilution:	1.0			Initial Weight/Volume:	1051.4 mL
Analysis Date:	11/22/2018 0253			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL	RL
1,2,4,5-Tetrachlorobenzene	ND		9.5	9.5
1,3,5-Trinitrobenzene	ND		48	48
1,3-Dinitrobenzene	ND		9.5	9.5
1,4-Naphthoquinone	ND		48	48
1-Naphthylamine	ND		9.5	9.5
2,2'-oxybis(1-chloropropane)	ND		9.5	9.5
2,3,4,6-Tetrachlorophenol	ND		48	48
2,4,5-Trichlorophenol	ND		9.5	9.5
2,4,6-Trichlorophenol	ND		9.5	9.5
2,4-Dichlorophenol	ND		9.5	9.5
2,4-Dimethylphenol	ND		9.5	9.5
2,4-Dinitrophenol	ND		29	29
2,4-Dinitrotoluene	ND		9.5	9.5
2,6-Dichlorophenol	ND		9.5	9.5
2,6-Dinitrotoluene	ND		9.5	9.5
2-Acetylaminofluorene	ND		95	95
2-Chloronaphthalene	ND		3.8	3.8
2-Chlorophenol	ND		9.5	9.5
2-Methylnaphthalene	ND		3.8	3.8
2-Methylphenol	ND		9.5	9.5
2-Naphthylamine	ND		9.5	9.5
2-Nitroaniline	ND		9.5	9.5
2-Nitrophenol	ND		9.5	9.5
3,3'-Dichlorobenzidine	ND		48	48
3-Methylcholanthrene	ND		19	19
3-Methylphenol & 4-Methylphenol	ND		9.5	9.5
3-Nitroaniline	ND		9.5	9.5
4,6-Dinitro-2-methylphenol	ND		48	48
4-Aminobiphenyl	ND		48	48
4-Bromophenyl phenyl ether	ND		9.5	9.5
4-Chloro-3-methylphenol	ND		9.5	9.5
4-Chloroaniline	ND		9.5	9.5
4-Chlorophenyl phenyl ether	ND		9.5	9.5
4-Dimethylaminoazobenzene	ND		19	19
4-Nitroaniline	ND		9.5	9.5
4-Nitrophenol	ND		9.5	9.5
5-Nitro-o-toluidine	ND		19	19
7,12-Dimethylbenz(a)anthracene	ND		19	19
Acenaphthene	ND		3.8	3.8
Acenaphthylene	ND		3.8	3.8
Acetophenone	ND		9.5	9.5
Anthracene	ND		3.8	3.8
Benz(a)anthracene	ND		3.8	3.8
Benzo(a)pyrene	ND		3.8	3.8
Benzo(b)fluoranthene	ND		3.8	3.8
Benzo(ghi)perylene	ND		3.8	3.8

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: OBWL-TD

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Prep Method:	3520C	Prep Batch:	280-437863	Lab File ID:	D30366.D
Dilution:	1.0			Initial Weight/Volume:	1051.4 mL
Analysis Date:	11/22/2018 0253			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL	RL
Benzo(k)fluoranthene	ND		3.8	3.8
Benzyl alcohol	ND		9.5	9.5
Bis(2-chloroethoxy)methane	ND		9.5	9.5
bis(2-Chloroethyl) ether	ND		9.5	9.5
Bis(2-ethylhexyl) phthalate	ND		9.5	9.5
Butyl benzyl phthalate	ND		3.8	3.8
Chlorobenzilate	ND		9.5	9.5
Chrysene	ND		3.8	3.8
Diallate	ND		5.3	5.3
Dibenz(a,h)anthracene	ND		3.8	3.8
Dibenzofuran	ND		3.8	3.8
Diethyl phthalate	ND		3.8	3.8
Dimethyl phthalate	ND		3.8	3.8
Di-n-butyl phthalate	ND		3.8	3.8
Di-n-octyl phthalate	ND		3.8	3.8
Diphenylamine	ND		9.5	9.5
Ethyl methanesulfonate	ND		9.5	9.5
Famphur	ND		95	95
Fluoranthene	ND		3.8	3.8
Fluorene	ND		3.8	3.8
Hexachlorobenzene	ND		9.5	9.5
Hexachlorobutadiene	ND		9.5	9.5
Hexachlorocyclopentadiene	ND		48	48
Hexachloroethane	ND		9.5	9.5
Hexachloropropene	ND		95	95
Indeno(1,2,3-cd)pyrene	ND		3.8	3.8
Isodrin	ND		9.5	9.5
Isophorone	ND		9.5	9.5
Isosafrole	ND		3.3	3.3
Methapyrilene	ND		48	48
Methyl methanesulfonate	ND		9.5	9.5
Methyl parathion	ND		48	48
Nitrobenzene	ND		9.5	9.5
N-Nitrosodiethylamine	ND		9.5	9.5
N-Nitrosodimethylamine	ND		9.5	9.5
N-Nitrosodi-n-butylamine	ND		9.5	9.5
N-Nitrosodi-n-propylamine	ND		9.5	9.5
N-Nitrosodiphenylamine	ND		9.5	9.5
N-Nitrosomethylethylamine	ND		9.5	9.5
N-Nitrosopiperidine	ND		9.5	9.5
N-Nitrosopyrrolidine	ND		9.5	9.5
O,O,O-Triethyl phosphorothioate	ND		48	48
o-Toluidine	ND		9.5	9.5
Parathion	ND		48	48
Pentachlorobenzene	ND		9.5	9.5
Pentachloronitrobenzene	ND		48	48

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: OBWL-TD

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Prep Method:	3520C	Prep Batch:	280-437863	Lab File ID:	D30366.D
Dilution:	1.0			Initial Weight/Volume:	1051.4 mL
Analysis Date:	11/22/2018 0253			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL	RL
Pentachlorophenol	ND		48	48
Phenacetin	ND		19	19
Phenanthrene	ND		3.8	3.8
Phenol	ND		9.5	9.5
p-Phenylene diamine	ND		95	95
Pronamide	ND	*	19	19
Pyrene	ND		9.5	9.5
Safrole	ND		19	19

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol	93		48 - 135
2-Fluorobiphenyl	83		48 - 135
2-Fluorophenol	76		41 - 135
Nitrobenzene-d5	79		42 - 135
Phenol-d5	80		46 - 135
Terphenyl-d14	74		20 - 135

Client: Waste Management | Job Number: 280-116950-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1 | Date Sampled: 11/13/2018 1115
Client Matrix: Water | Date Received: 11/14/2018 0915

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-439818	Instrument ID:	SGC_P2
Prep Method:	3510C	Prep Batch:	280-437871	Initial Weight/Volume:	1039.2 mL
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	12/04/2018 1746			Injection Volume:	1 uL
Prep Date:	11/16/2018 1031			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
4,4'-DDD	ND		0.048	0.048
4,4'-DDE	ND		0.048	0.048
4,4'-DDT	ND		0.048	0.048
Aldrin	ND		0.048	0.048
alpha-BHC	ND		0.048	0.048
beta-BHC	ND		0.048	0.048
delta-BHC	ND		0.048	0.048
gamma-BHC (Lindane)	ND		0.048	0.048
cis-Chlordane	ND		0.048	0.048
Technical Chlordane	ND		0.48	0.48
Dieldrin	ND		0.048	0.048
Endrin	ND		0.048	0.048
Endosulfan I	ND		0.048	0.048
Endosulfan II	ND		0.048	0.048
Endosulfan sulfate	ND		0.048	0.048
Endrin aldehyde	ND		0.048	0.048
Heptachlor	ND		0.048	0.048
Heptachlor epoxide	ND		0.048	0.048
Kepone	ND		0.96	0.96
Methoxychlor	ND		0.096	0.096
trans-Chlordane	ND		0.048	0.048
Toxaphene	ND		1.9	1.9

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	63		28 - 115
DCB Decachlorobiphenyl	52		34 - 122

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8081A Organochlorine Pesticides (GC)

Analysis Method:	8081A	Analysis Batch:	280-439818	Instrument ID:	SGC_P2
Prep Method:	3510C	Prep Batch:	280-437871	Initial Weight/Volume:	1052 mL
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	12/04/2018 1804			Injection Volume:	1 uL
Prep Date:	11/16/2018 1031			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
4,4'-DDD	ND		0.048	0.048
4,4'-DDE	ND		0.048	0.048
4,4'-DDT	ND		0.048	0.048
Aldrin	ND		0.048	0.048
alpha-BHC	ND		0.048	0.048
beta-BHC	ND		0.048	0.048
delta-BHC	ND		0.048	0.048
gamma-BHC (Lindane)	ND		0.048	0.048
cis-Chlordane	ND		0.048	0.048
Technical Chlordane	ND		0.48	0.48
Dieldrin	ND		0.048	0.048
Endrin	ND		0.048	0.048
Endosulfan I	ND		0.048	0.048
Endosulfan II	ND		0.048	0.048
Endosulfan sulfate	ND		0.048	0.048
Endrin aldehyde	ND		0.048	0.048
Heptachlor	ND		0.048	0.048
Heptachlor epoxide	ND		0.048	0.048
Kepone	ND		0.95	0.95
Methoxychlor	ND		0.095	0.095
trans-Chlordane	ND		0.048	0.048
Toxaphene	ND		1.9	1.9

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	71		28 - 115
DCB Decachlorobiphenyl	59		34 - 122

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1
Client Matrix: Water

Date Sampled: 11/13/2018 1115
Date Received: 11/14/2018 0915

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-439465	Instrument ID:	SGC_J
Prep Method:	3510C	Prep Batch:	280-438524	Initial Weight/Volume:	1046.2 mL
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	11/30/2018 1814			Injection Volume:	1 uL
Prep Date:	11/22/2018 1110			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
Aroclor 1016	ND		0.96	0.96
Aroclor 1221	ND		0.96	0.96
Aroclor 1232	ND		0.96	0.96
Aroclor 1242	ND		0.96	0.96
Aroclor 1248	ND		0.96	0.96
Aroclor 1254	ND		0.96	0.96
Aroclor 1260	ND		0.96	0.96

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	52		30 - 136
Tetrachloro-m-xylene	74		25 - 120

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: OBWL-TD

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-439465	Instrument ID:	SGC_J
Prep Method:	3510C	Prep Batch:	280-438524	Initial Weight/Volume:	1056.2 mL
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	11/30/2018 1835			Injection Volume:	1 uL
Prep Date:	11/22/2018 1110			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
Aroclor 1016	ND		0.95	0.95
Aroclor 1221	ND		0.95	0.95
Aroclor 1232	ND		0.95	0.95
Aroclor 1242	ND		0.95	0.95
Aroclor 1248	ND		0.95	0.95
Aroclor 1254	ND		0.95	0.95
Aroclor 1260	ND		0.95	0.95

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	68		30 - 136
Tetrachloro-m-xylene	94		25 - 120

Client: Waste Management Job Number: 280-116950-1

Client Sample ID: L-INF

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

8141A Organophosphorous Pesticides (GC)

Analysis Method:	8141A	Analysis Batch:	280-438619	Instrument ID:	SGC_D
Prep Method:	3510C	Prep Batch:	280-437759	Initial Weight/Volume:	1050.3 mL
Dilution:	1.0			Final Weight/Volume:	2 mL
Analysis Date:	11/24/2018 0548			Injection Volume:	1 uL
Prep Date:	11/15/2018 1155			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
Dimethoate	ND		1.4	1.4
Disulfoton	ND		0.95	0.95
Phorate	ND		1.1	1.1
Thionazin	ND		0.95	0.95

Surrogate	%Rec	Qualifier	Acceptance Limits
Chlormefos	49		49 - 171
Triphenylphosphate	63		60 - 154

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2
Client Matrix: Water

Date Sampled: 11/13/2018 1315
Date Received: 11/14/2018 0915

8141A Organophosphorous Pesticides (GC)

Analysis Method:	8141A	Analysis Batch:	280-438619	Instrument ID:	SGC_D
Prep Method:	3510C	Prep Batch:	280-437759	Initial Weight/Volume:	1052 mL
Dilution:	1.0			Final Weight/Volume:	2 mL
Analysis Date:	11/24/2018 0628			Injection Volume:	1 uL
Prep Date:	11/15/2018 1155			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
Dimethoate	ND		1.4	1.4
Disulfoton	ND		0.95	0.95
Phorate	ND		1.1	1.1
Thionazin	ND		0.95	0.95

Surrogate	%Rec	Qualifier	Acceptance Limits
Chlormefos	57		49 - 171
Triphenylphosphate	63		60 - 154

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1
Client Matrix: Water

Date Sampled: 11/13/2018 1115
Date Received: 11/14/2018 0915

8151A Herbicides (GC)

Analysis Method:	8151A	Analysis Batch:	280-438450	Instrument ID:	SGC_M
Prep Method:	8151A	Prep Batch:	280-437686	Initial Weight/Volume:	1047.1 mL
Dilution:	5.0			Final Weight/Volume:	10 mL
Analysis Date:	11/21/2018 1714			Injection Volume:	1 uL
Prep Date:	11/15/2018 0820			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
2,4-D	ND	D	19	19
Dinoseb	20	D p	4.8	4.8
2,4,5-T	ND	D	4.8	4.8
2,4,5-TP (Silvex)	ND	D	4.8	4.8

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	62	D	39 - 135

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2
Client Matrix: Water

Date Sampled: 11/13/2018 1315
Date Received: 11/14/2018 0915

8151A Herbicides (GC)

Analysis Method:	8151A	Analysis Batch:	280-438450	Instrument ID:	SGC_M
Prep Method:	8151A	Prep Batch:	280-437686	Initial Weight/Volume:	1051.1 mL
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	11/21/2018 1730			Injection Volume:	1 uL
Prep Date:	11/15/2018 0820			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL	RL
2,4-D	ND		3.8	3.8
Dinoseb	ND		0.95	0.95
2,4,5-T	ND		0.95	0.95
2,4,5-TP (Silvex)	ND		0.95	0.95

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	83		39 - 135

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1
Client Matrix: Water

Date Sampled: 11/13/2018 1115
Date Received: 11/14/2018 0915

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2051			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Nickel	0.080		0.0026	0.0040

Analyte	Result (ug/L)	Qualifier	MDL	RL
Tin	ND		5.8	100

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	280-438631	Instrument ID:	MT_034
Prep Method:	7470A	Prep Batch:	280-438551	Lab File ID:	181123bb.txt
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	11/23/2018 2150			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1230				

Analyte	Result (mg/L)	Qualifier	RL	RL
Mercury	ND		0.00020	0.00020

Client: Waste Management

Job Number: 280-116950-1

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2
Client Matrix: Water

Date Sampled: 11/13/2018 1315
Date Received: 11/14/2018 0915

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2055			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Nickel	0.16		0.0026	0.0040

Analyte	Result (ug/L)	Qualifier	MDL	RL
Tin	ND		5.8	100

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	280-438631	Instrument ID:	MT_034
Prep Method:	7470A	Prep Batch:	280-438551	Lab File ID:	181123bb.txt
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	11/23/2018 2153			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1230				

Analyte	Result (mg/L)	Qualifier	RL	RL
Mercury	ND		0.00020	0.00020

General Chemistry

Client Sample ID: L-INF

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Cyanide, Total	ND		mg/L	0.010	0.010	1.0	9012A
Analysis Batch: 280-438452	Analysis Date: 11/21/2018 1105						
Prep Batch: 280-438264	Prep Date: 11/20/2018 1020						
Total Sulfide	ND		mg/L	4.0	4.0	1.0	9034
Analysis Batch: 280-437839	Analysis Date: 11/15/2018 2221						
Prep Batch: 280-437815	Prep Date: 11/15/2018 1656						
Biochemical Oxygen Demand	29	b	mg/L	13	13	5.0	SM5210B
Analysis Batch: 280-437619	Analysis Date: 11/14/2018 1610						

General Chemistry

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Cyanide, Total	ND		mg/L	0.010	0.010	1.0	9012A
Analysis Batch: 280-438452	Analysis Date: 11/21/2018 1146						
Prep Batch: 280-438294	Prep Date: 11/20/2018 1310						
Total Sulfide	ND		mg/L	4.0	4.0	1.0	9034
Analysis Batch: 280-437839	Analysis Date: 11/15/2018 2221						
Prep Batch: 280-437815	Prep Date: 11/15/2018 1656						
Biochemical Oxygen Demand	7.2	b	mg/L	2.5	2.5	1.0	SM5210B
Analysis Batch: 280-437619	Analysis Date: 11/14/2018 1610						

Field Service / Mobile Lab

Client Sample ID: **L-INF**

Lab Sample ID: 280-116950-1 Date Sampled: 11/13/2018 1115
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Specific Conductivity	6578		umhos/cm	1.0	Field Sampling	280-438054	11/13/2018 1215
Dissolved Oxygen	7.04		mg/L	1.0	Field Sampling	280-438054	11/13/2018 1215
eH	229.5		millivolts	1.0	Field Sampling	280-438054	11/13/2018 1215
Turbidity	10.02		NTU	1.0	Field Sampling	280-438054	11/13/2018 1215
Temperature	13.56		Degrees C	1.0	Field Sampling	280-438054	11/13/2018 1215
pH	7.22		SU	1.0	Field Sampling	280-438054	11/13/2018 1215

Field Service / Mobile Lab

Client Sample ID: **OBWL-TD**

Lab Sample ID: 280-116950-2 Date Sampled: 11/13/2018 1315
Client Matrix: Water Date Received: 11/14/2018 0915

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Specific Conductivity	243		umhos/cm	1.0	Field Sampling	280-438054	11/13/2018 1415
Dissolved Oxygen	6.30		mg/L	1.0	Field Sampling	280-438054	11/13/2018 1415
eH	242.0		millivolts	1.0	Field Sampling	280-438054	11/13/2018 1415
Turbidity	2.61		NTU	1.0	Field Sampling	280-438054	11/13/2018 1415
Temperature	10.43		Degrees C	1.0	Field Sampling	280-438054	11/13/2018 1415
pH	6.94		SU	1.0	Field Sampling	280-438054	11/13/2018 1415

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-116950-1

Lab Section	Qualifier	Description
GC/MS VOA		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC/MS Semi VOA		
	*	LCS or LCSD is outside acceptance limits.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
GC Semi VOA		
	F1	MS and/or MSD Recovery is outside acceptance limits.
	D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
	X	Surrogate is outside control limits
	p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
General Chemistry		
	F1	MS and/or MSD Recovery is outside acceptance limits.
	b	Result Detected in the Unseeded Control blank (USB).

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-116950-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:280-438534					
LCS 280-438534/10	Lab Control Sample	T	Water	8260B	
LCS 280-438534/5	Lab Control Sample	T	Water	8260B	
LCSD 280-438534/11	Lab Control Sample Duplicate	T	Water	8260B	
MB 280-438534/4	Method Blank	T	Water	8260B	
280-116928-G-5 MS	Matrix Spike	T	Water	8260B	
280-116928-G-5 MSD	Matrix Spike Duplicate	T	Water	8260B	
280-116950-1	L-INF	T	Water	8260B	
280-116950-2	OBWL-TD	T	Water	8260B	
280-116950-3TB	TRIP BLANK	T	Water	8260B	

Report Basis
T = Total

GC/MS Semi VOA					
Prep Batch: 280-437863					
LCS 280-437863/2-A	Lab Control Sample	T	Water	3520C	
LCS 280-437863/4-A	Lab Control Sample	T	Water	3520C	
LCSD 280-437863/3-A	Lab Control Sample Duplicate	T	Water	3520C	
LCSD 280-437863/5-A	Lab Control Sample Duplicate	T	Water	3520C	
MB 280-437863/1-A	Method Blank	T	Water	3520C	
280-116885-AH-5-A MS	Matrix Spike	T	Water	3520C	
280-116885-I-5-A MS	Matrix Spike	T	Water	3520C	
280-116885-H-5-B MSD	Matrix Spike Duplicate	T	Water	3520C	
280-116885-J-5-C MSD	Matrix Spike Duplicate	T	Water	3520C	
280-116950-1	L-INF	T	Water	3520C	
280-116950-2	OBWL-TD	T	Water	3520C	
Analysis Batch:280-438465					
LCS 280-437863/2-A	Lab Control Sample	T	Water	8270C	280-437863
LCS 280-437863/4-A	Lab Control Sample	T	Water	8270C	280-437863
LCSD 280-437863/3-A	Lab Control Sample Duplicate	T	Water	8270C	280-437863
LCSD 280-437863/5-A	Lab Control Sample Duplicate	T	Water	8270C	280-437863
MB 280-437863/1-A	Method Blank	T	Water	8270C	280-437863
280-116885-AH-5-A MS	Matrix Spike	T	Water	8270C	280-437863
280-116885-I-5-A MS	Matrix Spike	T	Water	8270C	280-437863
280-116885-H-5-B MSD	Matrix Spike Duplicate	T	Water	8270C	280-437863
280-116885-J-5-C MSD	Matrix Spike Duplicate	T	Water	8270C	280-437863
280-116950-1	L-INF	T	Water	8270C	280-437863
280-116950-2	OBWL-TD	T	Water	8270C	280-437863

Report Basis
T = Total

Client: Waste Management Job Number: 280-116950-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-437686					
LCS 280-437686/2-A	Lab Control Sample	T	Water	8151A	
MB 280-437686/1-A	Method Blank	T	Water	8151A	
280-116910-E-1-B MS	Matrix Spike	T	Water	8151A	
280-116910-E-1-C MSD	Matrix Spike Duplicate	T	Water	8151A	
280-116950-1	L-INF	T	Water	8151A	
280-116950-2	OBWL-TD	T	Water	8151A	
Prep Batch: 280-437759					
LCS 280-437759/2-A	Lab Control Sample	T	Water	3510C	
MB 280-437759/1-A	Method Blank	T	Water	3510C	
280-116910-A-1-A MS	Matrix Spike	T	Water	3510C	
280-116910-A-1-B MSD	Matrix Spike Duplicate	T	Water	3510C	
280-116950-1	L-INF	T	Water	3510C	
280-116950-2	OBWL-TD	T	Water	3510C	
Prep Batch: 280-437871					
LCS 280-437871/4-A	Lab Control Sample	T	Water	3510C	
LCSD 280-437871/5-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 280-437871/1-A	Method Blank	T	Water	3510C	
280-116950-1	L-INF	T	Water	3510C	
280-116950-2	OBWL-TD	T	Water	3510C	
Analysis Batch:280-438286					
LCS 280-437686/2-A	Lab Control Sample	T	Water	8151A	280-437686
MB 280-437686/1-A	Method Blank	T	Water	8151A	280-437686
280-116910-E-1-B MS	Matrix Spike	T	Water	8151A	280-437686
280-116910-E-1-C MSD	Matrix Spike Duplicate	T	Water	8151A	280-437686
Analysis Batch:280-438450					
280-116950-1	L-INF	T	Water	8151A	280-437686
280-116950-2	OBWL-TD	T	Water	8151A	280-437686
Prep Batch: 280-438524					
LCS 280-438524/4-A	Lab Control Sample	T	Water	3510C	
LCSD 280-438524/5-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 280-438524/1-A	Method Blank	T	Water	3510C	
280-116950-1	L-INF	T	Water	3510C	
280-116950-2	OBWL-TD	T	Water	3510C	

Client: Waste Management Job Number: 280-116950-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Analysis Batch:280-438619					
LCS 280-437759/2-A	Lab Control Sample	T	Water	8141A	280-437759
MB 280-437759/1-A	Method Blank	T	Water	8141A	280-437759
280-116910-A-1-A MS	Matrix Spike	T	Water	8141A	280-437759
280-116910-A-1-B MSD	Matrix Spike Duplicate	T	Water	8141A	280-437759
280-116950-1	L-INF	T	Water	8141A	280-437759
280-116950-2	OBWL-TD	T	Water	8141A	280-437759
Analysis Batch:280-439465					
LCS 280-438524/4-A	Lab Control Sample	T	Water	8082	280-438524
LCSD 280-438524/5-A	Lab Control Sample Duplicate	T	Water	8082	280-438524
MB 280-438524/1-A	Method Blank	T	Water	8082	280-438524
280-116950-1	L-INF	T	Water	8082	280-438524
280-116950-2	OBWL-TD	T	Water	8082	280-438524
Analysis Batch:280-439818					
LCS 280-437871/4-A	Lab Control Sample	T	Water	8081A	280-437871
LCSD 280-437871/5-A	Lab Control Sample Duplicate	T	Water	8081A	280-437871
MB 280-437871/1-A	Method Blank	T	Water	8081A	280-437871
280-116950-1	L-INF	T	Water	8081A	280-437871
280-116950-2	OBWL-TD	T	Water	8081A	280-437871

Report Basis
T = Total

Client: Waste Management Job Number: 280-116950-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-438411					
LCS 280-438411/2-A	Lab Control Sample	R	Water	3005A	
MB 280-438411/1-A	Method Blank	R	Water	3005A	
280-116950-1	L-INF	R	Water	3005A	
280-116950-2	OBWL-TD	R	Water	3005A	
280-117014-D-1-B MS	Matrix Spike	R	Water	3005A	
280-117014-D-1-C MSD	Matrix Spike Duplicate	R	Water	3005A	
Prep Batch: 280-438551					
LCS 280-438551/2-A	Lab Control Sample	T	Water	7470A	
MB 280-438551/1-A	Method Blank	T	Water	7470A	
280-116950-1	L-INF	T	Water	7470A	
280-116950-2	OBWL-TD	T	Water	7470A	
280-117038-D-2-D MS	Matrix Spike	T	Water	7470A	
280-117038-D-2-E MSD	Matrix Spike Duplicate	T	Water	7470A	
Analysis Batch:280-438631					
LCS 280-438551/2-A	Lab Control Sample	T	Water	7470A	280-438551
MB 280-438551/1-A	Method Blank	T	Water	7470A	280-438551
280-116950-1	L-INF	T	Water	7470A	280-438551
280-116950-2	OBWL-TD	T	Water	7470A	280-438551
280-117038-D-2-D MS	Matrix Spike	T	Water	7470A	280-438551
280-117038-D-2-E MSD	Matrix Spike Duplicate	T	Water	7470A	280-438551
Analysis Batch:280-438709					
LCS 280-438411/2-A	Lab Control Sample	R	Water	6010D	280-438411
MB 280-438411/1-A	Method Blank	R	Water	6010D	280-438411
280-116950-1	L-INF	R	Water	6010D	280-438411
280-116950-2	OBWL-TD	R	Water	6010D	280-438411
280-117014-D-1-B MS	Matrix Spike	R	Water	6010D	280-438411
280-117014-D-1-C MSD	Matrix Spike Duplicate	R	Water	6010D	280-438411

Report Basis
R = Total Recoverable
T = Total

Field Service / Mobile Lab

Analysis Batch:280-438054					
280-116950-1	L-INF	T	Water	Field Sampling	
280-116950-2	OBWL-TD	T	Water	Field Sampling	

Report Basis
T = Total

TestAmerica Denver

Client: Waste Management Job Number: 280-116950-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-437619					
LCS 280-437619/3	Lab Control Sample	T	Water	SM5210B	
MB 280-437619/4	Method Blank	T	Water	SM5210B	
SCB 280-437619/1	Seeded Control Blank	T	Water	SM5210B	
USB 280-437619/2	Unseeded Control Blank	T	Water	SM5210B	
280-116950-1	L-INF	T	Water	SM5210B	
280-116950-2	OBWL-TD	T	Water	SM5210B	
280-116950-2DU	Duplicate	T	Water	SM5210B	
Prep Batch: 280-437815					
LCS 280-437815/2-A	Lab Control Sample	T	Water	9030B	
MB 280-437815/1-A	Method Blank	T	Water	9030B	
280-116950-1	L-INF	T	Water	9030B	
280-116950-2	OBWL-TD	T	Water	9030B	
280-116950-2MS	Matrix Spike	T	Water	9030B	
280-116950-2MSD	Matrix Spike Duplicate	T	Water	9030B	
Analysis Batch:280-437839					
LCS 280-437815/2-A	Lab Control Sample	T	Water	9034	280-437815
MB 280-437815/1-A	Method Blank	T	Water	9034	280-437815
280-116950-1	L-INF	T	Water	9034	280-437815
280-116950-2	OBWL-TD	T	Water	9034	280-437815
280-116950-2MS	Matrix Spike	T	Water	9034	280-437815
280-116950-2MSD	Matrix Spike Duplicate	T	Water	9034	280-437815
Prep Batch: 280-438264					
HLCS 280-438264/1-A	High Level Control Sample	T	Water	9012A	
LCS 280-438264/3-A	Lab Control Sample	T	Water	9012A	
LCSD 280-438264/4-A	Lab Control Sample Duplicate	T	Water	9012A	
LLCS 280-438264/2-A	Low Level Control Sample	T	Water	9012A	
MB 280-438264/5-A	Method Blank	T	Water	9012A	
280-116892-L-2-B MS	Matrix Spike	T	Water	9012A	
280-116892-L-2-C MSD	Matrix Spike Duplicate	T	Water	9012A	
280-116950-1	L-INF	T	Water	9012A	
Prep Batch: 280-438294					
HLCS 280-438294/1-A	High Level Control Sample	T	Water	9012A	
LCS 280-438294/3-A	Lab Control Sample	T	Water	9012A	
LLCS 280-438294/2-A	Low Level Control Sample	T	Water	9012A	
MB 280-438294/4-A	Method Blank	T	Water	9012A	
280-116950-2	OBWL-TD	T	Water	9012A	
280-117016-J-1-B MS	Matrix Spike	T	Water	9012A	
280-117016-J-1-C MSD	Matrix Spike Duplicate	T	Water	9012A	

Client: Waste Management Job Number: 280-116950-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-438452					
HLCS 280-438264/1-A	High Level Control Sample	T	Water	9012A	280-438264
LCS 280-438264/3-A	Lab Control Sample	T	Water	9012A	280-438264
LCSD 280-438264/4-A	Lab Control Sample Duplicate	T	Water	9012A	280-438264
LLCS 280-438264/2-A	Low Level Control Sample	T	Water	9012A	280-438264
MB 280-438264/5-A	Method Blank	T	Water	9012A	280-438264
HLCS 280-438294/1-A	High Level Control Sample	T	Water	9012A	280-438294
LCS 280-438294/3-A	Lab Control Sample	T	Water	9012A	280-438294
LLCS 280-438294/2-A	Low Level Control Sample	T	Water	9012A	280-438294
MB 280-438294/4-A	Method Blank	T	Water	9012A	280-438294
280-116892-L-2-B MS	Matrix Spike	T	Water	9012A	280-438264
280-116892-L-2-C MSD	Matrix Spike Duplicate	T	Water	9012A	280-438264
280-116950-1	L-INF	T	Water	9012A	280-438264
280-116950-2	OBWL-TD	T	Water	9012A	280-438294
280-117016-J-1-B MS	Matrix Spike	T	Water	9012A	280-438294
280-117016-J-1-C MSD	Matrix Spike Duplicate	T	Water	9012A	280-438294

Report Basis
T = Total

Client: Waste Management

Job Number: 280-116950-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	DBFM %Rec	TOL %Rec
280-116950-1	L-INF	103	93	95	95
280-116950-2	OBWL-TD	95	93	92	96
280-116950-3	TRIP BLANK	97	95	92	98
MB 280-438534/4		95	95	93	94
LCS 280-438534/5		91	93	91	94
LCS 280-438534/10		95	97	93	96
LCSD 280-438534/11		96	94	92	94
280-116928-G-5 MS		101	91	94	96
280-116928-G-5 MSD		100	93	95	96

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
BFB = 4-Bromofluorobenzene (Surr)	78-120
DBFM = Dibromofluoromethane (Surr)	77-120
TOL = Toluene-d8 (Surr)	80-125

Surrogate Recovery Report

8270C Semivolatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	TBP %Rec	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPHL %Rec
280-116950-1	L-INF	92D	83D	92D	92D	95D	73D
280-116950-2	OBWL-TD	93	83	76	79	80	74
MB 280-437863/1-A		81	83	79	78	78	88
LCS 280-437863/2-A		85	82	76	76	77	82
LCS 280-437863/4-A		85	77	76	76	78	86
LCSD 280-437863/3-A		91	85	81	83	84	89
LCSD 280-437863/5-A		91	79	68	68	73	92
280-116885-I-5-A MS		86	80	81	79	81	77
280-116885-AH-5-A MS		93	85	81	79	87	89
280-116885-J-5-C MSD		91	87	83	82	82	83
280-116885-H-5-B MSD		93	86	84	84	88	87

Surrogate	Acceptance Limits
TBP = 2,4,6-Tribromophenol	48-135
FBP = 2-Fluorobiphenyl	48-135
2FP = 2-Fluorophenol	41-135
NBZ = Nitrobenzene-d5	42-135
PHL = Phenol-d5	46-135
TPHL = Terphenyl-d14	20-135

Client: Waste Management

Job Number: 280-116950-1

Surrogate Recovery Report

8081A Organochlorine Pesticides (GC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	TCX1 %Rec	DCBP1 %Rec
280-116950-1	L-INF	63	52
280-116950-2	OBWL-TD	71	59
MB 280-437871/1-A		69	89
LCS 280-437871/4-A		78	104
LCSD 280-437871/5-A		76	108

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	28-115
DCBP = DCB Decachlorobiphenyl	34-122

Client: Waste Management

Job Number: 280-116950-1

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCBP1 %Rec	TCX1 %Rec
280-116950-1	L-INF	52	74
280-116950-2	OBWL-TD	68	94
MB 280-438524/1-A		90	78
LCS 280-438524/4-A		99	82
LCSD 280-438524/5-A		96	80

Surrogate	Acceptance Limits
DCBP = DCB Decachlorobiphenyl	30-136
TCX = Tetrachloro-m-xylene	25-120

Client: Waste Management

Job Number: 280-116950-1

Surrogate Recovery Report

8141A Organophosphorous Pesticides (GC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	CMF1 %Rec	TPP1 %Rec	TPP2 %Rec
280-116950-1	L-INF	49	63	
280-116950-2	OBWL-TD	57	63	
MB 280-437759/1-A		75	59X	
LCS 280-437759/2-A		91	77	
280-116910-A-1-A MS		82		91
280-116910-A-1-B MSD		75		78

Surrogate	Acceptance Limits
CMF = Chlormefos	49-171
TPP = Triphenylphosphate	60-154

Surrogate Recovery Report

8151A Herbicides (GC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCPAA1 %Rec
280-116950-1	L-INF	62D
280-116950-2	OBWL-TD	83
MB 280-437686/1-A		77
LCS 280-437686/2-A		77
280-116910-E-1-B MS		78
280-116910-E-1-C MSD		76

Surrogate	Acceptance Limits
DCPAA = 2,4-Dichlorophenylacetic acid	39-135

Client: Waste Management Job Number: 280-116950-1

Method Blank - Batch: 280-438534

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-438534/4	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8146.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 0732	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 0732				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.21	1.0
1,1,1-Trichloroethane	ND		0.16	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.22	1.0
1,1-Dichloroethene	ND		0.23	1.0
1,1-Dichloropropene	ND		0.19	1.0
1,2,3-Trichloropropane	ND		0.33	2.5
1,2,4-Trichlorobenzene	ND		0.21	1.0
1,2-Dibromo-3-Chloropropane	ND		0.47	5.0
1,2-Dibromoethane	ND		0.18	1.0
1,2-Dichlorobenzene	ND		0.15	1.0
1,2-Dichloroethane	ND		0.13	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3-Dichlorobenzene	ND		0.13	1.0
1,3-Dichloropropane	ND		0.22	1.0
1,4-Dichlorobenzene	ND		0.16	1.0
2,2-Dichloropropane	ND		0.18	1.0
2-Butanone (MEK)	ND		2.0	6.0
2-Hexanone	ND		1.7	5.0
Acetone	ND		1.9	10
Acetonitrile	ND		9.6	30
Acrolein	ND		2.8	20
Acrylonitrile	ND		1.4	20
Allyl chloride	ND		0.17	2.0
Benzene	ND		0.16	1.0
Bromochloromethane	ND		0.10	1.0
Bromodichloromethane	ND		0.17	1.0
Bromoform	ND		0.19	1.0
Bromomethane	ND		0.21	2.0
Carbon disulfide	ND		0.45	2.0
Carbon tetrachloride	ND		0.19	1.0
Chlorobenzene	ND		0.17	1.0
Chloroethane	ND		0.41	2.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	2.0
Chloroprene	ND		0.21	1.0
cis-1,2-Dichloroethene	ND		0.15	1.0
cis-1,3-Dichloropropene	ND		0.16	1.0
Dibromochloromethane	ND		0.17	1.0
Dibromomethane	ND		0.17	1.0
Dichlorodifluoromethane	ND		0.31	2.0
Ethyl methacrylate	ND		0.86	3.0
Ethylbenzene	ND		0.16	1.0
Iodomethane	ND		0.23	1.0

Client: Waste Management

Job Number: 280-116950-1

Method Blank - Batch: 280-438534

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-438534/4	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8146.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 0732	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 0732				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Isobutyl alcohol	ND		37	110
Methacrylonitrile	ND		1.6	10
Methyl isobutyl ketone (MIBK)	ND		0.98	5.0
Methyl methacrylate	ND		1.1	4.0
Methylene Chloride	ND		0.32	2.0
Naphthalene	ND		0.22	1.0
Propionitrile	ND		3.7	20
Styrene	ND		0.17	1.0
Tetrachloroethene	ND		0.20	1.0
Toluene	ND		0.17	1.0
trans-1,2-Dichloroethene	ND		0.15	1.0
trans-1,3-Dichloropropene	ND		0.19	3.0
trans-1,4-Dichloro-2-butene	ND		0.80	3.0
Trichloroethene	ND		0.16	1.0
Trichlorofluoromethane	ND		0.29	2.0
Vinyl acetate	ND		0.94	3.0
Vinyl chloride	ND		0.10	1.0
Xylenes (total)	ND		0.19	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	70 - 127
4-Bromofluorobenzene (Surr)	95	78 - 120
Dibromofluoromethane (Surr)	93	77 - 120
Toluene-d8 (Surr)	94	80 - 125

Client: Waste Management

Job Number: 280-116950-1

Lab Control Sample - Batch: 280-438534

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 280-438534/5	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8145.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 0704	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 0704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	5.00	4.50	90	65 - 135	
1,1,1-Trichloroethane	5.00	4.86	97	65 - 135	
1,1,2,2-Tetrachloroethane	5.00	4.30	86	58 - 135	
1,1,2-Trichloroethane	5.00	4.66	93	64 - 135	
1,1-Dichloroethane	5.00	4.83	97	65 - 135	
1,1-Dichloroethene	5.00	4.67	93	65 - 136	
1,1-Dichloropropene	5.00	4.90	98	65 - 135	
1,2,3-Trichloropropane	5.00	4.49	90	65 - 135	
1,2,4-Trichlorobenzene	5.00	4.56	91	58 - 135	
1,2-Dibromo-3-Chloropropane	5.00	3.76	75	57 - 135	J
1,2-Dibromoethane	5.00	4.23	85	65 - 135	
1,2-Dichlorobenzene	5.00	4.64	93	65 - 135	
1,2-Dichloroethane	5.00	4.69	94	65 - 135	
1,2-Dichloropropane	5.00	4.83	97	64 - 135	
1,3-Dichlorobenzene	5.00	4.76	95	65 - 135	
1,3-Dichloropropane	5.00	4.43	89	64 - 135	
1,4-Dichlorobenzene	5.00	4.75	95	65 - 135	
2,2-Dichloropropane	5.00	4.89	98	65 - 135	
2-Butanone (MEK)	20.0	16.9	84	44 - 177	
2-Hexanone	20.0	16.7	84	57 - 139	
Acetone	20.0	19.0	95	39 - 156	
Acrolein	50.0	38.9	78	36 - 147	
Acrylonitrile	50.0	42.6	85	56 - 135	
Allyl chloride	5.00	5.18	104	50 - 135	
Benzene	5.00	4.65	93	65 - 135	
Bromochloromethane	5.00	4.44	89	65 - 135	
Bromodichloromethane	5.00	4.59	92	65 - 135	
Bromoform	5.00	4.26	85	62 - 135	
Bromomethane	5.00	4.79	96	45 - 135	
Carbon disulfide	5.00	4.69	94	55 - 143	
Carbon tetrachloride	5.00	4.93	99	65 - 135	
Chlorobenzene	5.00	4.68	94	65 - 135	
Chloroethane	5.00	5.26	105	46 - 136	
Chloroform	5.00	4.70	94	65 - 135	
Chloromethane	5.00	5.53	111	34 - 145	
cis-1,2-Dichloroethene	5.00	4.46	89	65 - 135	
cis-1,3-Dichloropropene	5.00	4.51	90	65 - 135	
Dibromochloromethane	5.00	4.29	86	65 - 135	
Dibromomethane	5.00	4.51	90	65 - 135	
Dichlorodifluoromethane	5.00	4.01	80	43 - 142	
Ethyl methacrylate	5.00	3.70	74	50 - 135	
Ethylbenzene	5.00	4.64	93	65 - 135	
Iodomethane	5.00	4.95	99	65 - 142	
Isobutyl alcohol	125	154	124	55 - 135	
Methyl isobutyl ketone (MIBK)	20.0	16.7	83	60 - 150	
Methylene Chloride	5.00	4.47	89	54 - 141	

Client: Waste Management

Job Number: 280-116950-1

Lab Control Sample - Batch: 280-438534

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 280-438534/5	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8145.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 0704	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 0704				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Naphthalene	5.00	3.85	77	42 - 135	
Styrene	5.00	4.22	84	65 - 135	
Tetrachloroethene	5.00	4.88	98	65 - 135	
Toluene	5.00	4.93	99	65 - 135	
trans-1,2-Dichloroethene	5.00	4.89	98	65 - 135	
trans-1,3-Dichloropropene	5.00	4.32	86	65 - 135	
trans-1,4-Dichloro-2-butene	5.00	4.49	90	53 - 135	
Trichloroethene	5.00	4.89	98	65 - 135	
Trichlorofluoromethane	5.00	5.14	103	53 - 137	
Vinyl acetate	10.0	8.23	82	11 - 187	
Vinyl chloride	5.00	5.12	102	40 - 137	
Xylenes (total)	10.0	9.22	92	65 - 135	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91	70 - 127
4-Bromofluorobenzene (Surr)	93	78 - 120
Dibromofluoromethane (Surr)	91	77 - 120
Toluene-d8 (Surr)	94	80 - 125

Client: Waste Management Job Number: 280-116950-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438534

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 280-438534/10	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8147.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 0754	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 0754				20 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438534/11	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8148.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 0816	Units:	ug/L	Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 0816				20 mL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Acetonitrile	113	107	50 - 150	5	30		
Chloroprene	114	104	50 - 150	9	30		
Methacrylonitrile	103	101	50 - 150	1	30		
Methyl methacrylate	85	87	50 - 150	2	30		
Propionitrile	95	91	50 - 150	4	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	96	70 - 127
4-Bromofluorobenzene (Surr)	97	94	78 - 120
Dibromofluoromethane (Surr)	93	92	77 - 120
Toluene-d8 (Surr)	96	94	80 - 125

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438534

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 280-438534/10	Units:	ug/L	LCSD Lab Sample ID:	LCSD 280-438534/11
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/23/2018 0754			Analysis Date:	11/23/2018 0816
Prep Date:	11/23/2018 0754			Prep Date:	11/23/2018 0816
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Acetonitrile	50.0	50.0	56.5	53.6
Chloroprene	5.00	5.00	5.68	5.20
Methacrylonitrile	50.0	50.0	51.4	50.6
Methyl methacrylate	10.0	10.0	8.50	8.71
Propionitrile	50.0	50.0	47.4	45.7

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438534

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-116928-G-5 MS	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8158.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1225			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1225				20 mL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116928-G-5 MSD	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8159.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1247			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1247				20 mL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1,2-Tetrachloroethane	99	95	65 - 135	4	20		
1,1,1-Trichloroethane	105	102	65 - 135	3	20		
1,1,2,2-Tetrachloroethane	88	90	58 - 135	2	20		
1,1,2-Trichloroethane	96	94	64 - 135	2	27		
1,1-Dichloroethane	101	101	65 - 135	0	21		
1,1-Dichloroethene	96	96	65 - 136	0	20		
1,1-Dichloropropene	103	100	65 - 135	3	21		
1,2,3-Trichloropropane	95	92	65 - 135	4	23		
1,2,4-Trichlorobenzene	100	96	58 - 135	5	25		
1,2-Dibromo-3-Chloropropane	82	78	57 - 135	5	22	J	J
1,2-Dibromoethane	88	86	65 - 135	2	27		
1,2-Dichlorobenzene	98	94	65 - 135	4	20		
1,2-Dichloroethane	108	107	65 - 135	1	20		
1,2-Dichloropropane	100	101	64 - 135	1	20		
1,3-Dichlorobenzene	98	96	65 - 135	2	20		
1,3-Dichloropropane	94	93	64 - 135	1	20		
1,4-Dichlorobenzene	100	97	65 - 135	3	23		
2,2-Dichloropropane	104	101	65 - 135	4	20		
2-Butanone (MEK)	85	93	44 - 177	10	32		
2-Hexanone	89	87	57 - 139	2	25		
Acetone	105	107	39 - 156	1	23		
Acrolein	85	85	36 - 147	0	30		
Acrylonitrile	92	92	56 - 135	1	30		
Allyl chloride	113	112	50 - 135	0	30		
Benzene	97	94	65 - 135	3	20		
Bromochloromethane	97	92	65 - 135	5	29		
Bromodichloromethane	100	98	65 - 135	2	20		
Bromoform	91	85	62 - 135	6	27		
Bromomethane	107	103	45 - 135	4	33		
Carbon disulfide	94	93	55 - 143	1	20		
Carbon tetrachloride	107	103	65 - 135	5	21		
Chlorobenzene	98	97	65 - 135	1	20		
Chloroethane	109	107	46 - 136	2	25		

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438534

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-116928-G-5 MS	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8158.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1225			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1225				20 mL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116928-G-5 MSD	Analysis Batch:	280-438534	Instrument ID:	VMS_MS9
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MS9_8159.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	11/23/2018 1247			Final Weight/Volume:	20 mL
Prep Date:	11/23/2018 1247				20 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloroform	103	102	65 - 135	1	20		
Chloromethane	118	126	34 - 145	6	24		
cis-1,2-Dichloroethene	94	92	65 - 135	2	20		
cis-1,3-Dichloropropene	95	93	65 - 135	2	26		
Dibromochloromethane	93	90	65 - 135	3	20		
Dibromomethane	97	90	65 - 135	7	26		
Dichlorodifluoromethane	89	84	43 - 142	6	30		
Ethyl methacrylate	81	79	50 - 135	2	30		
Ethylbenzene	96	94	65 - 135	2	20		
Iodomethane	104	102	65 - 142	2	25		
Isobutyl alcohol	124	133	55 - 135	7	30		
Methyl isobutyl ketone (MIBK)	91	92	60 - 150	1	22		
Methylene Chloride	94	92	54 - 141	2	26		
Naphthalene	83	79	42 - 135	4	23		
Styrene	88	84	65 - 135	5	26		
Tetrachloroethene	101	96	65 - 135	5	20		
Toluene	100	98	65 - 135	2	20		
trans-1,2-Dichloroethene	101	101	65 - 135	0	24		
trans-1,3-Dichloropropene	92	88	65 - 135	4	26		
trans-1,4-Dichloro-2-butene	103	101	53 - 135	2	25		
Trichloroethene	102	98	65 - 135	4	20		
Trichlorofluoromethane	113	109	53 - 137	4	27		
Vinyl acetate	85	85	11 - 187	1	24		
Vinyl chloride	109	109	40 - 137	0	24		
Xylenes (total)	96	94	65 - 135	3	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101	100	70 - 127
4-Bromofluorobenzene (Surr)	91	93	78 - 120
Dibromofluoromethane (Surr)	94	95	77 - 120
Toluene-d8 (Surr)	96	96	80 - 125

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438534

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-116928-G-5 MS	Units: ug/L	MSD Lab Sample ID:	280-116928-G-5 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 1225		Analysis Date:	11/23/2018 1247	
Prep Date:	11/23/2018 1225		Prep Date:	11/23/2018 1247	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
1,1,1,2-Tetrachloroethane	ND		5.00	5.00	4.93		4.75	
1,1,1-Trichloroethane	ND		5.00	5.00	5.25		5.09	
1,1,2,2-Tetrachloroethane	ND		5.00	5.00	4.41		4.50	
1,1,2-Trichloroethane	ND		5.00	5.00	4.79		4.68	
1,1-Dichloroethane	0.34	J	5.00	5.00	5.38		5.37	
1,1-Dichloroethene	ND		5.00	5.00	4.79		4.79	
1,1-Dichloropropene	ND		5.00	5.00	5.13		4.99	
1,2,3-Trichloropropane	ND		5.00	5.00	4.77		4.59	
1,2,4-Trichlorobenzene	ND		5.00	5.00	5.02		4.79	
1,2-Dibromo-3-Chloropropane	ND		5.00	5.00	4.10	J	3.89	J
1,2-Dibromoethane	ND		5.00	5.00	4.41		4.30	
1,2-Dichlorobenzene	ND		5.00	5.00	4.89		4.71	
1,2-Dichloroethane	ND		5.00	5.00	5.38		5.35	
1,2-Dichloropropane	ND		5.00	5.00	5.02		5.07	
1,3-Dichlorobenzene	ND		5.00	5.00	4.88		4.78	
1,3-Dichloropropane	ND		5.00	5.00	4.71		4.67	
1,4-Dichlorobenzene	ND		5.00	5.00	5.02		4.85	
2,2-Dichloropropane	ND		5.00	5.00	5.22		5.04	
2-Butanone (MEK)	ND		20.0	20.0	17.0		18.7	
2-Hexanone	ND		20.0	20.0	17.8		17.4	
Acetone	3.5	J	20.0	20.0	24.6		24.9	
Acrolein	ND		50.0	50.0	42.3		42.3	
Acrylonitrile	ND		50.0	50.0	46.2		45.9	
Allyl chloride	ND		5.00	5.00	5.63		5.61	
Benzene	ND		5.00	5.00	4.85		4.72	
Bromochloromethane	ND		5.00	5.00	4.84		4.59	
Bromodichloromethane	ND		5.00	5.00	5.01		4.90	
Bromoform	ND		5.00	5.00	4.53		4.26	
Bromomethane	ND		5.00	5.00	5.34		5.13	
Carbon disulfide	ND		5.00	5.00	4.70		4.67	
Carbon tetrachloride	ND		5.00	5.00	5.37		5.13	
Chlorobenzene	ND		5.00	5.00	4.90		4.83	
Chloroethane	ND		5.00	5.00	5.44		5.36	
Chloroform	ND		5.00	5.00	5.17		5.10	
Chloromethane	ND		5.00	5.00	5.91		6.29	
cis-1,2-Dichloroethene	0.20	J	5.00	5.00	4.92		4.81	
cis-1,3-Dichloropropene	ND		5.00	5.00	4.75		4.66	
Dibromochloromethane	ND		5.00	5.00	4.64		4.51	
Dibromomethane	ND		5.00	5.00	4.83		4.51	
Dichlorodifluoromethane	ND		5.00	5.00	4.46		4.21	
Ethyl methacrylate	ND		5.00	5.00	4.03		3.96	
Ethylbenzene	ND		5.00	5.00	4.78		4.69	
Iodomethane	ND		5.00	5.00	5.20		5.12	

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438534

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-116928-G-5 MS	Units: ug/L	MSD Lab Sample ID:	280-116928-G-5 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 1225		Analysis Date:	11/23/2018 1247	
Prep Date:	11/23/2018 1225		Prep Date:	11/23/2018 1247	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Isobutyl alcohol	ND	125	125	155	166
Methyl isobutyl ketone (MIBK)	ND	20.0	20.0	18.3	18.5
Methylene Chloride	ND	5.00	5.00	4.70	4.59
Naphthalene	ND	5.00	5.00	4.14	3.97
Styrene	ND	5.00	5.00	4.42	4.19
Tetrachloroethene	ND	5.00	5.00	5.03	4.79
Toluene	ND	5.00	5.00	5.02	4.90
trans-1,2-Dichloroethene	ND	5.00	5.00	5.04	5.04
trans-1,3-Dichloropropene	ND	5.00	5.00	4.58	4.42
trans-1,4-Dichloro-2-butene	ND	5.00	5.00	5.14	5.05
Trichloroethene	ND	5.00	5.00	5.08	4.88
Trichlorofluoromethane	ND	5.00	5.00	5.67	5.46
Vinyl acetate	ND	10.0	10.0	8.55	8.49
Vinyl chloride	ND	5.00	5.00	5.45	5.45
Xylenes (total)	ND	10.0	10.0	9.63	9.36

Client: Waste Management Job Number: 280-116950-1

Method Blank - Batch: 280-437863

Method: 8270C
Preparation: 3520C

Lab Sample ID:	MB 280-437863/1-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30345.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1631	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
1,2,4,5-Tetrachlorobenzene	ND		10	10
1,3,5-Trinitrobenzene	ND		50	50
1,3-Dinitrobenzene	ND		10	10
1,4-Naphthoquinone	ND		50	50
1-Naphthylamine	ND		10	10
2,2'-oxybis(1-chloropropane)	ND		10	10
2,3,4,6-Tetrachlorophenol	ND		50	50
2,4,5-Trichlorophenol	ND		10	10
2,4,6-Trichlorophenol	ND		10	10
2,4-Dichlorophenol	ND		10	10
2,4-Dimethylphenol	ND		10	10
2,4-Dinitrophenol	ND		30	30
2,4-Dinitrotoluene	ND		10	10
2,6-Dichlorophenol	ND		10	10
2,6-Dinitrotoluene	ND		10	10
2-Acetylaminofluorene	ND		100	100
2-Chloronaphthalene	ND		4.0	4.0
2-Chlorophenol	ND		10	10
2-Methylnaphthalene	ND		4.0	4.0
2-Methylphenol	ND		10	10
2-Naphthylamine	ND		10	10
2-Nitroaniline	ND		10	10
2-Nitrophenol	ND		10	10
3,3'-Dichlorobenzidine	ND		50	50
3-Methylcholanthrene	ND		20	20
3-Methylphenol & 4-Methylphenol	ND		10	10
3-Nitroaniline	ND		10	10
4,6-Dinitro-2-methylphenol	ND		50	50
4-Aminobiphenyl	ND		50	50
4-Bromophenyl phenyl ether	ND		10	10
4-Chloro-3-methylphenol	ND		10	10
4-Chloroaniline	ND		10	10
4-Chlorophenyl phenyl ether	ND		10	10
4-Dimethylaminoazobenzene	ND		20	20
4-Nitroaniline	ND		10	10
4-Nitrophenol	ND		10	10
5-Nitro-o-toluidine	ND		20	20
7,12-Dimethylbenz(a)anthracene	ND		20	20
Acenaphthene	ND		4.0	4.0
Acenaphthylene	ND		4.0	4.0
Acetophenone	ND		10	10
Anthracene	ND		4.0	4.0
Benz(a)anthracene	ND		4.0	4.0
Benzo(a)pyrene	ND		4.0	4.0
Benzo(b)fluoranthene	ND		4.0	4.0

Client: Waste Management Job Number: 280-116950-1

Method Blank - Batch: 280-437863

Method: 8270C
Preparation: 3520C

Lab Sample ID:	MB 280-437863/1-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30345.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1631	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Benzo(ghi)perylene	ND		4.0	4.0
Benzo(k)fluoranthene	ND		4.0	4.0
Benzyl alcohol	ND		10	10
Bis(2-chloroethoxy)methane	ND		10	10
bis(2-Chloroethyl) ether	ND		10	10
Bis(2-ethylhexyl) phthalate	ND		10	10
Butyl benzyl phthalate	ND		4.0	4.0
Chlorobenzilate	ND		10	10
Chrysene	ND		4.0	4.0
Diallate	ND		5.6	5.6
Dibenz(a,h)anthracene	ND		4.0	4.0
Dibenzofuran	ND		4.0	4.0
Diethyl phthalate	ND		4.0	4.0
Dimethyl phthalate	ND		4.0	4.0
Di-n-butyl phthalate	ND		4.0	4.0
Di-n-octyl phthalate	ND		4.0	4.0
Diphenylamine	ND		10	10
Ethyl methanesulfonate	ND		10	10
Famphur	ND		100	100
Fluoranthene	ND		4.0	4.0
Fluorene	ND		4.0	4.0
Hexachlorobenzene	ND		10	10
Hexachlorobutadiene	ND		10	10
Hexachlorocyclopentadiene	ND		50	50
Hexachloroethane	ND		10	10
Hexachloropropene	ND		100	100
Indeno(1,2,3-cd)pyrene	ND		4.0	4.0
Isodrin	ND		10	10
Isophorone	ND		10	10
Isosafrole	ND		3.5	3.5
Methapyrilene	ND		50	50
Methyl methanesulfonate	ND		10	10
Methyl parathion	ND		50	50
Nitrobenzene	ND		10	10
N-Nitrosodiethylamine	ND		10	10
N-Nitrosodimethylamine	ND		10	10
N-Nitrosodi-n-butylamine	ND		10	10
N-Nitrosodi-n-propylamine	ND		10	10
N-Nitrosodiphenylamine	ND		10	10
N-Nitrosomethylethylamine	ND		10	10
N-Nitrosopiperidine	ND		10	10
N-Nitrosopyrrolidine	ND		10	10
O,O,O-Triethyl phosphorothioate	ND		50	50
o-Toluidine	ND		10	10
Parathion	ND		50	50

Client: Waste Management

Job Number: 280-116950-1

Method Blank - Batch: 280-437863

Method: 8270C
Preparation: 3520C

Lab Sample ID:	MB 280-437863/1-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30345.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1631	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Pentachlorobenzene	ND		10	10
Pentachloronitrobenzene	ND		50	50
Pentachlorophenol	ND		50	50
Phenacetin	ND		20	20
Phenanthrene	ND		4.0	4.0
Phenol	ND		10	10
p-Phenylene diamine	ND		100	100
Pronamide	ND		20	20
Pyrene	ND		10	10
Safrole	ND		20	20

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol	81	48 - 135
2-Fluorobiphenyl	83	48 - 135
2-Fluorophenol	79	41 - 135
Nitrobenzene-d5	78	42 - 135
Phenol-d5	78	46 - 135
Terphenyl-d14	88	20 - 135

Client: Waste Management Job Number: 280-116950-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

LCS Lab Sample ID:	LCS 280-437863/2-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30346.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1701	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-437863/3-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30347.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1731	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,2,4-Trichlorobenzene	63	73	44 - 117	14	42		
1,4-Dichlorobenzene	61	71	34 - 123	15	50		
2,4,6-Trichlorophenol	81	87	60 - 137	7	30		
2,4-Dinitrotoluene	87	93	65 - 135	7	32		
2-Chlorophenol	74	81	54 - 124	10	46		
2-Methylnaphthalene	75	83	53 - 119	10	32		
2-Methylphenol	74	81	55 - 123	9	40		
4-Chloro-3-methylphenol	82	89	65 - 121	8	30		
4-Nitrophenol	95	101	50 - 140	6	50		
Acenaphthene	83	89	54 - 129	7	30		
Anthracene	83	89	65 - 116	6	30		
Carbazole	85	90	68 - 116	6	30		
N-Nitrosodi-n-propylamine	77	86	57 - 117	10	30		
Pentachlorophenol	68	75	56 - 115	9	30		
Phenol	74	80	50 - 127	8	37		
Pyrene	83	90	59 - 124	8	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2,4,6-Tribromophenol	85	91	48 - 135
2-Fluorobiphenyl	82	85	48 - 135
2-Fluorophenol	76	81	41 - 135
Nitrobenzene-d5	76	83	42 - 135
Phenol-d5	77	84	46 - 135
Terphenyl-d14	82	89	20 - 135

Client: Waste Management Job Number: 280-116950-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

LCS Lab Sample ID:	LCS 280-437863/4-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30348.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1800	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-437863/5-A	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30349.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/21/2018 1830	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Pronamide	110	120	72 - 118	9	50		*

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2,4,6-Tribromophenol	85	91	48 - 135
2-Fluorobiphenyl	77	79	48 - 135
2-Fluorophenol	76	68	41 - 135
Nitrobenzene-d5	76	68	42 - 135
Phenol-d5	78	73	46 - 135
Terphenyl-d14	86	92	20 - 135

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

LCS Lab Sample ID:	LCS 280-437863/2-A	Units: ug/L	LCSD Lab Sample ID:	LCSD 280-437863/3-A	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/21/2018 1701		Analysis Date:	11/21/2018 1731	
Prep Date:	11/16/2018 1050		Prep Date:	11/16/2018 1050	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
1,2,4-Trichlorobenzene	80.0	80.0	50.7	58.6
1,4-Dichlorobenzene	80.0	80.0	48.6	56.6
2,4,6-Trichlorophenol	80.0	80.0	64.7	69.3
2,4-Dinitrotoluene	80.0	80.0	69.6	74.3
2-Chlorophenol	80.0	80.0	58.8	64.9
2-Methylnaphthalene	80.0	80.0	60.2	66.7
2-Methylphenol	80.0	80.0	59.0	64.8
4-Chloro-3-methylphenol	80.0	80.0	65.8	71.3
4-Nitrophenol	160	160	152	162
Acenaphthene	80.0	80.0	66.5	71.5
Anthracene	80.0	80.0	66.7	70.9
Carbazole	80.0	80.0	68.0	71.9
N-Nitrosodi-n-propylamine	80.0	80.0	61.8	68.5
Pentachlorophenol	160	160	109	120
Phenol	80.0	80.0	59.5	64.3
Pyrene	80.0	80.0	66.3	72.0

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

LCS Lab Sample ID:	LCS 280-437863/4-A	Units: ug/L	LCSD Lab Sample ID:	LCSD 280-437863/5-A	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/21/2018 1800		Analysis Date:	11/21/2018 1830	
Prep Date:	11/16/2018 1050		Prep Date:	11/16/2018 1050	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Pronamide	80.0	80.0	87.9	95.9 *

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

MS Lab Sample ID:	280-116885-I-5-A MS	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30353.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1056.7 mL
Analysis Date:	11/21/2018 2029			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116885-J-5-C MSD	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30354.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1054.6 mL
Analysis Date:	11/21/2018 2058			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,2,4-Trichlorobenzene	74	74	44 - 117	0	42		
1,4-Dichlorobenzene	76	76	34 - 123	0	50		
2,4,6-Trichlorophenol	84	89	60 - 137	6	30		
2,4-Dinitrotoluene	90	96	65 - 135	6	32		
2-Chlorophenol	80	81	54 - 124	2	46		
2-Methylnaphthalene	82	86	53 - 119	4	32		
2-Methylphenol	79	83	55 - 123	5	40		
4-Chloro-3-methylphenol	89	91	65 - 121	3	30		
4-Nitrophenol	97	100	50 - 140	3	50		
Acenaphthene	87	93	54 - 129	6	30		
Anthracene	83	89	65 - 116	8	30		
Carbazole	86	91	68 - 116	6	30		
N-Nitrosodi-n-propylamine	83	88	57 - 117	6	30		
Pentachlorophenol	69	74	56 - 115	8	30		
Phenol	79	80	50 - 127	3	37		
Pyrene	84	91	59 - 124	7	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2,4,6-Tribromophenol	86	91	48 - 135
2-Fluorobiphenyl	80	87	48 - 135
2-Fluorophenol	81	83	41 - 135
Nitrobenzene-d5	79	82	42 - 135
Phenol-d5	81	82	46 - 135
Terphenyl-d14	77	83	20 - 135

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

MS Lab Sample ID:	280-116885-AH-5-A MS	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30355.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1054 mL
Analysis Date:	11/21/2018 2128			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116885-H-5-B MSD	Analysis Batch:	280-438465	Instrument ID:	SMS_D
Client Matrix:	Water	Prep Batch:	280-437863	Lab File ID:	D30356.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1056.8 mL
Analysis Date:	11/21/2018 2158			Final Weight/Volume:	1 mL
Prep Date:	11/16/2018 1050			Injection Volume:	1 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Pronamide	114	121	72 - 118	5	50		F1

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2,4,6-Tribromophenol	93	93	48 - 135
2-Fluorobiphenyl	85	86	48 - 135
2-Fluorophenol	81	84	41 - 135
Nitrobenzene-d5	79	84	42 - 135
Phenol-d5	87	88	46 - 135
Terphenyl-d14	89	87	20 - 135

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

MS Lab Sample ID:	280-116885-I-5-A MS	Units: ug/L	MSD Lab Sample ID:	280-116885-J-5-C MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/21/2018 2029		Analysis Date:	11/21/2018 2058	
Prep Date:	11/16/2018 1050		Prep Date:	11/16/2018 1050	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
1,2,4-Trichlorobenzene	ND	75.7	75.9	56.2	56.1
1,4-Dichlorobenzene	ND	75.7	75.9	57.6	57.5
2,4,6-Trichlorophenol	ND	75.7	75.9	63.4	67.6
2,4-Dinitrotoluene	ND	75.7	75.9	68.4	72.9
2-Chlorophenol	ND	75.7	75.9	60.5	61.8
2-Methylnaphthalene	ND	75.7	75.9	62.3	65.1
2-Methylphenol	ND	75.7	75.9	59.7	63.0
4-Chloro-3-methylphenol	ND	75.7	75.9	67.3	69.4
4-Nitrophenol	ND	151	152	147	151
Acenaphthene	ND	75.7	75.9	65.8	70.2
Anthracene	ND	75.7	75.9	62.9	67.8
Carbazole	ND	75.7	75.9	65.2	69.1
N-Nitrosodi-n-propylamine	ND	75.7	75.9	62.9	66.5
Pentachlorophenol	ND	151	152	104	113
Phenol	ND	75.7	75.9	59.5	61.1
Pyrene	ND	75.7	75.9	63.9	68.7

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437863

Method: 8270C
Preparation: 3520C

MS Lab Sample ID:	280-116885-AH-5-A MS	Units: ug/L	MSD Lab Sample ID:	280-116885-H-5-B MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/21/2018 2128		Analysis Date:	11/21/2018 2158	
Prep Date:	11/16/2018 1050		Prep Date:	11/16/2018 1050	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Pronamide	ND	75.9	75.7	86.9	91.2	F1

Client: Waste Management

Job Number: 280-116950-1

Method Blank - Batch: 280-437871

Method: 8081A
Preparation: 3510C

Lab Sample ID:	MB 280-437871/1-A	Analysis Batch:	280-439818	Instrument ID:	SGC_P2
Client Matrix:	Water	Prep Batch:	280-437871	Lab File ID:	12040014.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/04/2018 1653	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/16/2018 1031			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	RL	RL
4,4'-DDD	ND		0.050	0.050
4,4'-DDE	ND		0.050	0.050
4,4'-DDT	ND		0.050	0.050
Aldrin	ND		0.050	0.050
alpha-BHC	ND		0.050	0.050
beta-BHC	ND		0.050	0.050
delta-BHC	ND		0.050	0.050
gamma-BHC (Lindane)	ND		0.050	0.050
cis-Chlordane	ND		0.050	0.050
Technical Chlordane	ND		0.50	0.50
Dieldrin	ND		0.050	0.050
Endrin	ND		0.050	0.050
Endosulfan I	ND		0.050	0.050
Endosulfan II	ND		0.050	0.050
Endosulfan sulfate	ND		0.050	0.050
Endrin aldehyde	ND		0.050	0.050
Heptachlor	ND		0.050	0.050
Heptachlor epoxide	ND		0.050	0.050
Kepone	ND		1.0	1.0
Methoxychlor	ND		0.10	0.10
trans-Chlordane	ND		0.050	0.050
Toxaphene	ND		2.0	2.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	69	28 - 115
DCB Decachlorobiphenyl	89	34 - 122

Client: Waste Management Job Number: 280-116950-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-437871

Method: 8081A
Preparation: 3510C

LCS Lab Sample ID:	LCS 280-437871/4-A	Analysis Batch:	280-439818	Instrument ID:	SGC_P2
Client Matrix:	Water	Prep Batch:	280-437871	Lab File ID:	12040015.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/04/2018 1711	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/16/2018 1031			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

LCSD Lab Sample ID:	LCSD 280-437871/5-A	Analysis Batch:	280-439818	Instrument ID:	SGC_P2
Client Matrix:	Water	Prep Batch:	280-437871	Lab File ID:	12040016.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/04/2018 1728	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/16/2018 1031			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
4,4'-DDD	97	96	73 - 115	2	50		
4,4'-DDE	89	90	71 - 112	1	50		
4,4'-DDT	91	96	71 - 121	5	25		
Aldrin	94	91	50 - 114	3	33		
alpha-BHC	96	90	68 - 113	6	50		
beta-BHC	70	67	54 - 113	5	50		
delta-BHC	97	93	72 - 113	4	50		
gamma-BHC (Lindane)	97	92	70 - 112	5	26		
cis-Chlordane	99	96	70 - 113	3	50		
Dieldrin	102	99	74 - 116	3	22		
Endrin	108	106	69 - 128	3	39		
Endosulfan I	98	95	69 - 111	3	50		
Endosulfan II	95	92	69 - 109	3	50		
Endosulfan sulfate	113	110	71 - 116	3	50		
Endrin aldehyde	82	58	47 - 119	34	50		
Heptachlor	95	91	61 - 115	4	27		
Heptachlor epoxide	101	97	72 - 114	3	50		
Methoxychlor	115	112	66 - 131	3	50		
trans-Chlordane	119	96	65 - 121	22	50		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	78	76	28 - 115
DCB Decachlorobiphenyl	104	108	34 - 122

Client: Waste Management

Job Number: 280-116950-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-437871

Method: 8081A
Preparation: 3510C

LCS Lab Sample ID:	LCS 280-437871/4-A	Units: ug/L	LCSD Lab Sample ID:	LCSD 280-437871/5-A	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/04/2018 1711		Analysis Date:	12/04/2018 1728	
Prep Date:	11/16/2018 1031		Prep Date:	11/16/2018 1031	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
4,4'-DDD	0.500	0.500	0.486	0.478
4,4'-DDE	0.500	0.500	0.446	0.451
4,4'-DDT	0.500	0.500	0.455	0.479
Aldrin	0.500	0.500	0.471	0.456
alpha-BHC	0.500	0.500	0.478	0.452
beta-BHC	0.500	0.500	0.350	0.334
delta-BHC	0.500	0.500	0.484	0.464
gamma-BHC (Lindane)	0.500	0.500	0.483	0.458
cis-Chlordane	0.500	0.500	0.494	0.479
Dieldrin	0.500	0.500	0.512	0.495
Endrin	0.500	0.500	0.542	0.528
Endosulfan I	0.500	0.500	0.490	0.476
Endosulfan II	0.500	0.500	0.474	0.460
Endosulfan sulfate	0.500	0.500	0.566	0.548
Endrin aldehyde	0.500	0.500	0.411	0.291
Heptachlor	0.500	0.500	0.473	0.454
Heptachlor epoxide	0.500	0.500	0.503	0.487
Methoxychlor	0.500	0.500	0.577	0.562
trans-Chlordane	0.500	0.500	0.596	0.478

Client: Waste Management

Job Number: 280-116950-1

Method Blank - Batch: 280-438524

Method: 8082
Preparation: 3510C

Lab Sample ID:	MB 280-438524/1-A	Analysis Batch:	280-439465	Instrument ID:	SGC_J
Client Matrix:	Water	Prep Batch:	280-438524	Lab File ID:	11301810.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/30/2018 1710	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/22/2018 1110			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	RL	RL
Aroclor 1016	ND		1.0	1.0
Aroclor 1221	ND		1.0	1.0
Aroclor 1232	ND		1.0	1.0
Aroclor 1242	ND		1.0	1.0
Aroclor 1248	ND		1.0	1.0
Aroclor 1254	ND		1.0	1.0
Aroclor 1260	ND		1.0	1.0

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	90	30 - 136
Tetrachloro-m-xylene	78	25 - 120

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438524

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 280-438524/4-A	Analysis Batch:	280-439465	Instrument ID:	SGC_J
Client Matrix:	Water	Prep Batch:	280-438524	Lab File ID:	11301811.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/30/2018 1732	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/22/2018 1110			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY
LCSD Lab Sample ID:	LCSD 280-438524/5-A	Analysis Batch:	280-439465	Instrument ID:	SGC_J
Client Matrix:	Water	Prep Batch:	280-438524	Lab File ID:	11301812.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/30/2018 1753	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/22/2018 1110			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aroclor 1016	97	96	71 - 128	0	30		
Aroclor 1260	109	108	75 - 126	1	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
DCB Decachlorobiphenyl	99	96	30 - 136
Tetrachloro-m-xylene	82	80	25 - 120

Client: Waste Management

Job Number: 280-116950-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438524

Method: 8082
Preparation: 3510C

LCS Lab Sample ID:	LCS 280-438524/4-A	Units: ug/L	LCSD Lab Sample ID:	LCSD 280-438524/5-A
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	11/30/2018 1732		Analysis Date:	11/30/2018 1753
Prep Date:	11/22/2018 1110		Prep Date:	11/22/2018 1110
Leach Date:	N/A		Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Aroclor 1016	2.00	2.00	1.94	1.93
Aroclor 1260	2.00	2.00	2.18	2.16

Method Blank - Batch: 280-437759

Method: 8141A
Preparation: 3510C

Lab Sample ID:	MB 280-437759/1-A	Analysis Batch:	280-438619	Instrument ID:	SGC_D
Client Matrix:	Water	Prep Batch:	280-437759	Lab File ID:	004F0401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/23/2018 2032	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/15/2018 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	RL	RL
Dimethoate	ND		1.5	1.5
Disulfoton	ND		1.0	1.0
Phorate	ND		1.2	1.2
Thionazin	ND		1.0	1.0

Surrogate	% Rec		Acceptance Limits
Chlormefos	75		49 - 171
Triphenylphosphate	59	X	60 - 154

Lab Control Sample - Batch: 280-437759

Method: 8141A
Preparation: 3510C

Lab Sample ID:	LCS 280-437759/2-A	Analysis Batch:	280-438619	Instrument ID:	SGC_D
Client Matrix:	Water	Prep Batch:	280-437759	Lab File ID:	005F0501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/23/2018 2112	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/15/2018 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dimethoate	4.00	3.62	91	42 - 91	
Disulfoton	4.00	3.21	80	45 - 104	
Phorate	4.00	3.02	76	40 - 94	
Thionazin	4.00	2.92	73	54 - 106	

Surrogate	% Rec	Acceptance Limits
Chlormefos	91	49 - 171
Triphenylphosphate	77	60 - 154

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437759

Method: 8141A
Preparation: 3510C

MS Lab Sample ID:	280-116910-A-1-A MS	Analysis Batch:	280-438619	Instrument ID:	SGC_D
Client Matrix:	Water	Prep Batch:	280-437759	Lab File ID:	014F1401.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	984.5 mL
Analysis Date:	11/24/2018 0309			Final Weight/Volume:	2 mL
Prep Date:	11/15/2018 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-116910-A-1-B MSD	Analysis Batch:	280-438619	Instrument ID:	SGC_D
Client Matrix:	Water	Prep Batch:	280-437759	Lab File ID:	015F1501.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	981 mL
Analysis Date:	11/24/2018 0349			Final Weight/Volume:	2 mL
Prep Date:	11/15/2018 1155			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Dimethoate	95	94	42 - 91	0	38	F1	F1
Disulfoton	78	70	45 - 104	11	31		
Phorate	79	75	40 - 94	6	32		
Thionazin	75	72	54 - 106	4	27		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Chlormefos	82	75	49 - 171
Triphenylphosphate	91	78	60 - 154

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437759

Method: 8141A
Preparation: 3510C

MS Lab Sample ID:	280-116910-A-1-A MS	Units:	ug/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/24/2018 0309		
Prep Date:	11/15/2018 1155		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116910-A-1-B MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/24/2018 0349
Prep Date:	11/15/2018 1155
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Dimethoate	ND	4.06	4.08	3.85	F1	3.84	F1
Disulfoton	ND	4.06	4.08	3.17		2.84	
Phorate	ND	4.06	4.08	3.22		3.05	
Thionazin	ND	4.06	4.08	3.06		2.92	

Method Blank - Batch: 280-437686

Method: 8151A
Preparation: 8151A

Lab Sample ID:	MB 280-437686/1-A	Analysis Batch:	280-438286	Instrument ID:	SGC_M
Client Matrix:	Water	Prep Batch:	280-437686	Lab File ID:	11200015.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/20/2018 1902	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/15/2018 0820			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	RL	RL
2,4-D	ND		4.0	4.0
Dinoseb	ND		1.0	1.0
2,4,5-T	ND		1.0	1.0
2,4,5-TP (Silvex)	ND		1.0	1.0

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	77	39 - 135

Lab Control Sample - Batch: 280-437686

Method: 8151A
Preparation: 8151A

Lab Sample ID:	LCS 280-437686/2-A	Analysis Batch:	280-438286	Instrument ID:	SGC_M
Client Matrix:	Water	Prep Batch:	280-437686	Lab File ID:	11200016.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	11/20/2018 1919	Units:	ug/L	Final Weight/Volume:	10 mL
Prep Date:	11/15/2018 0820			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4-D	5.00	ND	74	41 - 124	
Dinoseb	5.00	3.32	66	11 - 110	
2,4,5-T	5.00	3.61	72	42 - 121	
2,4,5-TP (Silvex)	5.00	3.72	74	48 - 123	

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	77	39 - 135

Client: Waste Management Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437686

Method: 8151A
Preparation: 8151A

MS Lab Sample ID:	280-116910-E-1-B MS	Analysis Batch:	280-438286	Instrument ID:	SGC_M
Client Matrix:	Water	Prep Batch:	280-437686	Lab File ID:	11200018.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	890.1 mL
Analysis Date:	11/20/2018 1951			Final Weight/Volume:	10 mL
Prep Date:	11/15/2018 0820			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-116910-E-1-C MSD	Analysis Batch:	280-438286	Instrument ID:	SGC_M
Client Matrix:	Water	Prep Batch:	280-437686	Lab File ID:	11200019.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	888.8 mL
Analysis Date:	11/20/2018 2007			Final Weight/Volume:	10 mL
Prep Date:	11/15/2018 0820			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
2,4-D	0	0	41 - 124	NC	30	F1	F1
Dinoseb	20	0	11 - 110	NC	30		F1
2,4,5-T	70	70	42 - 121	0	30		
2,4,5-TP (Silvex)	73	72	48 - 123	2	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	78	76	39 - 135

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437686

Method: 8151A
Preparation: 8151A

MS Lab Sample ID:	280-116910-E-1-B MS	Units: ug/L	MSD Lab Sample ID: 280-116910-E-1-C MSD
Client Matrix:	Water		Client Matrix: Water
Dilution:	1.0		Dilution: 1.0
Analysis Date:	11/20/2018 1951		Analysis Date: 11/20/2018 2007
Prep Date:	11/15/2018 0820		Prep Date: 11/15/2018 0820
Leach Date:	N/A		Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
2,4-D	ND	5.62	5.63	ND	F1	ND	F1
Dinoseb	ND	5.62	5.63	1.12		ND	F1
2,4,5-T	ND	5.62	5.63	3.95		3.95	
2,4,5-TP (Silvex)	ND	5.62	5.63	4.11		4.04	

Client: Waste Management Job Number: 280-116950-1

Method Blank - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438411/1-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2028	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nickel	ND		0.0026	0.0040

Method Blank - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438411/1-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2028	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Tin	ND		5.8	100

Client: Waste Management Job Number: 280-116950-1

Lab Control Sample - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438411/2-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2031	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nickel	0.500	0.502	100	89 - 111	

Lab Control Sample - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438411/2-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2031	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Tin	2000	2120	106	85 - 113	

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-117014-D-1-B MS	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2041			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117014-D-1-C MSD	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2044			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nickel	104	104	84 - 120	0	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-117014-D-1-B MS	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2041			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117014-D-1-C MSD	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2044			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Tin	108	109	77 - 125	1	20		

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-117014-D-1-B MS	Units: mg/L	MSD Lab Sample ID:	280-117014-D-1-C MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 2041		Analysis Date:	11/23/2018 2044	
Prep Date:	11/21/2018 1400		Prep Date:	11/21/2018 1400	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Nickel	0.097	0.500	0.500	0.616	0.618

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-117014-D-1-B MS	Units: ug/L	MSD Lab Sample ID:	280-117014-D-1-C MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 2041		Analysis Date:	11/23/2018 2044	
Prep Date:	11/21/2018 1400		Prep Date:	11/21/2018 1400	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Tin	ND	2000	2000	2160	2170

Method Blank - Batch: 280-438551

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 280-438551/1-A	Analysis Batch:	280-438631	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-438551	Lab File ID:	181123bb.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/23/2018 2052	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1230				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Mercury	ND		0.00020	0.00020

Lab Control Sample - Batch: 280-438551

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 280-438551/2-A	Analysis Batch:	280-438631	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-438551	Lab File ID:	181123bb.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/23/2018 2055	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1230				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00500	0.00492	98	84 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438551

Method: 7470A
Preparation: 7470A

MS Lab Sample ID:	280-117038-D-2-D MS	Analysis Batch:	280-438631	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-438551	Lab File ID:	181123bb.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/23/2018 2101			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1230				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117038-D-2-E MSD	Analysis Batch:	280-438631	Instrument ID:	MT_034
Client Matrix:	Water	Prep Batch:	280-438551	Lab File ID:	181123bb.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/23/2018 2108			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1230				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	95	96	75 - 125	1	20		

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438551

Method: 7470A
Preparation: 7470A

MS Lab Sample ID:	280-117038-D-2-D MS	Units: mg/L	MSD Lab Sample ID:	280-117038-D-2-E MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 2101		Analysis Date:	11/23/2018 2108	
Prep Date:	11/23/2018 1230		Prep Date:	11/23/2018 1230	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	ND	0.00500	0.00500	0.00474	0.00480

Client: Waste Management

Job Number: 280-116950-1

Method Blank - Batch: 280-438264

Method: 9012A
Preparation: 9012A

Lab Sample ID:	MB 280-438264/5-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1041	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Cyanide, Total	ND		0.010	0.010

High Level Control Sample - Batch: 280-438264

Method: 9012A
Preparation: 9012A

Lab Sample ID:	HLCS 280-438264/1-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1035	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	0.350	0.358	102	90 - 110	

Low Level Control Sample - Batch: 280-438264

Method: 9012A
Preparation: 9012A

Lab Sample ID:	LLCS 280-438264/2-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1037	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	0.100	0.0979	98	90 - 110	

Client: Waste Management Job Number: 280-116950-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438264

Method: 9012A
Preparation: 9012A

LCS Lab Sample ID:	LCS 280-438264/3-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1038	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438264/4-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1040	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Cyanide, Total	110	105	90 - 110	5	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438264

Method: 9012A
Preparation: 9012A

LCS Lab Sample ID:	LCS 280-438264/3-A	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/21/2018 1038		
Prep Date:	11/20/2018 1020		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-438264/4-A		
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/21/2018 1040		
Prep Date:	11/20/2018 1020		
Leach Date:	N/A		

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Cyanide, Total	0.100	0.100	0.110	0.105

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438264

Method: 9012A
Preparation: 9012A

MS Lab Sample ID:	280-116892-L-2-B MS	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1044			Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116892-L-2-C MSD	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438264	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1046			Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1020				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cyanide, Total	102	103	90 - 110	1	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438264

Method: 9012A
Preparation: 9012A

MS Lab Sample ID:	280-116892-L-2-B MS	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/21/2018 1044		
Prep Date:	11/20/2018 1020		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116892-L-2-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/21/2018 1046
Prep Date:	11/20/2018 1020
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Cyanide, Total	ND	0.100	0.100	0.102	0.103

Client: Waste Management Job Number: 280-116950-1

Method Blank - Batch: 280-438294

Method: 9012A
Preparation: 9012A

Lab Sample ID:	MB 280-438294/4-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438294	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1125	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1310				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Cyanide, Total	ND		0.010	0.010

High Level Control Sample - Batch: 280-438294

Method: 9012A
Preparation: 9012A

Lab Sample ID:	HLCS 280-438294/1-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438294	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1120	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1310				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	0.350	0.383	109	90 - 110	

Low Level Control Sample - Batch: 280-438294

Method: 9012A
Preparation: 9012A

Lab Sample ID:	LLCS 280-438294/2-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438294	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1122	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1310				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	0.100	0.106	106	90 - 110	

Lab Control Sample - Batch: 280-438294

Method: 9012A
Preparation: 9012A

Lab Sample ID:	LCS 280-438294/3-A	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438294	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1209	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1310				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	0.100	0.109	109	90 - 110	

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438294

Method: 9012A
Preparation: 9012A

MS Lab Sample ID:	280-117016-J-1-B MS	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438294	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1128			Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1310				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117016-J-1-C MSD	Analysis Batch:	280-438452	Instrument ID:	WC_Alp 1
Client Matrix:	Water	Prep Batch:	280-438294	Lab File ID:	C:\FLOW_4\C112118.R
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/21/2018 1129			Final Weight/Volume:	50 mL
Prep Date:	11/20/2018 1310				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cyanide, Total	109	114	90 - 110	5	20		F1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438294

Method: 9012A
Preparation: 9012A

MS Lab Sample ID:	280-117016-J-1-B MS	Units:	mg/L	MSD Lab Sample ID:	280-117016-J-1-C MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/21/2018 1128			Analysis Date:	11/21/2018 1129
Prep Date:	11/20/2018 1310			Prep Date:	11/20/2018 1310
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Cyanide, Total	ND	0.100	0.100	0.109	0.114	F1

Method Blank - Batch: 280-437815

Method: 9034
Preparation: 9030B

Lab Sample ID:	MB 280-437815/1-A	Analysis Batch:	280-437839	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-437815	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/15/2018 2221	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1656				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Sulfide	ND		4.0	4.0

Lab Control Sample - Batch: 280-437815

Method: 9034
Preparation: 9030B

Lab Sample ID:	LCS 280-437815/2-A	Analysis Batch:	280-437839	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-437815	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/15/2018 2221	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1656				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Sulfide	22.0	18.6	84	44 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437815

Method: 9034
Preparation: 9030B

MS Lab Sample ID:	280-116950-2	Analysis Batch:	280-437839	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-437815	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/15/2018 2221			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1656				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116950-2	Analysis Batch:	280-437839	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	280-437815	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/15/2018 2221			Final Weight/Volume:	50 mL
Prep Date:	11/15/2018 1656				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Sulfide	84	83	44 - 110	1	20		

Client: Waste Management

Job Number: 280-116950-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-437815

Method: 9034
Preparation: 9030B

MS Lab Sample ID:	280-116950-2	Units: mg/L	MSD Lab Sample ID:	280-116950-2	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/15/2018 2221		Analysis Date:	11/15/2018 2221	
Prep Date:	11/15/2018 1656		Prep Date:	11/15/2018 1656	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Sulfide	ND	22.0	22.0	18.5	18.3

Client: Waste Management Job Number: 280-116950-1

Method Blank - Batch: 280-437619

Method: SM5210B
Preparation: N/A

Lab Sample ID:	MB 280-437619/4	Analysis Batch:	280-437619	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/14/2018 1609	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Seeded Control Blank - Batch: 280-437619

Method: SM5210B
Preparation: N/A

Lab Sample ID:	SCB 280-437619/1	Analysis Batch:	280-437619	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/14/2018 1609	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Unseeded Control Blank - Batch: 280-437619

Method: SM5210B
Preparation: N/A

Lab Sample ID:	USB 280-437619/2	Analysis Batch:	280-437619	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/14/2018 1609	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Client: Waste Management

Job Number: 280-116950-1

Lab Control Sample - Batch: 280-437619

Method: SM5210B
Preparation: N/A

Lab Sample ID:	LCS 280-437619/3	Analysis Batch:	280-437619	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/14/2018 1609	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Biochemical Oxygen Demand	198	181	92	85 - 115	

Duplicate - Batch: 280-437619

Method: SM5210B
Preparation: N/A

Lab Sample ID:	280-116950-2	Analysis Batch:	280-437619	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/14/2018 1610	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Biochemical Oxygen Demand	7.2	7.04	2	20	

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: 280-116950-1 **Client ID: L-INF**

Sample Date/Time: 11/13/2018 11:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-116950-M-1		280-438534		11/23/2018 12:03	1	TAL DEN	MD
A:8260B	280-116950-M-1		280-438534		11/23/2018 12:03	1	TAL DEN	MD
P:3520C	280-116950-G-1-A		280-438465	280-437863	11/16/2018 10:50	4	TAL DEN	VNV
A:8270C	280-116950-G-1-A		280-438465	280-437863	11/22/2018 02:24	4	TAL DEN	AFH
P:3510C	280-116950-A-1-A		280-439818	280-437871	11/16/2018 10:31	1	TAL DEN	JT
A:8081A	280-116950-A-1-A		280-439818	280-437871	12/04/2018 17:46	1	TAL DEN	TEB
P:3510C	280-116950-B-1-A		280-439465	280-438524	11/22/2018 11:10	1	TAL DEN	MAM
A:8082	280-116950-B-1-A		280-439465	280-438524	11/30/2018 18:14	1	TAL DEN	BJP
P:3510C	280-116950-H-1-A		280-438619	280-437759	11/15/2018 11:55	1	TAL DEN	AAG
A:8141A	280-116950-H-1-A		280-438619	280-437759	11/24/2018 05:48	1	TAL DEN	TEM
P:8151A	280-116950-F-1-A		280-438450	280-437686	11/15/2018 08:20	5	TAL DEN	KJS
A:8151A	280-116950-F-1-A		280-438450	280-437686	11/21/2018 17:14	5	TAL DEN	AMB1
P:3005A	280-116950-J-1-B		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-116950-J-1-B		280-438709	280-438411	11/23/2018 20:51	1	TAL DEN	CML
P:7470A	280-116950-J-1-C		280-438631	280-438551	11/23/2018 12:30	1	TAL DEN	THP
A:7470A	280-116950-J-1-C		280-438631	280-438551	11/23/2018 21:50	1	TAL DEN	THP
P:9012A	280-116950-K-1-A		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	280-116950-K-1-A		280-438452	280-438264	11/21/2018 11:05	1	TAL DEN	AJA
P:9030B	280-116950-L-1-A		280-437839	280-437815	11/15/2018 16:56	1	TAL DEN	EC
A:9034	280-116950-L-1-A		280-437839	280-437815	11/15/2018 22:21	1	TAL DEN	EC
A:SM5210B	280-116950-I-1		280-437619		11/14/2018 16:10	5	TAL DEN	ARM
A:Field Sampling	280-116950-A-1		280-438054		11/13/2018 12:15	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: 280-116950-2 **Client ID: OBWL-TD**

Sample Date/Time: 11/13/2018 13:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-116950-M-2		280-438534		11/23/2018 11:42	1	TAL DEN	MD
A:8260B	280-116950-M-2		280-438534		11/23/2018 11:42	1	TAL DEN	MD
P:3520C	280-116950-C-2-A		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	280-116950-C-2-A		280-438465	280-437863	11/22/2018 02:53	1	TAL DEN	AFH
P:3510C	280-116950-A-2-A		280-439818	280-437871	11/16/2018 10:31	1	TAL DEN	JT
A:8081A	280-116950-A-2-A		280-439818	280-437871	12/04/2018 18:04	1	TAL DEN	TEB
P:3510C	280-116950-B-2-A		280-439465	280-438524	11/22/2018 11:10	1	TAL DEN	MAM
A:8082	280-116950-B-2-A		280-439465	280-438524	11/30/2018 18:35	1	TAL DEN	BJP
P:3510C	280-116950-H-2-A		280-438619	280-437759	11/15/2018 11:55	1	TAL DEN	AAG
A:8141A	280-116950-H-2-A		280-438619	280-437759	11/24/2018 06:28	1	TAL DEN	TEM
P:8151A	280-116950-G-2-A		280-438450	280-437686	11/15/2018 08:20	1	TAL DEN	KJS
A:8151A	280-116950-G-2-A		280-438450	280-437686	11/21/2018 17:30	1	TAL DEN	AMB1
P:3005A	280-116950-J-2-B		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-116950-J-2-B		280-438709	280-438411	11/23/2018 20:55	1	TAL DEN	CML
P:7470A	280-116950-J-2-C		280-438631	280-438551	11/23/2018 12:30	1	TAL DEN	THP
A:7470A	280-116950-J-2-C		280-438631	280-438551	11/23/2018 21:53	1	TAL DEN	THP
P:9012A	280-116950-K-2-A		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	280-116950-K-2-A		280-438452	280-438294	11/21/2018 11:46	1	TAL DEN	AJA
P:9030B	280-116950-L-2-A		280-437839	280-437815	11/15/2018 16:56	1	TAL DEN	EC
A:9034	280-116950-L-2-A		280-437839	280-437815	11/15/2018 22:21	1	TAL DEN	EC
A:SM5210B	280-116950-I-2		280-437619		11/14/2018 16:10	1	TAL DEN	ARM
A:Field Sampling	280-116950-A-2		280-438054		11/13/2018 14:15	1	TAL DEN	A1S

Lab ID: 280-116950-2 MS **Client ID: OBWL-TD**

Sample Date/Time: 11/13/2018 13:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:9030B	280-116950-L-2-B MS		280-437839	280-437815	11/15/2018 16:56	1	TAL DEN	EC
A:9034	280-116950-L-2-B MS		280-437839	280-437815	11/15/2018 22:21	1	TAL DEN	EC

Lab ID: 280-116950-2 MSD **Client ID: OBWL-TD**

Sample Date/Time: 11/13/2018 13:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:9030B	280-116950-L-2-C MSD		280-437839	280-437815	11/15/2018 16:56	1	TAL DEN	EC
A:9034	280-116950-L-2-C MSD		280-437839	280-437815	11/15/2018 22:21	1	TAL DEN	EC

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: 280-116950-2 DU **Client ID: OBWL-TD**

Sample Date/Time: 11/13/2018 13:15 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	280-116950-I-2 DU		280-437619		11/14/2018 16:10	1	TAL DEN	ARM

Lab ID: 280-116950-3 **Client ID: TRIP BLANK**

Sample Date/Time: 11/13/2018 00:00 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-116950-A-3		280-438534		11/23/2018 11:20	1	TAL DEN	MD
A:8260B	280-116950-A-3		280-438534		11/23/2018 11:20	1	TAL DEN	MD

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	MB 280-438534/4		280-438534		11/23/2018 07:32	1	TAL DEN	MD
A:8260B	MB 280-438534/4		280-438534		11/23/2018 07:32	1	TAL DEN	MD
P:3520C	MB 280-437863/1-A		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	MB 280-437863/1-A		280-438465	280-437863	11/21/2018 16:31	1	TAL DEN	AFH
P:3510C	MB 280-437871/1-A		280-439818	280-437871	11/16/2018 10:31	1	TAL DEN	JT
A:8081A	MB 280-437871/1-A		280-439818	280-437871	12/04/2018 16:53	1	TAL DEN	TEB
P:3510C	MB 280-438524/1-A		280-439465	280-438524	11/22/2018 11:10	1	TAL DEN	MAM
A:8082	MB 280-438524/1-A		280-439465	280-438524	11/30/2018 17:10	1	TAL DEN	BJP
P:3510C	MB 280-437759/1-A		280-438619	280-437759	11/15/2018 11:55	1	TAL DEN	AAG
A:8141A	MB 280-437759/1-A		280-438619	280-437759	11/23/2018 20:32	1	TAL DEN	TEM
P:8151A	MB 280-437686/1-A		280-438286	280-437686	11/15/2018 08:20	1	TAL DEN	KJS
A:8151A	MB 280-437686/1-A		280-438286	280-437686	11/20/2018 19:02	1	TAL DEN	AMB1
P:3005A	MB 280-438411/1-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	MB 280-438411/1-A		280-438709	280-438411	11/23/2018 20:28	1	TAL DEN	CML
P:7470A	MB 280-438551/1-A		280-438631	280-438551	11/23/2018 12:30	1	TAL DEN	THP
A:7470A	MB 280-438551/1-A		280-438631	280-438551	11/23/2018 20:52	1	TAL DEN	THP
P:9012A	MB 280-438264/5-A		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	MB 280-438264/5-A		280-438452	280-438264	11/21/2018 10:41	1	TAL DEN	AJA
P:9012A	MB 280-438294/4-A		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	MB 280-438294/4-A		280-438452	280-438294	11/21/2018 11:25	1	TAL DEN	AJA
P:9030B	MB 280-437815/1-A		280-437839	280-437815	11/15/2018 16:56	1	TAL DEN	EC
A:9034	MB 280-437815/1-A		280-437839	280-437815	11/15/2018 22:21	1	TAL DEN	EC
A:SM5210B	MB 280-437619/4		280-437619		11/14/2018 16:09	1	TAL DEN	ARM

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: USB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	USB 280-437619/2		280-437619		11/14/2018 16:09	1	TAL DEN	ARM

Lab ID: SCB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	SCB 280-437619/1		280-437619		11/14/2018 16:09	1	TAL DEN	ARM

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCS 280-438534/5		280-438534		11/23/2018 07:04	1	TAL DEN	MD
A:8260B	LCS 280-438534/5		280-438534		11/23/2018 07:04	1	TAL DEN	MD
P:5030B	LCS 280-438534/10		280-438534		11/23/2018 07:54	1	TAL DEN	MD
A:8260B	LCS 280-438534/10		280-438534		11/23/2018 07:54	1	TAL DEN	MD
P:3520C	LCS 280-437863/2-A		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	LCS 280-437863/2-A		280-438465	280-437863	11/21/2018 17:01	1	TAL DEN	AFH
P:3520C	LCS 280-437863/4-A		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	LCS 280-437863/4-A		280-438465	280-437863	11/21/2018 18:00	1	TAL DEN	AFH
P:3510C	LCS 280-437871/4-A		280-439818	280-437871	11/16/2018 10:31	1	TAL DEN	JT
A:8081A	LCS 280-437871/4-A		280-439818	280-437871	12/04/2018 17:11	1	TAL DEN	TEB
P:3510C	LCS 280-438524/4-A		280-439465	280-438524	11/22/2018 11:10	1	TAL DEN	MAM
A:8082	LCS 280-438524/4-A		280-439465	280-438524	11/30/2018 17:32	1	TAL DEN	BJP
P:3510C	LCS 280-437759/2-A		280-438619	280-437759	11/15/2018 11:55	1	TAL DEN	AAG
A:8141A	LCS 280-437759/2-A		280-438619	280-437759	11/23/2018 21:12	1	TAL DEN	TEM
P:8151A	LCS 280-437686/2-A		280-438286	280-437686	11/15/2018 08:20	1	TAL DEN	KJS
A:8151A	LCS 280-437686/2-A		280-438286	280-437686	11/20/2018 19:19	1	TAL DEN	AMB1
P:3005A	LCS 280-438411/2-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	LCS 280-438411/2-A		280-438709	280-438411	11/23/2018 20:31	1	TAL DEN	CML
P:7470A	LCS 280-438551/2-A		280-438631	280-438551	11/23/2018 12:30	1	TAL DEN	THP
A:7470A	LCS 280-438551/2-A		280-438631	280-438551	11/23/2018 20:55	1	TAL DEN	THP
P:9012A	LCS 280-438264/3-A		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	LCS 280-438264/3-A		280-438452	280-438264	11/21/2018 10:38	1	TAL DEN	AJA
P:9012A	LCS 280-438294/3-A		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	LCS 280-438294/3-A		280-438452	280-438294	11/21/2018 12:09	1	TAL DEN	AJA
P:9030B	LCS 280-437815/2-A		280-437839	280-437815	11/15/2018 16:56	1	TAL DEN	EC
A:9034	LCS 280-437815/2-A		280-437839	280-437815	11/15/2018 22:21	1	TAL DEN	EC
A:SM5210B	LCS 280-437619/3		280-437619		11/14/2018 16:09	1	TAL DEN	ARM

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCSD 280-438534/11		280-438534		11/23/2018 08:16	1	TAL DEN	MD
A:8260B	LCSD 280-438534/11		280-438534		11/23/2018 08:16	1	TAL DEN	MD
P:3520C	LCSD 280-437863/3-A		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	LCSD 280-437863/3-A		280-438465	280-437863	11/21/2018 17:31	1	TAL DEN	AFH
P:3520C	LCSD 280-437863/5-A		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	LCSD 280-437863/5-A		280-438465	280-437863	11/21/2018 18:30	1	TAL DEN	AFH
P:3510C	LCSD 280-437871/5-A		280-439818	280-437871	11/16/2018 10:31	1	TAL DEN	JT
A:8081A	LCSD 280-437871/5-A		280-439818	280-437871	12/04/2018 17:28	1	TAL DEN	TEB
P:3510C	LCSD 280-438524/5-A		280-439465	280-438524	11/22/2018 11:10	1	TAL DEN	MAM
A:8082	LCSD 280-438524/5-A		280-439465	280-438524	11/30/2018 17:53	1	TAL DEN	BJP
P:9012A	LCSD 280-438264/4-A		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	LCSD 280-438264/4-A		280-438452	280-438264	11/21/2018 10:40	1	TAL DEN	AJA

Lab ID: LLCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:9012A	LLCS 280-438264/2-A		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	LLCS 280-438264/2-A		280-438452	280-438264	11/21/2018 10:37	1	TAL DEN	AJA
P:9012A	LLCS 280-438294/2-A		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	LLCS 280-438294/2-A		280-438452	280-438294	11/21/2018 11:22	1	TAL DEN	AJA

Lab ID: HLCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:9012A	HLCS 280-438264/1-A		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	HLCS 280-438264/1-A		280-438452	280-438264	11/21/2018 10:35	1	TAL DEN	AJA
P:9012A	HLCS 280-438294/1-A		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	HLCS 280-438294/1-A		280-438452	280-438294	11/21/2018 11:20	1	TAL DEN	AJA

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/13/2018 08:45 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-116928-G-5 MS		280-438534		11/23/2018 12:25	1	TAL DEN	MD
A:8260B	280-116928-G-5 MS		280-438534		11/23/2018 12:25	1	TAL DEN	MD
P:3520C	280-116885-I-5-A MS		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	280-116885-I-5-A MS		280-438465	280-437863	11/21/2018 20:29	1	TAL DEN	AFH
P:3520C	280-116885-AH-5-A MS		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	280-116885-AH-5-A MS		280-438465	280-437863	11/21/2018 21:28	1	TAL DEN	AFH
P:3510C	280-116910-A-1-A MS		280-438619	280-437759	11/15/2018 11:55	1	TAL DEN	AAG
A:8141A	280-116910-A-1-A MS		280-438619	280-437759	11/24/2018 03:09	1	TAL DEN	TEM
P:8151A	280-116910-E-1-B MS		280-438286	280-437686	11/15/2018 08:20	1	TAL DEN	KJS
A:8151A	280-116910-E-1-B MS		280-438286	280-437686	11/20/2018 19:51	1	TAL DEN	AMB1
P:3005A	280-117014-D-1-B MS		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-B MS		280-438709	280-438411	11/23/2018 20:41	1	TAL DEN	CML
P:7470A	280-117038-D-2-D MS		280-438631	280-438551	11/23/2018 12:30	1	TAL DEN	THP
A:7470A	280-117038-D-2-D MS		280-438631	280-438551	11/23/2018 21:01	1	TAL DEN	THP
P:9012A	280-116892-L-2-B MS		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	280-116892-L-2-B MS		280-438452	280-438264	11/21/2018 10:44	1	TAL DEN	AJA
P:9012A	280-117016-J-1-B MS		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	280-117016-J-1-B MS		280-438452	280-438294	11/21/2018 11:28	1	TAL DEN	AJA

Client: Waste Management Job Number: 280-116950-1

Laboratory Chronicle

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/13/2018 08:45 Received Date/Time: 11/14/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	280-116928-G-5 MSD		280-438534		11/23/2018 12:47	1	TAL DEN	MD
A:8260B	280-116928-G-5 MSD		280-438534		11/23/2018 12:47	1	TAL DEN	MD
P:3520C	280-116885-J-5-C MSD		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	280-116885-J-5-C MSD		280-438465	280-437863	11/21/2018 20:58	1	TAL DEN	AFH
P:3520C	280-116885-H-5-B MSD		280-438465	280-437863	11/16/2018 10:50	1	TAL DEN	VNV
A:8270C	280-116885-H-5-B MSD		280-438465	280-437863	11/21/2018 21:58	1	TAL DEN	AFH
P:3510C	280-116910-A-1-B MSD		280-438619	280-437759	11/15/2018 11:55	1	TAL DEN	AAG
A:8141A	280-116910-A-1-B MSD		280-438619	280-437759	11/24/2018 03:49	1	TAL DEN	TEM
P:8151A	280-116910-E-1-C MSD		280-438286	280-437686	11/15/2018 08:20	1	TAL DEN	KJS
A:8151A	280-116910-E-1-C MSD		280-438286	280-437686	11/20/2018 20:07	1	TAL DEN	AMB1
P:3005A	280-117014-D-1-C MSD		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-C MSD		280-438709	280-438411	11/23/2018 20:44	1	TAL DEN	CML
P:7470A	280-117038-D-2-E MSD		280-438631	280-438551	11/23/2018 12:30	1	TAL DEN	THP
A:7470A	280-117038-D-2-E MSD		280-438631	280-438551	11/23/2018 21:08	1	TAL DEN	THP
P:9012A	280-116892-L-2-C MSD		280-438452	280-438264	11/20/2018 10:20	1	TAL DEN	AML
A:9012A	280-116892-L-2-C MSD		280-438452	280-438264	11/21/2018 10:46	1	TAL DEN	AJA
P:9012A	280-117016-J-1-C MSD		280-438452	280-438294	11/20/2018 13:10	1	TAL DEN	AML
A:9012A	280-117016-J-1-C MSD		280-438452	280-438294	11/21/2018 11:29	1	TAL DEN	AJA

Lab References:
TAL DEN = TestAmerica Denver

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information All info	Sampler: SG.	Lab PM: Sara, Betsy A	Carrier Tracking No(s): Same as pg 1	COC No: 280-75036-7452.1
Client Contact: Same as pg. 1	Phone:	E-Mail: betsy.sara@testamericainc.com		Page: Page ~~1 of 1~~ 2 of 2
Company: SCS Engineers				Job #:
Address: 2405 140th Avenue NE Suite 107	Due Date Requested: Standard			
City: Bellevue	TAT Requested (days):			
State, Zip: WA, 98005-1877				
Phone:	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692 "App III Leachate 3 year ('19, '22, '25)"			
Site: Washington	SSOW#:			

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

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOA	Total Metals	9012A-Total Cyanide	8081A/8082 - Pest/PCBs	8141A - OP Pest	8151A - Herbicides	8270C - SVOA	9034 - Total Sulfide	BOD	Total Number of containers	Special Instructions/Note:
				Preservation Code:			A	D	B	N	N	N	N	CB	N		
L-INF *	11/13/18	1115	G	W	N	N	X	X	X	X	X	X	X	X	X	15	short hold: BOD
OBWL-TD *	↓	1315	G	W	N	N	X	X	X	X	X	X	X	X	X	15	* Samples likely reactive
Trip blank		–	–	W	N	N	X									3	

280-116950 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	11/13/18 1630	SCS	[signature]	11/14/18 0915	TADEW

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Same as page 1	Cooler Temperature(s) °C and Other Remarks: 1.6, 2.1, 4.8 HO+ rod [illegible]

Ver: 08/04/2016

116950-1

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: ousi

Site No.:

Sample Point: L-INF (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/13/18	1115				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Purging Device:

Sampling Device: F

X-Other:

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A (A-In-line Disposable, B-Pressure, C-Vacuum, X-Other)

Sample Tube Type: (A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:)

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1115	1st	7.12	1st 6578	13.56	11.02	7.04	212.95	
	2nd		2nd					
	3rd		3rd					
	4th		4th					
Suggested range for 3 consec. readings or note Permit/Site requirements:		+/- 0.2	+/- 3%	+/-		+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (µmhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
11/13/18	7.12	6578	13.56	11.02	7.04	212.95	

Final Field Readings are required *(i.e, record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: off white/yellow Odor: like leachate Color: off white/yellow Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: cloudy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Collected App I & II parameters in stagnant water. App III parameters in flowing water.

Water started to flow while sampling

Sample collected at pond influent pipe on North end.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/13/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

116950-2

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: QJSL

Site No.: | | | | |

Sample Point: O B W L T D (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 13 18	1315				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: Y or N

Purging Device: B

Sampling Device: B

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: (Y) or N 0.45 μ or ___ μ (circle or fill in)

Filter Type: A

A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D

A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)

Depth to Water (DTW) (from TOC) (ft)

Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)

Stick Up (from ground elevation) (ft)

Casing ID (in)

Casing Material

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1315		1st 6.94	1st 1243	10.43	2.61	6.30	242.0	
		2nd	2nd					
		3rd	3rd					
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
11 13 18	6.94	243	10.43	2.61	6.30	242.0	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: — Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

Used peristaltic pump to collect sample from southern larger sump

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/13/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

TAL-8029WM (1013)

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116950-1

Login Number: 116950

List Source: TestAmerica Denver

List Number: 1

Creator: Quint, Jessica A

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.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

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ANALYTICAL REPORT

Job Number: 280-116998-1

Job Description: WA02|Olympic View Sanitary - Groundwater

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/6/2018 12:21 PM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/06/2018

cc: Mr. Dan Venchiarutti

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary - Groundwater

Report Number: 280-116998-1

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

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

Sample Receiving

The samples were received on 11/15/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.7 C.

Holding Times

All holding times were within established control limits.

Method Blanks

All Method Blank recoveries were within established control limits.

Laboratory Control Samples (LCS)

The Method 8260C LCS recoveries for Carbon tetrachloride and trans-1,4-Dichloro-2-butene was above control limits. Because the data are considered to be biased high and all associated samples were non-detect above the reporting limits for Carbon tetrachloride and trans-1,4-Dichloro-2-butene, corrective action was deemed unnecessary.

All other Laboratory Control Samples were within established control limits.

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

The Matrix Spikes and Matrix Spike Duplicates performed on samples from other clients exhibited recoveries outside control limits for 1,1,1-Trichloroethane and Carbon tetrachloride Method 8260C. In addition, the RPD result was outside the RPD limit for Methyl acetate. Because the corresponding Laboratory Control Samples and the Method Blank samples were within control limits, these anomalies may be due to matrix interference and no corrective action was taken.

Sample LP-LCD (117014) was selected to fulfill the laboratory batch quality control requirements for Method 6010D. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Total Iron above the upper control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

Sample MW-32 was selected to fulfill the laboratory batch quality control requirements for Method 6020B. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Total Antimony above the upper control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

The percent recoveries and/or relative percent difference of the MS/MSD performed on sample MW-32 were outside control limits for Total Manganese Method 6020B because the sample concentration was greater than four times the spike amount. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, no corrective action was taken.

The percent recoveries and/or relative percent difference of the MS/MSD performed on sample MW-32 were outside control limits for Dissolved Manganese Method 6020B because the sample concentration was greater than four times the spike amount. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, no corrective action was taken.

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

Organics

The analytes Acrolein, Acrylonitrile and 2-chloroethyl vinyl ether cannot be reliably quantitated in acid preserved samples, therefore, the reporting limits for the analytes Acrolein, Acrylonitrile and 2-chloroethyl vinyl ether is not reliable or defensible.

General Comments

The analysis for Volatile Organics by Method 8260C was performed by TestAmerica Buffalo. Their address and phone number are:
TestAmerica Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228
Phone: 716-691-2600

The analysis for Arsenic Method 200.8 was performed by ARI. ARI is not a TestAmerica approved subcontract laboratory and assumes no liability for the data. Their address and phone number are:
Analytical Resources, Inc.
4611 S. 134th Place
Tukwila, WA 98168-3240
Phone: 206-695-6200

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116998-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116998-1	**MW-43**					
Depth to water		25.98			ft	Field Sampling
Specific Conductivity		51			umhos/cm	Field Sampling
Dissolved Oxygen		1.13			mg/L	Field Sampling
eH		323.6			millivolts	Field Sampling
Turbidity		0.44			NTU	Field Sampling
Temperature		10.69			Degrees C	Field Sampling
pH		4.81			SU	Field Sampling
Chloride		1.9		1.0	mg/L	300.0
Sulfate		1.7		1.0	mg/L	300.0
Nitrate as N		0.38		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		18		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		18		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		41		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		4.1		0.040	mg/L	6010D
Iron, Dissolved		0.035	J	0.060	mg/L	6010D
Magnesium, Dissolved		1.8		0.050	mg/L	6010D
Potassium, Dissolved		0.71	J	1.0	mg/L	6010D
Sodium, Dissolved		2.5		1.0	mg/L	6010D
Manganese, Dissolved		0.024		0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.14		0.060	mg/L	6010D
Antimony, Total		0.00060	J	0.0010	mg/L	6020B
Barium, Total		0.0037		0.0010	mg/L	6020B
Manganese, Total		0.028		0.0010	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116998-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116998-2	**MW-32**					
Trichloroethene		0.71	J	1.0	ug/L	8260C
Vinyl chloride		0.33		0.020	ug/L	8260C SIM
Depth to water		2.01			ft	Field Sampling
Specific Conductivity		356			umhos/cm	Field Sampling
Dissolved Oxygen		0.36			mg/L	Field Sampling
eH		63.4			millivolts	Field Sampling
Turbidity		0.21			NTU	Field Sampling
Temperature		11.68			Degrees C	Field Sampling
pH		6.51			SU	Field Sampling
Chloride		14		1.0	mg/L	300.0
Sulfate		12		1.0	mg/L	300.0
Ammonia (as N)		0.048		0.030	mg/L	350.1
Alkalinity, Total (As CaCO3)		140		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		140		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		230		5.0	mg/L	SM 2540C
Total Organic Carbon - Average		1.6		1.0	mg/L	SM 5310B
Dissolved						
Calcium, Dissolved		31		0.040	mg/L	6010D
Iron, Dissolved		0.71		0.060	mg/L	6010D
Magnesium, Dissolved		16		0.050	mg/L	6010D
Potassium, Dissolved		1.2		1.0	mg/L	6010D
Sodium, Dissolved		13		1.0	mg/L	6010D
Manganese, Dissolved		2.4		0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.81		0.060	mg/L	6010D
Barium, Total		0.0061		0.0010	mg/L	6020B
Manganese, Total		2.6		0.0010	mg/L	6020B
Nickel, Total		0.00072	J	0.0040	mg/L	6020B
Zinc, Total		0.0020	J	0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116998-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116998-3	**MW-33A**					
Depth to water		5.60			ft	Field Sampling
Specific Conductivity		141			umhos/cm	Field Sampling
Dissolved Oxygen		0.51			mg/L	Field Sampling
eH		205.6			millivolts	Field Sampling
Turbidity		6.17			NTU	Field Sampling
Temperature		9.51			Degrees C	Field Sampling
pH		6.70			SU	Field Sampling
Chloride		2.9		1.0	mg/L	300.0
Sulfate		4.6		1.0	mg/L	300.0
Alkalinity, Total (As CaCO3)		61		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		61		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		83		5.0	mg/L	SM 2540C
Total Suspended Solids		13		4.0	mg/L	SM 2540D
Dissolved						
Calcium, Dissolved		14		0.040	mg/L	6010D
Magnesium, Dissolved		6.5		0.050	mg/L	6010D
Potassium, Dissolved		0.89	J	1.0	mg/L	6010D
Sodium, Dissolved		3.9		1.0	mg/L	6010D
Manganese, Dissolved		0.0017		0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		2.4		0.060	mg/L	6010D
Antimony, Total		0.0013		0.0010	mg/L	6020B
Barium, Total		0.0030		0.0010	mg/L	6020B
Beryllium, Total		0.00013	J	0.0010	mg/L	6020B
Chromium, Total		0.0012	J	0.0030	mg/L	6020B
Copper, Total		0.0014	J	0.0020	mg/L	6020B
Lead, Total		0.00044	J	0.0010	mg/L	6020B
Manganese, Total		0.010		0.0010	mg/L	6020B
Nickel, Total		0.00038	J	0.0040	mg/L	6020B
Silver, Total		0.000038	J	0.0020	mg/L	6020B
Thallium, Total		0.000077	J	0.0010	mg/L	6020B
Vanadium, Total		0.0049		0.0020	mg/L	6020B
Zinc, Total		0.0052		0.0050	mg/L	6020B

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-116998-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-116998-4	**MW-33C**					
Depth to water		2.78			ft	Field Sampling
Specific Conductivity		162			umhos/cm	Field Sampling
Dissolved Oxygen		0.25			mg/L	Field Sampling
eH		18.1			millivolts	Field Sampling
Turbidity		0.71			NTU	Field Sampling
Temperature		9.00			Degrees C	Field Sampling
pH		7.47			SU	Field Sampling
Chloride		2.8		1.0	mg/L	300.0
Sulfate		8.2		1.0	mg/L	300.0
Alkalinity, Total (As CaCO3)		69		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		69		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		100		5.0	mg/L	SM 2540C
Dissolved						
Calcium, Dissolved		17		0.040	mg/L	6010D
Iron, Dissolved		0.055	J	0.060	mg/L	6010D
Magnesium, Dissolved		6.9		0.050	mg/L	6010D
Potassium, Dissolved		1.4		1.0	mg/L	6010D
Sodium, Dissolved		4.2		1.0	mg/L	6010D
Manganese, Dissolved		0.14		0.0010	mg/L	6020B
Total Recoverable						
Iron, Total		0.091		0.060	mg/L	6010D
Barium, Total		0.0045		0.0010	mg/L	6020B
Manganese, Total		0.18		0.0010	mg/L	6020B

METHOD SUMMARY

Client: Waste Management Job Number: 280-116998-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Metals (ICP/MS)	TAL DEN	SW846 6020B	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrate	TAL DEN	EPA 353.2	
Alkalinity	TAL DEN	SM SM 2320B	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	
Field Sampling	TAL DEN	EPA Field Sampling	
Volatile Organic Compounds by GC/MS	TAL BUF	SW846 8260C	
Purge and Trap	TAL BUF		SW846 5030C
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260C SIM	
Purge and Trap	TAL BUF		SW846 5030C
General Subcontract Method	SC0056	Subcontract	

Lab References:

SC0056 = Analytical Resources, Inc

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

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: Waste Management

Job Number: 280-116998-1

Method	Analyst	Analyst ID
SW846 8260C	Barone, Rachel L	RLB
SW846 8260C	Izquierdo, Olivia M	OMI
SW846 8260C SIM	Farrell, Ryan J	RJF
SW846 6010D	Lackey, Cara M	CML
SW846 6010D	Rhoades, Chris R	CRR
SW846 6020B	Trudell, Lynn-Anne M	LMT
EPA Field Sampling	Suporn, Arisa 1	A1S
MCAWW 300.0	Duplin, Alysha 1	A1D
MCAWW 350.1	Pedrick, Joshua A	JAP
EPA 353.2	Jewell, Connie C	CCJ
SM SM 2320B	Barker, Scott G	SGB
SM SM 2540C	Setjoadi, Mayori J	MJS
SM SM 2540D	Setjoadi, Mayori J	MJS
SM SM 5310B	Loux, Lauren P	LPL

SAMPLE SUMMARY

Client: Waste Management Job Number: 280-116998-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-116998-1	MW-43	Water	11/14/2018 0953	11/15/2018 1350
280-116998-2	MW-32	Water	11/14/2018 1100	11/15/2018 1350
280-116998-3	MW-33A	Water	11/14/2018 1300	11/15/2018 1350
280-116998-4	MW-33C	Water	11/14/2018 1348	11/15/2018 1350
280-116998-5TB	TRIP BLANK	Water	11/14/2018 0000	11/15/2018 1350

SAMPLE RESULTS

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-43

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5804.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1119			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1119				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND	*	0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-43

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5804.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1119			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1119				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND	*	0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-43

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5804.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1119			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1119				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	103		77 - 120
4-Bromofluorobenzene (Surr)	108		73 - 120
Toluene-d8 (Surr)	101		80 - 120

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-43

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5804.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1119			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1119				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **MW-32**

Lab Sample ID: 280-116998-2 Date Sampled: 11/14/2018 1100
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5805.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1143			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1143				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND	*	0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2
Client Matrix: Water

Date Sampled: 11/14/2018 1100
Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5805.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1143			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1143				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND	*	0.22	1.0
Trichloroethene	0.71	J	0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2 Date Sampled: 11/14/2018 1100
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5805.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1143			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1143				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	114		77 - 120
4-Bromofluorobenzene (Surr)	110		73 - 120
Toluene-d8 (Surr)	99		80 - 120

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2 Date Sampled: 11/14/2018 1100
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T5805.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1143			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1143				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **MW-33A**

Lab Sample ID: 280-116998-3 Date Sampled: 11/14/2018 1300
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8557.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0138			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0138				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **MW-33A**

Lab Sample ID: 280-116998-3
Client Matrix: Water

Date Sampled: 11/14/2018 1300
Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8557.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0138			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0138				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33A

Lab Sample ID: 280-116998-3 Date Sampled: 11/14/2018 1300
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8557.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0138			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0138				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	95		80 - 120

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33A

Lab Sample ID: 280-116998-3 Date Sampled: 11/14/2018 1300
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8557.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0138			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0138				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client Sample ID: **MW-33C**

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8558.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0201			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0201				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client Sample ID: **MW-33C**

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8558.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0201			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0201				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33C

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8558.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0201			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0201				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	94		80 - 120

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33C

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8558.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0201			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0201				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116998-5TB Date Sampled: 11/14/2018 0000
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8559.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0224			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0224				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0
Chloroethane	ND		0.32	1.0

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116998-5TB
Client Matrix: Water

Date Sampled: 11/14/2018 0000
Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8559.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0224			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0224				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116998-5TB Date Sampled: 11/14/2018 0000
Client Matrix: Water Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8559.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0224			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0224				

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		77 - 120
4-Bromofluorobenzene (Surr)	105		73 - 120
Toluene-d8 (Surr)	98		80 - 120

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 280-116998-5TB
Client Matrix: Water

Date Sampled: 11/14/2018 0000
Date Received: 11/15/2018 1350

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S8559.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0224			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0224				

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
67-72-1	Hexachloroethane TIC	ND	

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **MW-43**

Lab Sample ID: 280-116998-1
Client Matrix: Water

Date Sampled: 11/14/2018 0953
Date Received: 11/15/2018 1350

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446865	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8110.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/21/2018 1527			Final Weight/Volume:	25 mL
Prep Date:	11/21/2018 1527				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	108		50 - 150
TBA-d9 (Surr)	82		50 - 150

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2
Client Matrix: Water

Date Sampled: 11/14/2018 1100
Date Received: 11/15/2018 1350

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446865	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8111.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/21/2018 1552			Final Weight/Volume:	25 mL
Prep Date:	11/21/2018 1552				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	0.33		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	115		50 - 150
TBA-d9 (Surr)	85		50 - 150

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **MW-33A**

Lab Sample ID: 280-116998-3
Client Matrix: Water

Date Sampled: 11/14/2018 1300
Date Received: 11/15/2018 1350

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-446865	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8112.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/21/2018 1616			Final Weight/Volume:	25 mL
Prep Date:	11/21/2018 1616				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	114		50 - 150
TBA-d9 (Surr)	82		50 - 150

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33C

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-447092	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8137.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/23/2018 1319			Final Weight/Volume:	25 mL
Prep Date:	11/23/2018 1319				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	114		50 - 150
TBA-d9 (Surr)	87		50 - 150

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-116998-5TB Date Sampled: 11/14/2018 0000
Client Matrix: Water Date Received: 11/15/2018 1350

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-447092	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J8138.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	11/23/2018 1343			Final Weight/Volume:	25 mL
Prep Date:	11/23/2018 1343				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	116		50 - 150
TBA-d9 (Surr)	92		50 - 150

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-43

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2111			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	0.14		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438829	Instrument ID:	MT_025
Prep Method:	3005A	Prep Batch:	280-438494	Lab File ID:	25A112618a.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/26/2018 1453			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1115				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	4.1		0.035	0.040
Iron, Dissolved	0.035	J	0.022	0.060
Magnesium, Dissolved	1.8		0.011	0.050
Potassium, Dissolved	0.71	J	0.24	1.0
Sodium, Dissolved	2.5		0.12	1.0

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439163	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	090SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1823			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	0.00060	J	0.00040	0.0010
Barium, Total	0.0037		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Lead, Total	ND		0.00018	0.0010
Manganese, Total	0.028		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Selenium, Total	ND		0.00070	0.0010
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **MW-43**

Lab Sample ID: 280-116998-1
Client Matrix: Water

Date Sampled: 11/14/2018 0953
Date Received: 11/15/2018 1350

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439389	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	031SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1346			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Zinc, Total	ND		0.0020	0.0050

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-439171	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-438952	Lab File ID:	037SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1811			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.024		0.00031	0.0010

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2 Date Sampled: 11/14/2018 1100
Client Matrix: Water Date Received: 11/15/2018 1350

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2115			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	0.81		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438829	Instrument ID:	MT_025
Prep Method:	3005A	Prep Batch:	280-438494	Lab File ID:	25A112618a.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/26/2018 1505			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1115				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	31		0.035	0.040
Iron, Dissolved	0.71		0.022	0.060
Magnesium, Dissolved	16		0.011	0.050
Potassium, Dissolved	1.2		0.24	1.0
Sodium, Dissolved	13		0.12	1.0

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439163	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	091SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1827			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND	F1	0.00040	0.0010
Barium, Total	0.0061		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Lead, Total	ND		0.00018	0.0010
Manganese, Total	2.6		0.00031	0.0010
Nickel, Total	0.00072	J	0.00030	0.0040
Selenium, Total	ND		0.00070	0.0010
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2
Client Matrix: Water

Date Sampled: 11/14/2018 1100
Date Received: 11/15/2018 1350

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439389	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	032SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1350			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Zinc, Total	0.0020	J	0.0020	0.0050

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-439171	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-438952	Lab File ID:	038SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1814			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	2.4		0.00031	0.0010

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33A

Lab Sample ID: 280-116998-3 Date Sampled: 11/14/2018 1300
Client Matrix: Water Date Received: 11/15/2018 1350

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2118			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	2.4		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438829	Instrument ID:	MT_025
Prep Method:	3005A	Prep Batch:	280-438494	Lab File ID:	25A112618a.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/26/2018 1508			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1115				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	14		0.035	0.040
Iron, Dissolved	ND		0.022	0.060
Magnesium, Dissolved	6.5		0.011	0.050
Potassium, Dissolved	0.89	J	0.24	1.0
Sodium, Dissolved	3.9		0.12	1.0

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439163	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	096SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1846			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	0.0013		0.00040	0.0010
Barium, Total	0.0030		0.00029	0.0010
Beryllium, Total	0.00013	J	0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Lead, Total	0.00044	J	0.00018	0.0010
Manganese, Total	0.010		0.00031	0.0010
Nickel, Total	0.00038	J	0.00030	0.0040
Selenium, Total	ND		0.00070	0.0010
Silver, Total	0.000038	J	0.000033	0.0020
Thallium, Total	0.000077	J	0.000050	0.0010
Vanadium, Total	0.0049		0.00050	0.0020

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **MW-33A**

Lab Sample ID: 280-116998-3
Client Matrix: Water

Date Sampled: 11/14/2018 1300
Date Received: 11/15/2018 1350

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439389	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	037SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1409			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Chromium, Total	0.0012	J	0.00050	0.0030
Copper, Total	0.0014	J	0.00056	0.0020
Zinc, Total	0.0052		0.0020	0.0050

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-439171	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-438952	Lab File ID:	043SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1831			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.0017		0.00031	0.0010

Client: Waste Management Job Number: 280-116998-1

Client Sample ID: MW-33C

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2122			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	0.091		0.022	0.060

6010D Metals (ICP)-Dissolved

Analysis Method:	6010D	Analysis Batch:	280-438829	Instrument ID:	MT_025
Prep Method:	3005A	Prep Batch:	280-438494	Lab File ID:	25A112618a.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/26/2018 1511			Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1115				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Dissolved	17		0.035	0.040
Iron, Dissolved	0.055	J	0.022	0.060
Magnesium, Dissolved	6.9		0.011	0.050
Potassium, Dissolved	1.4		0.24	1.0
Sodium, Dissolved	4.2		0.12	1.0

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439163	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	097SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1849			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	0.0045		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Lead, Total	ND		0.00018	0.0010
Manganese, Total	0.18		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Selenium, Total	ND		0.00070	0.0010
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020

Client: Waste Management

Job Number: 280-116998-1

Client Sample ID: **MW-33C**

Lab Sample ID: 280-116998-4
Client Matrix: Water

Date Sampled: 11/14/2018 1348
Date Received: 11/15/2018 1350

6020B Metals (ICP/MS)-Total Recoverable

Analysis Method:	6020B	Analysis Batch:	280-439389	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-438790	Lab File ID:	038SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1413			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Zinc, Total	ND		0.0020	0.0050

6020B Metals (ICP/MS)-Dissolved

Analysis Method:	6020B	Analysis Batch:	280-439171	Instrument ID:	MT_078
Prep Method:	3005A	Prep Batch:	280-438952	Lab File ID:	044SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1834			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Manganese, Dissolved	0.14		0.00031	0.0010

General Chemistry

Client Sample ID: MW-43

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	1.9		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 1842						
Sulfate	1.7		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 1842						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-439267	Analysis Date: 11/29/2018 1106						
Nitrate as N	0.38		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Alkalinity, Total (As CaCO3)	18		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1735						
Alkalinity, Bicarbonate (As CaCO3)	18		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1735						
Total Dissolved Solids (TDS)	41		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-438261	Analysis Date: 11/20/2018 1019						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-438323	Analysis Date: 11/20/2018 1458						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439731	Analysis Date: 12/01/2018 1404						

General Chemistry

Client Sample ID: MW-32

Lab Sample ID: 280-116998-2 Date Sampled: 11/14/2018 1100
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	14		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 1959						
Sulfate	12		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 1959						
Ammonia (as N)	0.048		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-439267	Analysis Date: 11/29/2018 1108						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Alkalinity, Total (As CaCO3)	140		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1724						
Alkalinity, Bicarbonate (As CaCO3)	140		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1724						
Total Dissolved Solids (TDS)	230		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-438261	Analysis Date: 11/20/2018 1019						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-438323	Analysis Date: 11/20/2018 1458						
Total Organic Carbon - Average	1.6		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439731	Analysis Date: 12/01/2018 1420						

General Chemistry

Client Sample ID: MW-33A

Lab Sample ID: 280-116998-3 Date Sampled: 11/14/2018 1300
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	2.9		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 2019						
Sulfate	4.6		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 2019						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-439299	Analysis Date: 11/29/2018 1425						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Alkalinity, Total (As CaCO3)	61		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1730						
Alkalinity, Bicarbonate (As CaCO3)	61		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1730						
Total Dissolved Solids (TDS)	83		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-438261	Analysis Date: 11/20/2018 1019						
Total Suspended Solids	13		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-438323	Analysis Date: 11/20/2018 1458						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439731	Analysis Date: 12/01/2018 1439						

General Chemistry

Client Sample ID: MW-33C

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	2.8		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 2038						
Sulfate	8.2		mg/L	1.0	1.0	1.0	300.0
Analysis Batch: 280-439233	Analysis Date: 11/29/2018 2038						
Ammonia (as N)	ND		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-439299	Analysis Date: 11/29/2018 1427						
Nitrate as N	ND		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Alkalinity, Total (As CaCO3)	69		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1752						
Alkalinity, Bicarbonate (As CaCO3)	69		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-439036	Analysis Date: 11/27/2018 1752						
Total Dissolved Solids (TDS)	100		mg/L	5.0	5.0	1.0	SM 2540C
Analysis Batch: 280-438261	Analysis Date: 11/20/2018 1019						
Total Suspended Solids	ND		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 280-438323	Analysis Date: 11/20/2018 1458						
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439731	Analysis Date: 12/01/2018 1538						

Field Service / Mobile Lab

Client Sample ID: **MW-43**

Lab Sample ID: 280-116998-1 Date Sampled: 11/14/2018 0953
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	25.98		ft	1.0	Field Sampling	280-438054	11/14/2018 1053
Specific Conductivity	51		umhos/cm	1.0	Field Sampling	280-438054	11/14/2018 1053
Dissolved Oxygen	1.13		mg/L	1.0	Field Sampling	280-438054	11/14/2018 1053
eH	323.6		millivolts	1.0	Field Sampling	280-438054	11/14/2018 1053
Turbidity	0.44		NTU	1.0	Field Sampling	280-438054	11/14/2018 1053
Temperature	10.69		Degrees C	1.0	Field Sampling	280-438054	11/14/2018 1053
pH	4.81		SU	1.0	Field Sampling	280-438054	11/14/2018 1053

Field Service / Mobile Lab

Client Sample ID: **MW-32**

Lab Sample ID: 280-116998-2 Date Sampled: 11/14/2018 1100
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	2.01		ft	1.0	Field Sampling	280-438054	11/14/2018 1200
Specific Conductivity	356		umhos/cm	1.0	Field Sampling	280-438054	11/14/2018 1200
Dissolved Oxygen	0.36		mg/L	1.0	Field Sampling	280-438054	11/14/2018 1200
eH	63.4		millivolts	1.0	Field Sampling	280-438054	11/14/2018 1200
Turbidity	0.21		NTU	1.0	Field Sampling	280-438054	11/14/2018 1200
Temperature	11.68		Degrees C	1.0	Field Sampling	280-438054	11/14/2018 1200
pH	6.51		SU	1.0	Field Sampling	280-438054	11/14/2018 1200

Field Service / Mobile Lab

Client Sample ID: **MW-33A**

Lab Sample ID: 280-116998-3 Date Sampled: 11/14/2018 1300
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	5.60		ft	1.0	Field Sampling	280-438054	11/14/2018 1400
Specific Conductivity	141		umhos/cm	1.0	Field Sampling	280-438054	11/14/2018 1400
Dissolved Oxygen	0.51		mg/L	1.0	Field Sampling	280-438054	11/14/2018 1400
eH	205.6		millivolts	1.0	Field Sampling	280-438054	11/14/2018 1400
Turbidity	6.17		NTU	1.0	Field Sampling	280-438054	11/14/2018 1400
Temperature	9.51		Degrees C	1.0	Field Sampling	280-438054	11/14/2018 1400
pH	6.70		SU	1.0	Field Sampling	280-438054	11/14/2018 1400

Field Service / Mobile Lab

Client Sample ID: **MW-33C**

Lab Sample ID: 280-116998-4 Date Sampled: 11/14/2018 1348
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Depth to water	2.78		ft	1.0	Field Sampling	280-438054	11/14/2018 1448
Specific Conductivity	162		umhos/cm	1.0	Field Sampling	280-438054	11/14/2018 1448
Dissolved Oxygen	0.25		mg/L	1.0	Field Sampling	280-438054	11/14/2018 1448
eH	18.1		millivolts	1.0	Field Sampling	280-438054	11/14/2018 1448
Turbidity	0.71		NTU	1.0	Field Sampling	280-438054	11/14/2018 1448
Temperature	9.00		Degrees C	1.0	Field Sampling	280-438054	11/14/2018 1448
pH	7.47		SU	1.0	Field Sampling	280-438054	11/14/2018 1448

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-116998-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD is outside acceptance limits.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	F2	MS/MSD RPD exceeds control limits
	E	Result exceeded calibration range.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals		
	F1	MS and/or MSD Recovery is outside acceptance limits.
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-116998-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-446865					
LCS 480-446865/6	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-446865/7	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-446865/9	Method Blank	T	Water	8260C SIM	
280-116998-1	MW-43	T	Water	8260C SIM	
280-116998-2	MW-32	T	Water	8260C SIM	
280-116998-3	MW-33A	T	Water	8260C SIM	
Analysis Batch:480-447083					
LCS 480-447083/5	Lab Control Sample	T	Water	8260C	
MB 480-447083/7	Method Blank	T	Water	8260C	
280-116998-1	MW-43	T	Water	8260C	
280-116998-2	MW-32	T	Water	8260C	
480-145348-B-5 MS	Matrix Spike	T	Water	8260C	
480-145348-B-5 MSD	Matrix Spike Duplicate	T	Water	8260C	
Analysis Batch:480-447092					
LCS 480-447092/6	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-447092/7	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-447092/9	Method Blank	T	Water	8260C SIM	
280-116998-4	MW-33C	T	Water	8260C SIM	
280-116998-5TB	TRIP BLANK	T	Water	8260C SIM	
Analysis Batch:480-447215					
LCS 480-447215/5	Lab Control Sample	T	Water	8260C	
MB 480-447215/7	Method Blank	T	Water	8260C	
280-116998-3	MW-33A	T	Water	8260C	
280-116998-4	MW-33C	T	Water	8260C	
280-116998-5TB	TRIP BLANK	T	Water	8260C	
480-145487-E-1 MS	Matrix Spike	T	Water	8260C	
480-145487-E-1 MSD	Matrix Spike Duplicate	T	Water	8260C	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116998-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-438411					
LCS 280-438411/2-A	Lab Control Sample	R	Water	3005A	
MB 280-438411/1-A	Method Blank	R	Water	3005A	
280-116998-1	MW-43	R	Water	3005A	
280-116998-2	MW-32	R	Water	3005A	
280-116998-3	MW-33A	R	Water	3005A	
280-116998-4	MW-33C	R	Water	3005A	
280-117014-D-1-B MS	Matrix Spike	R	Water	3005A	
280-117014-D-1-C MSD	Matrix Spike Duplicate	R	Water	3005A	
Prep Batch: 280-438494					
LCS 280-438494/2-A	Lab Control Sample	R	Water	3005A	
MB 280-438494/1-A	Method Blank	R	Water	3005A	
280-116998-1	MW-43	D	Water	3005A	
280-116998-1MS	Matrix Spike	D	Water	3005A	
280-116998-1MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116998-2	MW-32	D	Water	3005A	
280-116998-3	MW-33A	D	Water	3005A	
280-116998-4	MW-33C	D	Water	3005A	
Analysis Batch:280-438709					
LCS 280-438411/2-A	Lab Control Sample	R	Water	6010D	280-438411
MB 280-438411/1-A	Method Blank	R	Water	6010D	280-438411
280-116998-1	MW-43	R	Water	6010D	280-438411
280-116998-2	MW-32	R	Water	6010D	280-438411
280-116998-3	MW-33A	R	Water	6010D	280-438411
280-116998-4	MW-33C	R	Water	6010D	280-438411
280-117014-D-1-B MS	Matrix Spike	R	Water	6010D	280-438411
280-117014-D-1-C MSD	Matrix Spike Duplicate	R	Water	6010D	280-438411
Prep Batch: 280-438790					
LCS 280-438790/2-A	Lab Control Sample	R	Water	3005A	
MB 280-438790/1-A	Method Blank	R	Water	3005A	
280-116998-1	MW-43	R	Water	3005A	
280-116998-2	MW-32	R	Water	3005A	
280-116998-2MS	Matrix Spike	R	Water	3005A	
280-116998-2MSD	Matrix Spike Duplicate	R	Water	3005A	
280-116998-3	MW-33A	R	Water	3005A	
280-116998-4	MW-33C	R	Water	3005A	

Client: Waste Management Job Number: 280-116998-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-438829					
LCS 280-438494/2-A	Lab Control Sample	R	Water	6010D	280-438494
MB 280-438494/1-A	Method Blank	R	Water	6010D	280-438494
280-116998-1	MW-43	D	Water	6010D	280-438494
280-116998-1MS	Matrix Spike	D	Water	6010D	280-438494
280-116998-1MSD	Matrix Spike Duplicate	D	Water	6010D	280-438494
280-116998-2	MW-32	D	Water	6010D	280-438494
280-116998-3	MW-33A	D	Water	6010D	280-438494
280-116998-4	MW-33C	D	Water	6010D	280-438494
Prep Batch: 280-438952					
LCS 280-438952/2-A	Lab Control Sample	R	Water	3005A	
MB 280-438952/1-A	Method Blank	R	Water	3005A	
280-116998-1	MW-43	D	Water	3005A	
280-116998-2	MW-32	D	Water	3005A	
280-116998-2MS	Matrix Spike	D	Water	3005A	
280-116998-2MSD	Matrix Spike Duplicate	D	Water	3005A	
280-116998-3	MW-33A	D	Water	3005A	
280-116998-4	MW-33C	D	Water	3005A	
Analysis Batch:280-439163					
LCS 280-438790/2-A	Lab Control Sample	R	Water	6020B	280-438790
MB 280-438790/1-A	Method Blank	R	Water	6020B	280-438790
280-116998-1	MW-43	R	Water	6020B	280-438790
280-116998-2	MW-32	R	Water	6020B	280-438790
280-116998-2MS	Matrix Spike	R	Water	6020B	280-438790
280-116998-2MSD	Matrix Spike Duplicate	R	Water	6020B	280-438790
280-116998-3	MW-33A	R	Water	6020B	280-438790
280-116998-4	MW-33C	R	Water	6020B	280-438790
Analysis Batch:280-439171					
LCS 280-438952/2-A	Lab Control Sample	R	Water	6020B	280-438952
MB 280-438952/1-A	Method Blank	R	Water	6020B	280-438952
280-116998-1	MW-43	D	Water	6020B	280-438952
280-116998-2	MW-32	D	Water	6020B	280-438952
280-116998-2MS	Matrix Spike	D	Water	6020B	280-438952
280-116998-2MSD	Matrix Spike Duplicate	D	Water	6020B	280-438952
280-116998-3	MW-33A	D	Water	6020B	280-438952
280-116998-4	MW-33C	D	Water	6020B	280-438952

Client: Waste Management Job Number: 280-116998-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:280-439389					
LCS 280-438790/2-A	Lab Control Sample	R	Water	6020B	280-438790
MB 280-438790/1-A	Method Blank	R	Water	6020B	280-438790
280-116998-1	MW-43	R	Water	6020B	280-438790
280-116998-2	MW-32	R	Water	6020B	280-438790
280-116998-2MS	Matrix Spike	R	Water	6020B	280-438790
280-116998-2MSD	Matrix Spike Duplicate	R	Water	6020B	280-438790
280-116998-3	MW-33A	R	Water	6020B	280-438790
280-116998-4	MW-33C	R	Water	6020B	280-438790

Report Basis
D = Dissolved
R = Total Recoverable

Field Service / Mobile Lab					
Analysis Batch:280-438054					
280-116998-1	MW-43	T	Water	Field Sampling	
280-116998-2	MW-32	T	Water	Field Sampling	
280-116998-3	MW-33A	T	Water	Field Sampling	
280-116998-4	MW-33C	T	Water	Field Sampling	

Report Basis
T = Total

Client: Waste Management Job Number: 280-116998-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-438261					
LCS 280-438261/2	Lab Control Sample	T	Water	SM 2540C	
LCSD 280-438261/3	Lab Control Sample Duplicate	T	Water	SM 2540C	
MB 280-438261/1	Method Blank	T	Water	SM 2540C	
280-116998-1	MW-43	T	Water	SM 2540C	
280-116998-2	MW-32	T	Water	SM 2540C	
280-116998-3	MW-33A	T	Water	SM 2540C	
280-116998-4	MW-33C	T	Water	SM 2540C	
280-117049-A-5 DU	Duplicate	T	Water	SM 2540C	
Analysis Batch:280-438323					
LCS 280-438323/2	Lab Control Sample	T	Water	SM 2540D	
MB 280-438323/1	Method Blank	T	Water	SM 2540D	
280-116998-1	MW-43	T	Water	SM 2540D	
280-116998-1DU	Duplicate	T	Water	SM 2540D	
280-116998-2	MW-32	T	Water	SM 2540D	
280-116998-3	MW-33A	T	Water	SM 2540D	
280-116998-4	MW-33C	T	Water	SM 2540D	
Analysis Batch:280-438438					
MB 280-438438/1	Method Blank	T	Water	353.2	
280-116998-1	MW-43	T	Water	353.2	
280-116998-2	MW-32	T	Water	353.2	
280-116998-3	MW-33A	T	Water	353.2	
280-116998-4	MW-33C	T	Water	353.2	
Analysis Batch:280-439036					
LCS 280-439036/4	Lab Control Sample	T	Water	SM 2320B	
MB 280-439036/5	Method Blank	T	Water	SM 2320B	
280-116998-1	MW-43	T	Water	SM 2320B	
280-116998-2	MW-32	T	Water	SM 2320B	
280-116998-3	MW-33A	T	Water	SM 2320B	
280-116998-4	MW-33C	T	Water	SM 2320B	
280-117047-A-12 DU	Duplicate	T	Water	SM 2320B	
Analysis Batch:280-439233					
LCS 280-439233/4	Lab Control Sample	T	Water	300.0	
LCSD 280-439233/5	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-439233/6	Method Blank	T	Water	300.0	
280-116998-1	MW-43	T	Water	300.0	
280-116998-1DU	Duplicate	T	Water	300.0	
280-116998-1MS	Matrix Spike	T	Water	300.0	
280-116998-1MSD	Matrix Spike Duplicate	T	Water	300.0	
280-116998-2	MW-32	T	Water	300.0	
280-116998-3	MW-33A	T	Water	300.0	
280-116998-4	MW-33C	T	Water	300.0	

Client: Waste Management Job Number: 280-116998-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-439267					
LCS 280-439267/18	Lab Control Sample	T	Water	350.1	
LCSD 280-439267/19	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-439267/20	Method Blank	T	Water	350.1	
280-116998-1	MW-43	T	Water	350.1	
280-116998-2	MW-32	T	Water	350.1	
280-116999-B-1 MS	Matrix Spike	T	Water	350.1	
280-116999-B-1 MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:280-439299					
LCS 280-439299/18	Lab Control Sample	T	Water	350.1	
MB 280-439299/19	Method Blank	T	Water	350.1	
280-116998-3	MW-33A	T	Water	350.1	
280-116998-4	MW-33C	T	Water	350.1	
280-116998-4MS	Matrix Spike	T	Water	350.1	
280-116998-4MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:280-439731					
LCS 280-439731/3	Lab Control Sample	T	Water	SM 5310B	
MB 280-439731/4	Method Blank	T	Water	SM 5310B	
280-116998-1	MW-43	T	Water	SM 5310B	
280-116998-2	MW-32	T	Water	SM 5310B	
280-116998-3	MW-33A	T	Water	SM 5310B	
280-116998-3MS	Matrix Spike	T	Water	SM 5310B	
280-116998-3MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116998-4	MW-33C	T	Water	SM 5310B	
Analysis Batch:280-439732					
LCS 280-439732/3	Lab Control Sample	T	Water	SM 5310B	
MB 280-439732/4	Method Blank	T	Water	SM 5310B	
280-116998-1	MW-43	T	Water	SM 5310B	
280-116998-2	MW-32	T	Water	SM 5310B	
280-116998-3	MW-33A	T	Water	SM 5310B	
280-116998-3MS	Matrix Spike	T	Water	SM 5310B	
280-116998-3MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-116998-4	MW-33C	T	Water	SM 5310B	

Report Basis
T = Total

Surrogate Recovery Report

8260C Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec
280-116998-1	MW-43	103	108	101
280-116998-2	MW-32	114	110	99
280-116998-3	MW-33A	95	102	95
280-116998-4	MW-33C	92	102	94
280-116998-5	TRIP BLANK	91	105	98
MB 480-447083/7		112	105	102
MB 480-447215/7		93	104	97
LCS 480-447083/5		111	111	102
LCS 480-447215/5		91	102	97
480-145348-B-5 MS		115	112	103
480-145487-E-1 MS		99	102	96
480-145348-B-5 MSD		111	107	100
480-145487-E-1 MSD		103	103	96

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	77-120
BFB = 4-Bromofluorobenzene (Surr)	73-120
TOL = Toluene-d8 (Surr)	80-120

Surrogate Recovery Report

8260C SIM Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	TBA %Rec
280-116998-1	MW-43	108	82
280-116998-2	MW-32	115	85
280-116998-3	MW-33A	114	82
280-116998-4	MW-33C	114	87
280-116998-5	TRIP BLANK	116	92
MB 480-446865/9		110	90
MB 480-447092/9		113	101
LCS 480-446865/6		96	95
LCS 480-447092/6		96	92
LCSD 480-446865/7		95	96
LCSD 480-447092/7		94	96

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	50-150
TBA = TBA-d9 (Surr)	50-150

Method Blank - Batch: 480-447083

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-447083/7	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5803.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1042	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1042				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 480-447083

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-447083/7	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5803.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1042	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1042				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0

Client: Waste Management

Job Number: 280-116998-1

Method Blank - Batch: 480-447083

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-447083/7	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5803.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1042	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1042				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	112	77 - 120
4-Bromofluorobenzene (Surr)	105	73 - 120
Toluene-d8 (Surr)	102	80 - 120

Client: Waste Management

Job Number: 280-116998-1

Lab Control Sample - Batch: 480-447083

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-447083/5	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 0947	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 0947				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	25.0	29.2	117	80 - 120	
1,1,1-Trichloroethane	25.0	30.9	124	73 - 126	
1,1,2,2-Tetrachloroethane	25.0	22.7	91	76 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	31.7	127	61 - 148	
1,1,2-Trichloroethane	25.0	24.4	98	76 - 122	
1,1-Dichloroethane	25.0	27.7	111	77 - 120	
1,1-Dichloroethene	25.0	29.6	118	66 - 127	
1,1-Dichloropropene	25.0	28.0	112	72 - 122	
1,2,3-Trichlorobenzene	25.0	25.1	100	75 - 123	
1,2,3-Trichloropropane	25.0	22.4	90	68 - 122	
1,2,4-Trichlorobenzene	25.0	26.5	106	79 - 122	
1,2,4-Trimethylbenzene	25.0	26.7	107	76 - 121	
1,2-Dibromo-3-Chloropropane	25.0	22.8	91	56 - 134	
1,2-Dibromoethane (EDB)	25.0	25.1	100	77 - 120	
1,2-Dichlorobenzene	25.0	25.9	103	80 - 124	
1,2-Dichloroethane	25.0	27.4	110	75 - 120	
1,2-Dichloropropane	25.0	26.0	104	76 - 120	
1,3,5-Trimethylbenzene	25.0	25.8	103	77 - 121	
1,3-Dichlorobenzene	25.0	25.5	102	77 - 120	
1,3-Dichloropropane	25.0	23.2	93	75 - 120	
1,4-Dichlorobenzene	25.0	25.8	103	80 - 120	
1,4-Dioxane	500	459	92	50 - 150	
2,2-Dichloropropane	25.0	30.9	124	63 - 136	
2-Butanone (MEK)	125	113	91	57 - 140	
2-Chloroethyl vinyl ether	25.0	25.6	102	70 - 129	
2-Hexanone	125	118	94	65 - 127	
4-Methyl-2-pentanone (MIBK)	125	113	90	71 - 125	
Acetone	125	119	95	56 - 142	
Acrolein	125	101	80	52 - 143	
Acrylonitrile	250	228	91	63 - 125	
Benzene	25.0	26.0	104	71 - 124	
Bromobenzene	25.0	26.0	104	78 - 120	
Bromochloromethane	25.0	27.4	110	72 - 130	
Bromodichloromethane	25.0	28.8	115	80 - 122	
Bromoform	25.0	30.1	121	61 - 132	
Bromomethane	25.0	28.8	115	55 - 144	
Butyl alcohol, tert-	250	230	92	75 - 125	
Carbon disulfide	25.0	25.4	101	59 - 134	
Carbon tetrachloride	25.0	34.0	136	72 - 134	*
Chlorobenzene	25.0	25.1	100	80 - 120	
Chloroethane	25.0	31.1	124	69 - 136	
Chloroform	25.0	27.6	111	73 - 127	
Chloromethane	25.0	25.7	103	68 - 124	
cis-1,2-Dichloroethene	25.0	26.3	105	74 - 124	
cis-1,3-Dichloropropene	25.0	27.7	111	74 - 124	
Cyclohexane	25.0	29.6	118	59 - 135	

Client: Waste Management

Job Number: 280-116998-1

Lab Control Sample - Batch: 480-447083

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-447083/5	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 0947	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 0947				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromochloromethane	25.0	28.3	113	75 - 125	
Dibromomethane	25.0	26.3	105	76 - 127	
Dichlorodifluoromethane	25.0	22.1	89	59 - 135	
Dichlorofluoromethane	25.0	30.2	121	76 - 127	
Ethyl ether	25.0	26.3	105	76 - 123	
Ethylbenzene	25.0	26.8	107	77 - 123	
Hexachlorobutadiene	25.0	29.6	119	68 - 131	
Iodomethane	25.0	28.5	114	78 - 123	
Isobutanol	625	530	85	51 - 150	
Isopropylbenzene	25.0	27.2	109	77 - 122	
Methyl acetate	50.0	46.2	92	74 - 133	
Methyl tert-butyl ether	25.0	25.0	100	77 - 120	
Methylcyclohexane	25.0	29.4	117	68 - 134	
Methylene Chloride	25.0	25.9	104	75 - 124	
m-Xylene & p-Xylene	25.0	26.1	104	76 - 122	
Naphthalene	25.0	25.2	101	66 - 125	
n-Butylbenzene	25.0	26.3	105	71 - 128	
N-Propylbenzene	25.0	26.3	105	75 - 127	
o-Chlorotoluene	25.0	26.3	105	76 - 121	
o-Xylene	25.0	25.1	100	76 - 122	
p-Chlorotoluene	25.0	22.8	91	77 - 121	
p-Cymene	25.0	26.8	107	73 - 120	
sec-Butylbenzene	25.0	27.3	109	74 - 127	
Styrene	25.0	25.9	104	80 - 120	
tert-Butylbenzene	25.0	25.4	102	75 - 123	
Tetrachloroethene	25.0	28.9	116	74 - 122	
Tetrahydrofuran	50.0	43.6	87	62 - 132	
Toluene	25.0	25.3	101	80 - 122	
trans-1,2-Dichloroethene	25.0	28.1	112	73 - 127	
trans-1,3-Dichloropropene	25.0	28.4	113	80 - 120	
trans-1,4-Dichloro-2-butene	25.0	76.5	306	41 - 131	E *
Trichloroethene	25.0	28.1	112	74 - 123	
Trichlorofluoromethane	25.0	31.5	126	62 - 150	
Vinyl acetate	50.0	44.9	90	50 - 144	
Vinyl chloride	25.0	26.8	107	65 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111	77 - 120
4-Bromofluorobenzene (Surr)	111	73 - 120
Toluene-d8 (Surr)	102	80 - 120

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447083

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145348-B-5 MS	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5822.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1825			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1825				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145348-B-5 MSD	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5823.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1849			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1849				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1-Trichloroethane	122	130	73 - 126	6	15		F1
1,1,2,2-Tetrachloroethane	89	92	76 - 120	3	15		
1,1,2-Trichloro-1,2,2-trifluoroethane	106	120	61 - 148	12	20		
1,1,2-Trichloroethane	100	109	76 - 122	9	15		
1,1-Dichloroethane	109	115	77 - 120	6	20		
1,1-Dichloroethene	108	118	66 - 127	9	16		
1,2,4-Trichlorobenzene	98	111	79 - 122	13	20		
1,2-Dibromo-3-Chloropropane	86	88	56 - 134	2	15		
1,2-Dibromoethane (EDB)	97	102	77 - 120	4	15		
1,2-Dichlorobenzene	96	109	80 - 124	12	20		
1,2-Dichloroethane	113	112	75 - 120	1	20		
1,2-Dichloropropane	103	103	76 - 120	0	20		
1,3-Dichlorobenzene	96	110	77 - 120	14	20		
1,4-Dichlorobenzene	97	109	78 - 124	11	20		
2-Butanone (MEK)	91	87	57 - 140	5	20		
2-Hexanone	90	93	65 - 127	4	15		
4-Methyl-2-pentanone (MIBK)	92	94	71 - 125	1	35		
Acetone	91	89	56 - 142	2	15		
Benzene	103	108	71 - 124	5	13		
Bromodichloromethane	111	117	80 - 122	5	15		
Bromoform	105	119	61 - 132	12	15		
Bromomethane	117	124	55 - 144	6	15		
Carbon disulfide	93	104	59 - 134	11	15		
Carbon tetrachloride	124	137	72 - 134	10	15		F1
Chlorobenzene	94	104	80 - 120	10	25		
Chloroethane	126	130	69 - 136	4	15		
Chloroform	111	116	73 - 127	5	20		
Chloromethane	99	102	68 - 124	3	15		
cis-1,2-Dichloroethene	103	110	74 - 124	7	15		
cis-1,3-Dichloropropene	103	109	74 - 124	6	15		
Cyclohexane	103	115	59 - 135	11	20		
Dibromochloromethane	103	114	75 - 125	10	15		
Dichlorodifluoromethane	80	86	59 - 135	7	20		

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447083

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145348-B-5 MS	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5822.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1825			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1825				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145348-B-5 MSD	Analysis Batch:	480-447083	Instrument ID:	HP5975T
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T5823.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 1849			Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 1849				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethylbenzene	101	112	77 - 123	10	15		
Isopropylbenzene	101	115	77 - 122	13	20		
Methyl acetate	84	83	74 - 133	1	20		
Methyl tert-butyl ether	103	101	77 - 120	2	37		
Methylcyclohexane	103	110	68 - 134	6	20		
Methylene Chloride	99	108	75 - 124	8	15		
m-Xylene & p-Xylene	100	113	76 - 122	13	16		
o-Xylene	95	106	76 - 122	11	16		
Styrene	97	110	80 - 120	13	20		
Tetrachloroethene	105	122	74 - 122	6	20		
Toluene	101	111	80 - 122	10	15		
trans-1,2-Dichloroethene	109	111	73 - 127	1	20		
trans-1,3-Dichloropropene	103	110	80 - 120	7	15		
Trichloroethene	114	114	74 - 123	0	16		
Trichlorofluoromethane	119	133	62 - 150	11	20		
Vinyl chloride	107	111	65 - 133	4	15		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	115	111	77 - 120
4-Bromofluorobenzene (Surr)	112	107	73 - 120
Toluene-d8 (Surr)	103	100	80 - 120

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447083

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145348-B-5 MS	Units: ug/L	MSD Lab Sample ID:	480-145348-B-5 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 1825		Analysis Date:	11/23/2018 1849	
Prep Date:	11/23/2018 1825		Prep Date:	11/23/2018 1849	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
1,1,1-Trichloroethane	ND	25.0	25.0	30.6	32.5	F1
1,1,2,2-Tetrachloroethane	ND	25.0	25.0	22.2	22.9	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	25.0	25.0	26.5	30.0	
1,1,2-Trichloroethane	ND	25.0	25.0	25.1	27.3	
1,1-Dichloroethane	ND	25.0	25.0	27.2	28.8	
1,1-Dichloroethene	ND	25.0	25.0	26.9	29.4	
1,2,4-Trichlorobenzene	ND	25.0	25.0	24.4	27.8	
1,2-Dibromo-3-Chloropropane	ND	25.0	25.0	21.6	22.0	
1,2-Dibromoethane (EDB)	ND	25.0	25.0	24.4	25.4	
1,2-Dichlorobenzene	ND	25.0	25.0	24.1	27.1	
1,2-Dichloroethane	ND	25.0	25.0	28.3	28.0	
1,2-Dichloropropane	ND	25.0	25.0	25.8	25.8	
1,3-Dichlorobenzene	ND	25.0	25.0	24.1	27.6	
1,4-Dichlorobenzene	ND	25.0	25.0	24.4	27.2	
2-Butanone (MEK)	ND	125	125	114	108	
2-Hexanone	ND	125	125	112	116	
4-Methyl-2-pentanone (MIBK)	ND	125	125	115	117	
Acetone	ND	125	125	113	111	
Benzene	ND	25.0	25.0	25.7	26.9	
Bromodichloromethane	ND	25.0	25.0	27.8	29.4	
Bromoform	ND	25.0	25.0	26.3	29.6	
Bromomethane	ND	25.0	25.0	29.2	31.1	
Carbon disulfide	ND	25.0	25.0	23.4	26.0	
Carbon tetrachloride	ND	25.0	25.0	31.0	34.3	F1
Chlorobenzene	ND	25.0	25.0	23.6	26.1	
Chloroethane	ND	25.0	25.0	31.4	32.6	
Chloroform	ND	25.0	25.0	27.7	29.1	
Chloromethane	ND	25.0	25.0	24.7	25.5	
cis-1,2-Dichloroethene	ND	25.0	25.0	25.8	27.5	
cis-1,3-Dichloropropene	ND	25.0	25.0	25.7	27.2	
Cyclohexane	ND	25.0	25.0	25.7	28.7	
Dibromochloromethane	ND	25.0	25.0	25.8	28.5	
Dichlorodifluoromethane	ND	25.0	25.0	20.0	21.5	
Ethylbenzene	ND	25.0	25.0	25.3	28.0	
Isopropylbenzene	ND	25.0	25.0	25.3	28.8	
Methyl acetate	ND	50.0	50.0	41.9	41.4	
Methyl tert-butyl ether	ND	25.0	25.0	25.8	25.3	
Methylcyclohexane	ND	25.0	25.0	25.9	27.5	
Methylene Chloride	ND	25.0	25.0	24.7	26.9	
m-Xylene & p-Xylene	ND	25.0	25.0	24.9	28.3	
o-Xylene	ND	25.0	25.0	23.7	26.5	
Styrene	ND	25.0	25.0	24.2	27.4	
Tetrachloroethene	44	25.0	25.0	70.1	74.3	

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447083

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145348-B-5 MS	Units: ug/L	MSD Lab Sample ID:	480-145348-B-5 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/23/2018 1825		Analysis Date:	11/23/2018 1849	
Prep Date:	11/23/2018 1825		Prep Date:	11/23/2018 1849	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Toluene	ND		25.0	25.0	25.2	27.9
trans-1,2-Dichloroethene	ND		25.0	25.0	27.4	27.7
trans-1,3-Dichloropropene	ND		25.0	25.0	25.7	27.5
Trichloroethene	0.79	J	25.0	25.0	29.3	29.3
Trichlorofluoromethane	ND		25.0	25.0	29.8	33.2
Vinyl chloride	ND		25.0	25.0	26.7	27.8

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 480-447215

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-447215/7	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8548.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 2148	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 2148				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.35	1.0
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,1-Dichloropropene	ND		0.72	1.0
1,2,3-Trichlorobenzene	ND		0.41	1.0
1,2,3-Trichloropropane	ND		0.89	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2,4-Trimethylbenzene	ND		0.75	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane (EDB)	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3,5-Trichlorobenzene	ND		0.23	1.0
1,3,5-Trimethylbenzene	ND		0.77	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,3-Dichloropropane	ND		0.75	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
1,4-Dioxane	ND		9.3	40
2,2-Dichloropropane	ND		0.40	1.0
2-Butanone (MEK)	ND		1.3	10
2-Chloroethyl vinyl ether	ND		0.96	5.0
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Acetonitrile	ND		4.9	15
Acrolein	ND		0.91	20
Acrylonitrile	ND		0.83	5.0
Benzene	ND		0.41	1.0
Bromobenzene	ND		0.80	1.0
Bromochloromethane	ND		0.87	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Butyl alcohol, n-	ND		8.9	40
Butyl alcohol, tert-	ND		3.3	10
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chlorodifluoromethane	ND		0.26	1.0

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 480-447215

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-447215/7	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8548.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 2148	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 2148				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dibromomethane	ND		0.41	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Dichlorofluoromethane	ND		0.34	1.0
Ethyl acetate	ND		0.66	1.0
Ethyl ether	ND		0.72	1.0
Ethyl tert-butyl ether	ND		0.29	1.0
Ethylbenzene	ND		0.74	1.0
Hexachlorobutadiene	ND		0.28	1.0
Hexane	ND		0.40	10
Iodomethane	ND		0.30	1.0
Isobutanol	ND		4.8	25
Isopropyl ether	ND		0.59	1.0
Isopropylbenzene	ND		0.79	1.0
Methacrylonitrile	ND		0.69	5.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
m-Xylene & p-Xylene	ND		0.66	2.0
Naphthalene	ND		0.43	1.0
n-Butylbenzene	ND		0.64	1.0
N-Propylbenzene	ND		0.69	1.0
o-Chlorotoluene	ND		0.86	1.0
o-Xylene	ND		0.76	1.0
p-Chlorotoluene	ND		0.84	1.0
p-Cymene	ND		0.31	1.0
sec-Butylbenzene	ND		0.75	1.0
Styrene	ND		0.73	1.0
Tert-amyl methyl ether	ND		0.27	1.0
tert-Butylbenzene	ND		0.81	1.0
Tetrachloroethene	ND		0.36	1.0
Tetrahydrofuran	ND		1.3	5.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
trans-1,4-Dichloro-2-butene	ND		0.22	1.0
Trichloroethene	ND		0.46	1.0
Trichlorofluoromethane	ND		0.88	1.0

Client: Waste Management

Job Number: 280-116998-1

Method Blank - Batch: 480-447215

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 480-447215/7	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8548.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 2148	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 2148				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93	77 - 120
4-Bromofluorobenzene (Surr)	104	73 - 120
Toluene-d8 (Surr)	97	80 - 120

Lab Control Sample - Batch: 480-447215

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-447215/5	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8546.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 2102	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 2102				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	25.0	24.3	97	80 - 120	
1,1,1-Trichloroethane	25.0	21.3	85	73 - 126	
1,1,2,2-Tetrachloroethane	25.0	24.6	99	76 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	19.7	79	61 - 148	
1,1,2-Trichloroethane	25.0	23.9	96	76 - 122	
1,1-Dichloroethane	25.0	22.2	89	77 - 120	
1,1-Dichloroethene	25.0	19.3	77	66 - 127	
1,1-Dichloropropene	25.0	21.8	87	72 - 122	
1,2,3-Trichlorobenzene	25.0	23.7	95	75 - 123	
1,2,3-Trichloropropane	25.0	24.3	97	68 - 122	
1,2,4-Trichlorobenzene	25.0	23.9	95	79 - 122	
1,2,4-Trimethylbenzene	25.0	23.7	95	76 - 121	
1,2-Dibromo-3-Chloropropane	25.0	24.2	97	56 - 134	
1,2-Dibromoethane (EDB)	25.0	24.9	100	77 - 120	
1,2-Dichlorobenzene	25.0	24.3	97	80 - 124	
1,2-Dichloroethane	25.0	23.0	92	75 - 120	
1,2-Dichloropropane	25.0	23.7	95	76 - 120	
1,3,5-Trimethylbenzene	25.0	23.4	93	77 - 121	
1,3-Dichlorobenzene	25.0	23.9	95	77 - 120	
1,3-Dichloropropane	25.0	23.9	96	75 - 120	
1,4-Dichlorobenzene	25.0	24.2	97	80 - 120	
1,4-Dioxane	500	542	108	50 - 150	
2,2-Dichloropropane	25.0	21.4	86	63 - 136	
2-Butanone (MEK)	125	136	108	57 - 140	
2-Chloroethyl vinyl ether	25.0	24.3	97	70 - 129	
2-Hexanone	125	140	112	65 - 127	
4-Methyl-2-pentanone (MIBK)	125	131	105	71 - 125	
Acetone	125	140	112	56 - 142	
Acrolein	125	89.4	71	52 - 143	
Acrylonitrile	250	260	104	63 - 125	
Benzene	25.0	23.1	92	71 - 124	
Bromobenzene	25.0	24.4	97	78 - 120	
Bromochloromethane	25.0	22.3	89	72 - 130	
Bromodichloromethane	25.0	23.4	94	80 - 122	
Bromoform	25.0	26.1	104	61 - 132	
Bromomethane	25.0	21.8	87	55 - 144	
Butyl alcohol, tert-	250	267	107	75 - 125	
Carbon disulfide	25.0	18.8	75	59 - 134	
Carbon tetrachloride	25.0	21.2	85	72 - 134	
Chlorobenzene	25.0	23.0	92	80 - 120	
Chloroethane	25.0	22.6	91	69 - 136	
Chloroform	25.0	22.0	88	73 - 127	
Chloromethane	25.0	19.7	79	68 - 124	
cis-1,2-Dichloroethene	25.0	22.6	90	74 - 124	
cis-1,3-Dichloropropene	25.0	22.7	91	74 - 124	
Cyclohexane	25.0	20.0	80	59 - 135	

Client: Waste Management

Job Number: 280-116998-1

Lab Control Sample - Batch: 480-447215

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 480-447215/5	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8546.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/23/2018 2102	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/23/2018 2102				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromochloromethane	25.0	25.4	102	75 - 125	
Dibromomethane	25.0	23.6	94	76 - 127	
Dichlorodifluoromethane	25.0	16.3	65	59 - 135	
Dichlorofluoromethane	25.0	23.7	95	76 - 127	
Ethyl ether	25.0	25.2	101	76 - 123	
Ethylbenzene	25.0	23.2	93	77 - 123	
Hexachlorobutadiene	25.0	23.6	95	68 - 131	
Iodomethane	25.0	21.2	85	78 - 123	
Isobutanol	625	560	90	51 - 150	
Isopropylbenzene	25.0	22.7	91	77 - 122	
Methyl acetate	50.0	48.9	98	74 - 133	
Methyl tert-butyl ether	25.0	23.0	92	77 - 120	
Methylcyclohexane	25.0	19.9	80	68 - 134	
Methylene Chloride	25.0	25.2	101	75 - 124	
m-Xylene & p-Xylene	25.0	22.8	91	76 - 122	
Naphthalene	25.0	24.2	97	66 - 125	
n-Butylbenzene	25.0	23.2	93	71 - 128	
N-Propylbenzene	25.0	22.8	91	75 - 127	
o-Chlorotoluene	25.0	23.4	94	76 - 121	
o-Xylene	25.0	23.4	94	76 - 122	
p-Chlorotoluene	25.0	22.2	89	77 - 121	
p-Cymene	25.0	23.7	95	73 - 120	
sec-Butylbenzene	25.0	23.7	95	74 - 127	
Styrene	25.0	23.1	93	80 - 120	
tert-Butylbenzene	25.0	22.8	91	75 - 123	
Tetrachloroethene	25.0	22.5	90	74 - 122	
Tetrahydrofuran	50.0	52.5	105	62 - 132	
Toluene	25.0	22.9	92	80 - 122	
trans-1,2-Dichloroethene	25.0	22.1	88	73 - 127	
trans-1,3-Dichloropropene	25.0	24.3	97	80 - 120	
trans-1,4-Dichloro-2-butene	25.0	21.1	85	41 - 131	
Trichloroethene	25.0	22.4	90	74 - 123	
Trichlorofluoromethane	25.0	24.6	99	62 - 150	
Vinyl acetate	50.0	48.9	98	50 - 144	
Vinyl chloride	25.0	22.5	90	65 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91	77 - 120
4-Bromofluorobenzene (Surr)	102	73 - 120
Toluene-d8 (Surr)	97	80 - 120

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447215

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145487-E-1 MS	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8567.D
Dilution:	40	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0528			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0528				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145487-E-1 MSD	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8568.D
Dilution:	40	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0551			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0551				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1-Trichloroethane	88	88	73 - 126	0	15		
1,1,2,2-Tetrachloroethane	95	94	76 - 120	1	15		
1,1,2-Trichloro-1,2,2-trifluoroethane	87	95	61 - 148	9	20		
1,1,2-Trichloroethane	91	92	76 - 122	1	15		
1,1-Dichloroethane	90	88	77 - 120	2	20		
1,1-Dichloroethene	85	86	66 - 127	1	16		
1,2,4-Trichlorobenzene	92	93	79 - 122	1	20		
1,2-Dibromo-3-Chloropropane	89	88	56 - 134	2	15		
1,2-Dibromoethane (EDB)	92	92	77 - 120	1	15		
1,2-Dichlorobenzene	94	93	80 - 124	1	20		
1,2-Dichloroethane	86	88	75 - 120	3	20		
1,2-Dichloropropane	93	94	76 - 120	2	20		
1,3-Dichlorobenzene	91	93	77 - 120	2	20		
1,4-Dichlorobenzene	93	91	78 - 124	2	20		
2-Butanone (MEK)	105	104	57 - 140	1	20		
2-Hexanone	93	92	65 - 127	1	15		
4-Methyl-2-pentanone (MIBK)	93	92	71 - 125	2	35		
Acetone	81	81	56 - 142	0	15		
Benzene	88	89	71 - 124	1	13		
Bromodichloromethane	91	94	80 - 122	3	15		
Bromoform	81	86	61 - 132	6	15		
Bromomethane	85	85	55 - 144	0	15		
Carbon disulfide	78	77	59 - 134	1	15		
Carbon tetrachloride	87	90	72 - 134	3	15		
Chlorobenzene	91	87	80 - 120	4	25		
Chloroethane	91	89	69 - 136	2	15		
Chloroform	87	86	73 - 127	1	20		
Chloromethane	81	82	68 - 124	0	15		
cis-1,2-Dichloroethene	91	90	74 - 124	1	15		
cis-1,3-Dichloropropene	82	86	74 - 124	5	15		
Cyclohexane	93	93	59 - 135	0	20		
Dibromochloromethane	91	93	75 - 125	3	15		
Dichlorodifluoromethane	75	70	59 - 135	6	20		

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447215

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145487-E-1 MS	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8567.D
Dilution:	40	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0528			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0528				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	480-145487-E-1 MSD	Analysis Batch:	480-447215	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S8568.D
Dilution:	40	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/24/2018 0551			Final Weight/Volume:	5 mL
Prep Date:	11/24/2018 0551				5 mL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethylbenzene	95	90	77 - 123	3	15		
Isopropylbenzene	90	91	77 - 122	1	20		
Methyl acetate	78	103	74 - 133	27	20		F2
Methyl tert-butyl ether	89	90	77 - 120	1	37		
Methylcyclohexane	90	89	68 - 134	1	20		
Methylene Chloride	96	97	75 - 124	0	15		
m-Xylene & p-Xylene	87	77	76 - 122	3	16		
o-Xylene	90	85	76 - 122	2	16		
Styrene	96	93	80 - 120	4	20		
Tetrachloroethene	91	88	74 - 122	3	20		
Toluene	85	80	80 - 122	2	15		
trans-1,2-Dichloroethene	90	88	73 - 127	3	20		
trans-1,3-Dichloropropene	86	86	80 - 120	0	15		
Trichloroethene	88	89	74 - 123	1	16		
Trichlorofluoromethane	110	108	62 - 150	2	20		
Vinyl chloride	90	92	65 - 133	2	15		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99	103	77 - 120
4-Bromofluorobenzene (Surr)	102	103	73 - 120
Toluene-d8 (Surr)	96	96	80 - 120

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447215

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145487-E-1 MS	Units: ug/L	MSD Lab Sample ID:	480-145487-E-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	40		Dilution:	40	
Analysis Date:	11/24/2018 0528		Analysis Date:	11/24/2018 0551	
Prep Date:	11/24/2018 0528		Prep Date:	11/24/2018 0551	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
1,1,1-Trichloroethane	ND		1000	1000	878	881	
1,1,2,2-Tetrachloroethane	ND		1000	1000	949	938	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1000	1000	875	954	
1,1,2-Trichloroethane	ND		1000	1000	911	916	
1,1-Dichloroethane	ND		1000	1000	901	882	
1,1-Dichloroethene	ND		1000	1000	850	856	
1,2,4-Trichlorobenzene	ND		1000	1000	923	929	
1,2-Dibromo-3-Chloropropane	ND		1000	1000	894	875	
1,2-Dibromoethane (EDB)	ND		1000	1000	924	918	
1,2-Dichlorobenzene	ND		1000	1000	940	928	
1,2-Dichloroethane	ND		1000	1000	860	883	
1,2-Dichloropropane	ND		1000	1000	926	944	
1,3-Dichlorobenzene	ND		1000	1000	912	929	
1,4-Dichlorobenzene	ND		1000	1000	928	911	
2-Butanone (MEK)	ND		5000	5000	5260	5190	
2-Hexanone	ND		5000	5000	4650	4580	
4-Methyl-2-pentanone (MIBK)	ND		5000	5000	4670	4600	
Acetone	ND		5000	5000	4040	4030	
Benzene	590		1000	1000	1470	1480	
Bromodichloromethane	ND		1000	1000	910	937	
Bromoform	ND		1000	1000	805	857	
Bromomethane	ND		1000	1000	847	849	
Carbon disulfide	ND		1000	1000	777	770	
Carbon tetrachloride	ND		1000	1000	873	899	
Chlorobenzene	ND		1000	1000	908	872	
Chloroethane	ND		1000	1000	911	892	
Chloroform	ND		1000	1000	873	864	
Chloromethane	ND		1000	1000	812	815	
cis-1,2-Dichloroethene	ND		1000	1000	909	904	
cis-1,3-Dichloropropene	ND		1000	1000	817	856	
Cyclohexane	49		1000	1000	976	975	
Dibromochloromethane	ND		1000	1000	907	934	
Dichlorodifluoromethane	ND		1000	1000	750	705	
Ethylbenzene	740		1000	1000	1690	1650	
Isopropylbenzene	49		1000	1000	953	960	
Methyl acetate	ND		2000	2000	1570	2060	F2
Methyl tert-butyl ether	340		1000	1000	1220	1240	
Methylcyclohexane	30	J	1000	1000	930	918	
Methylene Chloride	19	J	1000	1000	982	986	
m-Xylene & p-Xylene	2700		1000	1000	3520	3420	
o-Xylene	1300		1000	1000	2150	2100	
Styrene	ND		1000	1000	964	930	
Tetrachloroethene	ND		1000	1000	908	882	

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-447215

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	480-145487-E-1 MS	Units: ug/L	MSD Lab Sample ID:	480-145487-E-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	40		Dilution:	40	
Analysis Date:	11/24/2018 0528		Analysis Date:	11/24/2018 0551	
Prep Date:	11/24/2018 0528		Prep Date:	11/24/2018 0551	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Toluene	1600	1000	1000	2470	2420
trans-1,2-Dichloroethene	ND	1000	1000	904	882
trans-1,3-Dichloropropene	ND	1000	1000	858	860
Trichloroethene	ND	1000	1000	880	888
Trichlorofluoromethane	ND	1000	1000	1100	1080
Vinyl chloride	ND	1000	1000	900	919

Method Blank - Batch: 480-446865

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-446865/9	Analysis Batch:	480-446865	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8106.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/21/2018 1341	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/21/2018 1341				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	110	50 - 150
TBA-d9 (Surr)	90	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-446865

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446865/6	Analysis Batch:	480-446865	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8103.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/21/2018 1229	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/21/2018 1229				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-446865/7	Analysis Batch:	480-446865	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8104.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/21/2018 1253	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/21/2018 1253				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	68	77	50 - 150	12	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	96	95	50 - 150
TBA-d9 (Surr)	95	96	50 - 150

Client: Waste Management

Job Number: 280-116998-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-446865

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-446865/6	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-446865/7
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/21/2018 1229			Analysis Date:	11/21/2018 1253
Prep Date:	11/21/2018 1229			Prep Date:	11/21/2018 1253
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.136	0.153

Client: Waste Management

Job Number: 280-116998-1

Method Blank - Batch: 480-447092

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-447092/9	Analysis Batch:	480-447092	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8136.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/23/2018 1247	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/23/2018 1247				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Vinyl chloride	ND		0.0040	0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	113	50 - 150
TBA-d9 (Surr)	101	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-447092

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-447092/6	Analysis Batch:	480-447092	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8133.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/23/2018 1134	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/23/2018 1134				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-447092/7	Analysis Batch:	480-447092	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J8134.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	11/23/2018 1158	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	11/23/2018 1158				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	82	82	50 - 150	0	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	96	94	50 - 150
TBA-d9 (Surr)	92	96	50 - 150

Client: Waste Management

Job Number: 280-116998-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-447092

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-447092/6	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-447092/7
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/23/2018 1134			Analysis Date:	11/23/2018 1158
Prep Date:	11/23/2018 1134			Prep Date:	11/23/2018 1158
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.164	0.164

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438411/1-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2028	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Cobalt, Total	ND		0.0012	0.0030
Iron, Total	ND		0.022	0.060

Lab Control Sample - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438411/2-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2031	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cobalt, Total	0.500	0.485	97	89 - 111	
Iron, Total	1.00	1.04	104	89 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-117014-D-1-B MS	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2041			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117014-D-1-C MSD	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2044			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cobalt, Total	101	101	82 - 119	0	20		
Iron, Total	129	129	75 - 125	0	20	F1	F1

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-117014-D-1-B MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/23/2018 2041		
Prep Date:	11/21/2018 1400		
Leach Date:	N/A		

MSD Lab Sample ID:	280-117014-D-1-C MSD		
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/23/2018 2044		
Prep Date:	11/21/2018 1400		
Leach Date:	N/A		

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Cobalt, Total	0.0099	0.500	0.500	0.513		0.514	
Iron, Total	0.24	1.00	1.00	1.53	F1	1.54	F1

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 280-438494

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438494/1-A	Analysis Batch:	280-438829	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-438494	Lab File ID:	25A112618a.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/26/2018 1448	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1115				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Calcium, Dissolved	ND		0.035	0.040
Iron, Dissolved	ND		0.022	0.060
Magnesium, Dissolved	ND		0.011	0.050
Potassium, Dissolved	ND		0.24	1.0
Sodium, Dissolved	ND		0.12	1.0

Lab Control Sample - Batch: 280-438494

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438494/2-A	Analysis Batch:	280-438829	Instrument ID:	MT_025
Client Matrix:	Water	Prep Batch:	280-438494	Lab File ID:	25A112618a.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/26/2018 1451	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/23/2018 1115				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Calcium, Dissolved	50.0	50.2	100	90 - 111	
Iron, Dissolved	1.00	1.03	103	89 - 115	
Magnesium, Dissolved	50.0	50.2	100	90 - 113	
Potassium, Dissolved	50.0	52.3	105	89 - 114	
Sodium, Dissolved	50.0	52.9	106	90 - 115	

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438494

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID: 280-116998-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/26/2018 1458
Prep Date: 11/23/2018 1115
Leach Date: N/A

Analysis Batch: 280-438829
Prep Batch: 280-438494
Leach Batch: N/A

Instrument ID: MT_025
Lab File ID: 25A112618a.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 280-116998-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/26/2018 1501
Prep Date: 11/23/2018 1115
Leach Date: N/A

Analysis Batch: 280-438829
Prep Batch: 280-438494
Leach Batch: N/A

Instrument ID: MT_025
Lab File ID: 25A112618a.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Calcium, Dissolved	98	94	75 - 125	3	20		
Iron, Dissolved	102	96	75 - 125	6	20		
Magnesium, Dissolved	98	95	75 - 125	2	20		
Potassium, Dissolved	102	98	76 - 125	3	20		
Sodium, Dissolved	103	100	75 - 125	2	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438494

Method: 6010D
Preparation: 3005A
Dissolved

MS Lab Sample ID: 280-116998-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/26/2018 1458
Prep Date: 11/23/2018 1115
Leach Date: N/A

Units: mg/L

MSD Lab Sample ID: 280-116998-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/26/2018 1501
Prep Date: 11/23/2018 1115
Leach Date: N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Calcium, Dissolved	4.1		50.0	50.0	53.0	51.3
Iron, Dissolved	0.035	J	1.00	1.00	1.06	0.999
Magnesium, Dissolved	1.8		50.0	50.0	50.5	49.3
Potassium, Dissolved	0.71	J	50.0	50.0	51.5	49.8
Sodium, Dissolved	2.5		50.0	50.0	53.8	52.7

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438790/1-A	Analysis Batch:	280-439163	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	088_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1815	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Antimony, Total	ND		0.00040	0.0010
Barium, Total	ND		0.00029	0.0010
Beryllium, Total	ND		0.000080	0.0010
Cadmium, Total	ND		0.00027	0.00030
Lead, Total	ND		0.00018	0.0010
Manganese, Total	ND		0.00031	0.0010
Nickel, Total	ND		0.00030	0.0040
Selenium, Total	ND		0.00070	0.0010
Silver, Total	ND		0.000033	0.0020
Thallium, Total	ND		0.000050	0.0010
Vanadium, Total	ND		0.00050	0.0020

Method Blank - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438790/1-A	Analysis Batch:	280-439389	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	029_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1339	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chromium, Total	ND		0.00050	0.0030
Copper, Total	ND		0.00056	0.0020
Zinc, Total	ND		0.0020	0.0050

Lab Control Sample - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438790/2-A	Analysis Batch:	280-439163	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	089_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1819	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony, Total	0.0400	0.0414	104	80 - 111	
Barium, Total	0.0400	0.0424	106	92 - 117	
Beryllium, Total	0.0400	0.0414	103	87 - 118	
Cadmium, Total	0.0400	0.0417	104	91 - 114	
Lead, Total	0.0400	0.0442	110	95 - 116	
Manganese, Total	0.0400	0.0438	109	89 - 119	
Nickel, Total	0.0400	0.0439	110	92 - 116	
Selenium, Total	0.0400	0.0415	104	90 - 115	
Silver, Total	0.0400	0.0454	113	93 - 118	
Thallium, Total	0.0400	0.0427	107	94 - 115	
Vanadium, Total	0.0400	0.0406	102	91 - 114	

Lab Control Sample - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438790/2-A	Analysis Batch:	280-439389	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	030_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1342	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chromium, Total	0.0400	0.0400	100	91 - 114	
Copper, Total	0.0400	0.0406	102	89 - 116	
Zinc, Total	0.0400	0.0403	101	86 - 120	

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116998-2	Analysis Batch:	280-439163	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	093SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1834			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116998-2	Analysis Batch:	280-439163	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	094SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1838			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony, Total	111	112	80 - 111	1	20		F1
Barium, Total	104	108	92 - 117	3	20		
Beryllium, Total	110	106	87 - 118	4	20		
Cadmium, Total	101	103	91 - 114	2	20		
Lead, Total	106	105	95 - 116	1	20		
Manganese, Total	178	171	89 - 119	0	20	4	4
Nickel, Total	103	102	92 - 116	0	20		
Selenium, Total	106	101	90 - 115	5	20		
Silver, Total	112	112	93 - 118	0	20		
Thallium, Total	105	104	94 - 115	1	20		
Vanadium, Total	105	103	91 - 114	2	20		

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116998-2	Analysis Batch:	280-439389	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	034SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1358			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116998-2	Analysis Batch:	280-439389	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-438790	Lab File ID:	035SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/29/2018 1401			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1800				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chromium, Total	99	101	91 - 114	1	20		
Copper, Total	101	101	89 - 116	0	20		
Zinc, Total	104	106	86 - 120	2	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116998-2	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/28/2018 1834		
Prep Date:	11/27/2018 1800		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116998-2
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/28/2018 1838
Prep Date:	11/27/2018 1800
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Antimony, Total	ND	0.0400	0.0400	0.0444	0.0449 F1
Barium, Total	0.0061	0.0400	0.0400	0.0477	0.0493
Beryllium, Total	ND	0.0400	0.0400	0.0439	0.0423
Cadmium, Total	ND	0.0400	0.0400	0.0404	0.0412
Lead, Total	ND	0.0400	0.0400	0.0422	0.0419
Manganese, Total	2.6	0.0400	0.0400	2.70 4	2.70 4
Nickel, Total	0.00072 J	0.0400	0.0400	0.0418	0.0417
Selenium, Total	ND	0.0400	0.0400	0.0424	0.0405
Silver, Total	ND	0.0400	0.0400	0.0447	0.0446
Thallium, Total	ND	0.0400	0.0400	0.0421	0.0416
Vanadium, Total	ND	0.0400	0.0400	0.0419	0.0413

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438790

Method: 6020B
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	280-116998-2	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/29/2018 1358		
Prep Date:	11/27/2018 1800		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116998-2
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/29/2018 1401
Prep Date:	11/27/2018 1800
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chromium, Total	ND	0.0400	0.0400	0.0397	0.0403
Copper, Total	ND	0.0400	0.0400	0.0405	0.0404
Zinc, Total	0.0020 J	0.0400	0.0400	0.0414	0.0424

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 280-438952

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438952/1-A	Analysis Batch:	280-439171	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-438952	Lab File ID:	035_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1804	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Manganese, Dissolved	ND		0.00031	0.0010

Lab Control Sample - Batch: 280-438952

Method: 6020B
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438952/2-A	Analysis Batch:	280-439171	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-438952	Lab File ID:	036_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1807	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese, Dissolved	0.0400	0.0396	99	89 - 119	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438952

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116998-2	Analysis Batch:	280-439171	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-438952	Lab File ID:	040SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1821			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116998-2	Analysis Batch:	280-439171	Instrument ID:	MT_078
Client Matrix:	Water	Prep Batch:	280-438952	Lab File ID:	041SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/28/2018 1824			Final Weight/Volume:	50 mL
Prep Date:	11/27/2018 1845				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Manganese, Dissolved	87	-100	89 - 119	3	20	4	4

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438952

Method: 6020B
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-116998-2	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	11/28/2018 1821		
Prep Date:	11/27/2018 1845		
Leach Date:	N/A		

MSD Lab Sample ID:	280-116998-2
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	11/28/2018 1824
Prep Date:	11/27/2018 1845
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Manganese, Dissolved	2.4	0.0400	0.0400	2.46	4	2.39	4

Method Blank - Batch: 280-439233

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-439233/6	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0006.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1140	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chloride	ND		1.0	1.0
Sulfate	ND		1.0	1.0

Method Reporting Limit Check - Batch: 280-439233

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-439233/3	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1041	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	ND	94	50 - 150	
Sulfate	2.50	ND	100	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439233

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439233/4	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0004.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1101	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439233/5	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0005.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1120	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	97	97	90 - 110	0	10		
Sulfate	98	98	90 - 110	0	10		

Client: Waste Management

Job Number: 280-116998-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439233

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439233/4	Units: mg/L	LCSD Lab Sample ID:	LCSD 280-439233/5	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1101		Analysis Date:	11/29/2018 1120	
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	97.1	97.0
Sulfate	100	100	97.7	98.0

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439233

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116998-1	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0009.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1920			Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-116998-1	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0010.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1940			Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride	88	89	80 - 120	1	20		
Sulfate	91	92	80 - 120	0	20		

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439233

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-116998-1	Units: mg/L	MSD Lab Sample ID:	280-116998-1	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1920		Analysis Date:	11/29/2018 1940	
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	1.9	25.0	25.0	23.9	24.0
Sulfate	1.7	25.0	25.0	24.6	24.7

Duplicate - Batch: 280-439233

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-116998-1	Analysis Batch:	280-439233	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0008.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1901	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	1.9	1.85	2	15	
Sulfate	1.7	1.69	0.6	15	

Method Blank - Batch: 280-439267

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-439267/20	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/29/2018 1016	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Ammonia (as N)	ND		0.030	0.030

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439267/18	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/29/2018 1012	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439267/19	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/29/2018 1014	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia (as N)	104	100	90 - 110	4	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439267/18	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439267/19
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/29/2018 1012			Analysis Date:	11/29/2018 1014
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
Ammonia (as N)	2.50	2.50	2.60	2.50

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116999-B-1 MS	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/29/2018 1020			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116999-B-1 MSD	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/29/2018 1022			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	99	102	90 - 110	2	10		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116999-B-1 MS	Units: mg/L		MSD Lab Sample ID:	280-116999-B-1 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/29/2018 1020			Analysis Date:	11/29/2018 1022
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
Ammonia (as N)	0.29	1.00	1.00	1.29	1.32

Method Blank - Batch: 280-439299

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-439299/19	Analysis Batch:	280-439299	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918B.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/29/2018 1301	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Ammonia (as N)	ND		0.030	0.030

Lab Control Sample - Batch: 280-439299

Method: 350.1
Preparation: N/A

Lab Sample ID:	LCS 280-439299/18	Analysis Batch:	280-439299	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918B.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/29/2018 1259	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia (as N)	2.50	2.52	101	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439299

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116998-4	Analysis Batch:	280-439299	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918B.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/29/2018 1429			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116998-4	Analysis Batch:	280-439299	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918B.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/29/2018 1431			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	107	108	90 - 110	1	10		

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439299

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116998-4	Units: mg/L	MSD Lab Sample ID:	280-116998-4	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1429		Analysis Date:	11/29/2018 1431	
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
Ammonia (as N)	ND	1.00	1.00	1.07	1.08

Client: Waste Management

Job Number: 280-116998-1

Method Blank - Batch: 280-438438

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438438/1	Analysis Batch:	280-438438	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 1056	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate as N	ND		0.050	0.050

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 280-439036

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-439036/5	Analysis Batch:	280-439036	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112718.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/27/2018 1538	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Alkalinity, Total (As CaCO3)	ND		5.0	5.0
Alkalinity, Bicarbonate (As CaCO3)	ND		5.0	5.0

Lab Control Sample - Batch: 280-439036

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-439036/4	Analysis Batch:	280-439036	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112718.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/27/2018 1533	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Alkalinity, Total (As CaCO3)	200	194	97	89 - 109	

Duplicate - Batch: 280-439036

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	280-117047-A-12 DU	Analysis Batch:	280-439036	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112718.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/27/2018 1550	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Alkalinity, Total (As CaCO3)	150	147	1	10	

Method Blank - Batch: 280-438261

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-438261/1	Analysis Batch:	280-438261	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1019	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Dissolved Solids (TDS)	ND		5.0	5.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438261

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438261/2	Analysis Batch:	280-438261	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1019	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438261/3	Analysis Batch:	280-438261	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1019	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Dissolved Solids (TDS)	99	100	93 - 110	1	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438261

Method: SM 2540C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438261/2	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-438261/3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/20/2018 1019			Analysis Date:	11/20/2018 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
Total Dissolved Solids (TDS)	500	500	493	499

Client: Waste Management

Job Number: 280-116998-1

Duplicate - Batch: 280-438261

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-117049-A-5 DU	Analysis Batch:	280-438261	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1019	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids (TDS)	240	240	1	10	

Client: Waste Management Job Number: 280-116998-1

Method Blank - Batch: 280-438323

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	MB 280-438323/1	Analysis Batch:	280-438323	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/20/2018 1458	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Suspended Solids	ND		4.0	4.0

Lab Control Sample - Batch: 280-438323

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	LCS 280-438323/2	Analysis Batch:	280-438323	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/20/2018 1458	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Suspended Solids	100	102	102	79 - 114	

Duplicate - Batch: 280-438323

Method: SM 2540D
Preparation: N/A

Lab Sample ID:	280-116998-1	Analysis Batch:	280-438323	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/20/2018 1458	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	ND	ND	NC	10	

Method Blank - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-439731/4	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0951	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Organic Carbon - Average	ND		1.0	1.0

Lab Control Sample - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	LCS 280-439731/3	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0933	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon - Average	25.0	25.8	103	88 - 112	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116998-3	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 1456			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116998-3	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 1519			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	103	103	88 - 112	0	15		

Client: Waste Management

Job Number: 280-116998-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116998-3	Units: mg/L	MSD Lab Sample ID:	280-116998-3	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/01/2018 1456		Analysis Date:	12/01/2018 1519	
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
Total Organic Carbon - Average	ND	25.0	25.0	25.7	25.6

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: 280-116998-1 **Client ID: MW-43**

Sample Date/Time: 11/14/2018 09:53 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116998-J-1		480-447083		11/23/2018 11:19	1	TAL BUF	RLB
A:8260C	280-116998-J-1		480-447083		11/23/2018 11:19	1	TAL BUF	RLB
P:5030C	280-116998-F-1		480-446865		11/21/2018 15:27	1	TAL BUF	RJF
A:8260C SIM	280-116998-F-1		480-446865		11/21/2018 15:27	1	TAL BUF	RJF
P:3005A	280-116998-D-1-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-116998-D-1-A		280-438709	280-438411	11/23/2018 21:11	1	TAL DEN	CML
P:3005A	280-116998-E-1-A		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	280-116998-E-1-A		280-438829	280-438494	11/26/2018 14:53	1	TAL DEN	CRR
P:3005A	280-116998-E-1-G		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	280-116998-E-1-G		280-439171	280-438952	11/28/2018 18:11	1	TAL DEN	LMT
P:3005A	280-116998-D-1-B		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-1-B		280-439163	280-438790	11/28/2018 18:23	1	TAL DEN	LMT
P:3005A	280-116998-D-1-B		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-1-B		280-439389	280-438790	11/29/2018 13:46	1	TAL DEN	LMT
A:300.0	280-116998-A-1		280-439233		11/29/2018 18:42	1	TAL DEN	A1D
A:350.1	280-116998-C-1		280-439267		11/29/2018 11:06	1	TAL DEN	JAP
A:353.2	280-116998-A-1		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-116998-A-1		280-439036		11/27/2018 17:35	1	TAL DEN	SGB
A:SM 2540C	280-116998-A-1		280-438261		11/20/2018 10:19	1	TAL DEN	MJS
A:SM 2540D	280-116998-A-1		280-438323		11/20/2018 14:58	1	TAL DEN	MJS
A:SM 5310B	280-116998-C-1		280-439731		12/01/2018 14:04	1	TAL DEN	LPL
A:Field Sampling	280-116998-A-1		280-438054		11/14/2018 10:53	1	TAL DEN	A1S

Lab ID: 280-116998-1 MS **Client ID: MW-43**

Sample Date/Time: 11/14/2018 09:53 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116998-E-1-B MS		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	280-116998-E-1-B MS		280-438829	280-438494	11/26/2018 14:58	1	TAL DEN	CRR
A:300.0	280-116998-A-1 MS		280-439233		11/29/2018 19:20	1	TAL DEN	A1D

Lab ID: 280-116998-1 MSD **Client ID: MW-43**

Sample Date/Time: 11/14/2018 09:53 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116998-E-1-C MSD		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	280-116998-E-1-C MSD		280-438829	280-438494	11/26/2018 15:01	1	TAL DEN	CRR
A:300.0	280-116998-A-1 MSD		280-439233		11/29/2018 19:40	1	TAL DEN	A1D

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: 280-116998-1 DU **Client ID: MW-43**

Sample Date/Time: 11/14/2018 09:53 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-116998-A-1 DU		280-439233		11/29/2018 19:01	1	TAL DEN	A1D
A:SM 2540D	280-116998-A-1 DU		280-438323		11/20/2018 14:58	1	TAL DEN	MJS

Lab ID: 280-116998-2 **Client ID: MW-32**

Sample Date/Time: 11/14/2018 11:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116998-J-2		480-447083		11/23/2018 11:43	1	TAL BUF	RLB
A:8260C	280-116998-J-2		480-447083		11/23/2018 11:43	1	TAL BUF	RLB
P:5030C	280-116998-F-2		480-446865		11/21/2018 15:52	1	TAL BUF	RJF
A:8260C SIM	280-116998-F-2		480-446865		11/21/2018 15:52	1	TAL BUF	RJF
P:3005A	280-116998-D-2-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-116998-D-2-A		280-438709	280-438411	11/23/2018 21:15	1	TAL DEN	CML
P:3005A	280-116998-E-2-A		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	280-116998-E-2-A		280-438829	280-438494	11/26/2018 15:05	1	TAL DEN	CRR
P:3005A	280-116998-E-2-F		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	280-116998-E-2-F		280-439171	280-438952	11/28/2018 18:14	1	TAL DEN	LMT
P:3005A	280-116998-D-2-B		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-2-B		280-439163	280-438790	11/28/2018 18:27	1	TAL DEN	LMT
P:3005A	280-116998-D-2-B		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-2-B		280-439389	280-438790	11/29/2018 13:50	1	TAL DEN	LMT
A:300.0	280-116998-A-2		280-439233		11/29/2018 19:59	1	TAL DEN	A1D
A:350.1	280-116998-C-2		280-439267		11/29/2018 11:08	1	TAL DEN	JAP
A:353.2	280-116998-A-2		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-116998-A-2		280-439036		11/27/2018 17:24	1	TAL DEN	SGB
A:SM 2540C	280-116998-A-2		280-438261		11/20/2018 10:19	1	TAL DEN	MJS
A:SM 2540D	280-116998-A-2		280-438323		11/20/2018 14:58	1	TAL DEN	MJS
A:SM 5310B	280-116998-C-2		280-439731		12/01/2018 14:20	1	TAL DEN	LPL
A:Field Sampling	280-116998-A-2		280-438054		11/14/2018 12:00	1	TAL DEN	A1S

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: 280-116998-2 MS **Client ID: MW-32**

Sample Date/Time: 11/14/2018 11:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116998-E-2-G MS		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	280-116998-E-2-G MS		280-439171	280-438952	11/28/2018 18:21	1	TAL DEN	LMT
P:3005A	280-116998-D-2-C MS		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-2-C MS		280-439163	280-438790	11/28/2018 18:34	1	TAL DEN	LMT
P:3005A	280-116998-D-2-C MS		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-2-C MS		280-439389	280-438790	11/29/2018 13:58	1	TAL DEN	LMT

Lab ID: 280-116998-2 MSD **Client ID: MW-32**

Sample Date/Time: 11/14/2018 11:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-116998-E-2-H MSD		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	280-116998-E-2-H MSD		280-439171	280-438952	11/28/2018 18:24	1	TAL DEN	LMT
P:3005A	280-116998-D-2-D MSD		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-2-D MSD		280-439163	280-438790	11/28/2018 18:38	1	TAL DEN	LMT
P:3005A	280-116998-D-2-D MSD		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-2-D MSD		280-439389	280-438790	11/29/2018 14:01	1	TAL DEN	LMT

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: 280-116998-3 **Client ID: MW-33A**

Sample Date/Time: 11/14/2018 13:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116998-I-3		480-447215		11/24/2018 01:38	1	TAL BUF	OMI
A:8260C	280-116998-I-3		480-447215		11/24/2018 01:38	1	TAL BUF	OMI
P:5030C	280-116998-F-3		480-446865		11/21/2018 16:16	1	TAL BUF	RJF
A:8260C SIM	280-116998-F-3		480-446865		11/21/2018 16:16	1	TAL BUF	RJF
P:3005A	280-116998-D-3-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-116998-D-3-A		280-438709	280-438411	11/23/2018 21:18	1	TAL DEN	CML
P:3005A	280-116998-E-3-A		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	280-116998-E-3-A		280-438829	280-438494	11/26/2018 15:08	1	TAL DEN	CRR
P:3005A	280-116998-E-3-C		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	280-116998-E-3-C		280-439171	280-438952	11/28/2018 18:31	1	TAL DEN	LMT
P:3005A	280-116998-D-3-B		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-3-B		280-439163	280-438790	11/28/2018 18:46	1	TAL DEN	LMT
P:3005A	280-116998-D-3-B		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-3-B		280-439389	280-438790	11/29/2018 14:09	1	TAL DEN	LMT
A:300.0	280-116998-A-3		280-439233		11/29/2018 20:19	1	TAL DEN	A1D
A:350.1	280-116998-C-3		280-439299		11/29/2018 14:25	1	TAL DEN	JAP
A:353.2	280-116998-A-3		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-116998-A-3		280-439036		11/27/2018 17:30	1	TAL DEN	SGB
A:SM 2540C	280-116998-A-3		280-438261		11/20/2018 10:19	1	TAL DEN	MJS
A:SM 2540D	280-116998-A-3		280-438323		11/20/2018 14:58	1	TAL DEN	MJS
A:SM 5310B	280-116998-C-3		280-439731		12/01/2018 14:39	1	TAL DEN	LPL
A:Field Sampling	280-116998-A-3		280-438054		11/14/2018 14:00	1	TAL DEN	A1S

Lab ID: 280-116998-3 MS **Client ID: MW-33A**

Sample Date/Time: 11/14/2018 13:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 5310B	280-116998-C-3 MS		280-439731		12/01/2018 14:56	1	TAL DEN	LPL

Lab ID: 280-116998-3 MSD **Client ID: MW-33A**

Sample Date/Time: 11/14/2018 13:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 5310B	280-116998-C-3 MSD		280-439731		12/01/2018 15:19	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: 280-116998-4 **Client ID: MW-33C**

Sample Date/Time: 11/14/2018 13:48 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116998-G-4		480-447215		11/24/2018 02:01	1	TAL BUF	OMI
A:8260C	280-116998-G-4		480-447215		11/24/2018 02:01	1	TAL BUF	OMI
P:5030C	280-116998-F-4		480-447092		11/23/2018 13:19	1	TAL BUF	RJF
A:8260C SIM	280-116998-F-4		480-447092		11/23/2018 13:19	1	TAL BUF	RJF
P:3005A	280-116998-D-4-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-116998-D-4-A		280-438709	280-438411	11/23/2018 21:22	1	TAL DEN	CML
P:3005A	280-116998-E-4-A		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	280-116998-E-4-A		280-438829	280-438494	11/26/2018 15:11	1	TAL DEN	CRR
P:3005A	280-116998-E-4-C		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	280-116998-E-4-C		280-439171	280-438952	11/28/2018 18:34	1	TAL DEN	LMT
P:3005A	280-116998-D-4-B		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-4-B		280-439163	280-438790	11/28/2018 18:49	1	TAL DEN	LMT
P:3005A	280-116998-D-4-B		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	280-116998-D-4-B		280-439389	280-438790	11/29/2018 14:13	1	TAL DEN	LMT
A:300.0	280-116998-A-4		280-439233		11/29/2018 20:38	1	TAL DEN	A1D
A:350.1	280-116998-C-4		280-439299		11/29/2018 14:27	1	TAL DEN	JAP
A:353.2	280-116998-A-4		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-116998-A-4		280-439036		11/27/2018 17:52	1	TAL DEN	SGB
A:SM 2540C	280-116998-A-4		280-438261		11/20/2018 10:19	1	TAL DEN	MJS
A:SM 2540D	280-116998-A-4		280-438323		11/20/2018 14:58	1	TAL DEN	MJS
A:SM 5310B	280-116998-C-4		280-439731		12/01/2018 15:38	1	TAL DEN	LPL
A:Field Sampling	280-116998-A-4		280-438054		11/14/2018 14:48	1	TAL DEN	A1S

Lab ID: 280-116998-4 MS **Client ID: MW-33C**

Sample Date/Time: 11/14/2018 13:48 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:350.1	280-116998-C-4 MS		280-439299		11/29/2018 14:29	1	TAL DEN	JAP

Lab ID: 280-116998-4 MSD **Client ID: MW-33C**

Sample Date/Time: 11/14/2018 13:48 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:350.1	280-116998-C-4 MSD		280-439299		11/29/2018 14:31	1	TAL DEN	JAP

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: 280-116998-5 **Client ID: TRIP BLANK**

Sample Date/Time: 11/14/2018 00:00 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-116998-B-5		480-447215		11/24/2018 02:24	1	TAL BUF	OMI
A:8260C	280-116998-B-5		480-447215		11/24/2018 02:24	1	TAL BUF	OMI
P:5030C	280-116998-A-5		480-447092		11/23/2018 13:43	1	TAL BUF	RJF
A:8260C SIM	280-116998-A-5		480-447092		11/23/2018 13:43	1	TAL BUF	RJF

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	MB 480-447083/7		480-447083		11/23/2018 10:42	1	TAL BUF	RLB
A:8260C	MB 480-447083/7		480-447083		11/23/2018 10:42	1	TAL BUF	RLB
P:5030C	MB 480-447215/7		480-447215		11/23/2018 21:48	1	TAL BUF	OMI
A:8260C	MB 480-447215/7		480-447215		11/23/2018 21:48	1	TAL BUF	OMI
P:5030C	MB 480-446865/9		480-446865		11/21/2018 13:41	1	TAL BUF	RJF
A:8260C SIM	MB 480-446865/9		480-446865		11/21/2018 13:41	1	TAL BUF	RJF
P:5030C	MB 480-447092/9		480-447092		11/23/2018 12:47	1	TAL BUF	RJF
A:8260C SIM	MB 480-447092/9		480-447092		11/23/2018 12:47	1	TAL BUF	RJF
P:3005A	MB 280-438411/1-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	MB 280-438411/1-A		280-438709	280-438411	11/23/2018 20:28	1	TAL DEN	CML
P:3005A	MB 280-438494/1-A		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	MB 280-438494/1-A		280-438829	280-438494	11/26/2018 14:48	1	TAL DEN	CRR
P:3005A	MB 280-438952/1-A		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	MB 280-438952/1-A		280-439171	280-438952	11/28/2018 18:04	1	TAL DEN	LMT
P:3005A	MB 280-438790/1-A		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	MB 280-438790/1-A		280-439163	280-438790	11/28/2018 18:15	1	TAL DEN	LMT
P:3005A	MB 280-438790/1-A		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	MB 280-438790/1-A		280-439389	280-438790	11/29/2018 13:39	1	TAL DEN	LMT
A:300.0	MB 280-439233/6		280-439233		11/29/2018 11:40	1	TAL DEN	A1D
A:350.1	MB 280-439267/20		280-439267		11/29/2018 10:16	1	TAL DEN	JAP
A:350.1	MB 280-439299/19		280-439299		11/29/2018 13:01	1	TAL DEN	JAP
A:353.2	MB 280-438438/1		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:SM 2320B	MB 280-439036/5		280-439036		11/27/2018 15:38	1	TAL DEN	SGB
A:SM 2540C	MB 280-438261/1		280-438261		11/20/2018 10:19	1	TAL DEN	MJS
A:SM 2540D	MB 280-438323/1		280-438323		11/20/2018 14:58	1	TAL DEN	MJS
A:SM 5310B	MB 280-439731/4		280-439731		12/01/2018 09:51	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCS 480-447083/5		480-447083		11/23/2018 09:47	1	TAL BUF	RLB
A:8260C	LCS 480-447083/5		480-447083		11/23/2018 09:47	1	TAL BUF	RLB
P:5030C	LCS 480-447215/5		480-447215		11/23/2018 21:02	1	TAL BUF	OMI
A:8260C	LCS 480-447215/5		480-447215		11/23/2018 21:02	1	TAL BUF	OMI
P:5030C	LCS 480-446865/6		480-446865		11/21/2018 12:29	1	TAL BUF	RJF
A:8260C SIM	LCS 480-446865/6		480-446865		11/21/2018 12:29	1	TAL BUF	RJF
P:5030C	LCS 480-447092/6		480-447092		11/23/2018 11:34	1	TAL BUF	RJF
A:8260C SIM	LCS 480-447092/6		480-447092		11/23/2018 11:34	1	TAL BUF	RJF
P:3005A	LCS 280-438411/2-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	LCS 280-438411/2-A		280-438709	280-438411	11/23/2018 20:31	1	TAL DEN	CML
P:3005A	LCS 280-438494/2-A		280-438829	280-438494	11/23/2018 11:15	1	TAL DEN	DAL
A:6010D	LCS 280-438494/2-A		280-438829	280-438494	11/26/2018 14:51	1	TAL DEN	CRR
P:3005A	LCS 280-438952/2-A		280-439171	280-438952	11/27/2018 18:45	1	TAL DEN	LRD
A:6020B	LCS 280-438952/2-A		280-439171	280-438952	11/28/2018 18:07	1	TAL DEN	LMT
P:3005A	LCS 280-438790/2-A		280-439163	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	LCS 280-438790/2-A		280-439163	280-438790	11/28/2018 18:19	1	TAL DEN	LMT
P:3005A	LCS 280-438790/2-A		280-439389	280-438790	11/27/2018 18:00	1	TAL DEN	DAL
A:6020B	LCS 280-438790/2-A		280-439389	280-438790	11/29/2018 13:42	1	TAL DEN	LMT
A:300.0	LCS 280-439233/4		280-439233		11/29/2018 11:01	1	TAL DEN	A1D
A:350.1	LCS 280-439267/18		280-439267		11/29/2018 10:12	1	TAL DEN	JAP
A:350.1	LCS 280-439299/18		280-439299		11/29/2018 12:59	1	TAL DEN	JAP
A:SM 2320B	LCS 280-439036/4		280-439036		11/27/2018 15:33	1	TAL DEN	SGB
A:SM 2540C	LCS 280-438261/2		280-438261		11/20/2018 10:19	1	TAL DEN	MJS
A:SM 2540D	LCS 280-438323/2		280-438323		11/20/2018 14:58	1	TAL DEN	MJS
A:SM 5310B	LCS 280-439731/3		280-439731		12/01/2018 09:33	1	TAL DEN	LPL

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCSD 480-446865/7		480-446865		11/21/2018 12:53	1	TAL BUF	RJF
A:8260C SIM	LCSD 480-446865/7		480-446865		11/21/2018 12:53	1	TAL BUF	RJF
P:5030C	LCSD 480-447092/7		480-447092		11/23/2018 11:58	1	TAL BUF	RJF
A:8260C SIM	LCSD 480-447092/7		480-447092		11/23/2018 11:58	1	TAL BUF	RJF
A:300.0	LCSD 280-439233/5		280-439233		11/29/2018 11:20	1	TAL DEN	A1D
A:350.1	LCSD 280-439267/19		280-439267		11/29/2018 10:14	1	TAL DEN	JAP
A:SM 2540C	LCSD 280-438261/3		280-438261		11/20/2018 10:19	1	TAL DEN	MJS

Client: Waste Management Job Number: 280-116998-1

Laboratory Chronicle

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-439233/3		280-439233		11/29/2018 10:41	1	TAL DEN	A1D

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/14/2018 11:10 Received Date/Time: 11/15/2018 16:30

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145348-B-5 MS		480-447083		11/23/2018 18:25	1	TAL BUF	RLB
A:8260C	480-145348-B-5 MS		480-447083		11/23/2018 18:25	1	TAL BUF	RLB
P:5030C	480-145487-E-1 MS		480-447215		11/24/2018 05:28	40	TAL BUF	OMI
A:8260C	480-145487-E-1 MS		480-447215		11/24/2018 05:28	40	TAL BUF	OMI
P:3005A	280-117014-D-1-B MS		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-B MS		280-438709	280-438411	11/23/2018 20:41	1	TAL DEN	CML
A:350.1	280-116999-B-1 MS		280-439267		11/29/2018 10:20	1	TAL DEN	JAP

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/14/2018 11:10 Received Date/Time: 11/15/2018 16:30

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-145348-B-5 MSD		480-447083		11/23/2018 18:49	1	TAL BUF	RLB
A:8260C	480-145348-B-5 MSD		480-447083		11/23/2018 18:49	1	TAL BUF	RLB
P:5030C	480-145487-E-1 MSD		480-447215		11/24/2018 05:51	40	TAL BUF	OMI
A:8260C	480-145487-E-1 MSD		480-447215		11/24/2018 05:51	40	TAL BUF	OMI
P:3005A	280-117014-D-1-C MSD		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-C MSD		280-438709	280-438411	11/23/2018 20:44	1	TAL DEN	CML
A:350.1	280-116999-B-1 MSD		280-439267		11/29/2018 10:22	1	TAL DEN	JAP

Lab ID: DU **Client ID: N/A**

Sample Date/Time: 11/14/2018 09:20 Received Date/Time: 11/16/2018 09:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2320B	280-117047-A-12 DU		280-439036		11/27/2018 15:50	1	TAL DEN	SGB
A:SM 2540C	280-117049-A-5 DU		280-438261		11/20/2018 10:19	1	TAL DEN	MJS

Lab References:
TAL BUF = TestAmerica Buffalo
TAL DEN = TestAmerica Denver

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 December 2018

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

RE: OVSL

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

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

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

Associated Work Order(s)	Associated SDG ID(s)
18K0248	N/A

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

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

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 18K0248	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 1 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Low level Total Arsenic	Notes/Comments
MW-13B	11/12/18	1147	water	1	X	
MW-34C		1200				
MW-13A		1058				
MW-34A		1100				
MW-36A		1256				
MW-35		1257				
MW-15R		1353				
MW-16		1400				
MW-14C		1448				
Dup 1		1455				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 2 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-39	11/12/18	1502	water	1	X	
Dup 2	"	1510	"	"	"	
MW-29A	"	1609	"	"	"	
MW-42	"	1650	"	"	"	
LP-LCD	11/13/18	930	"	"	"	
L-INF	"	1115	leachate	"	"	
OBWL-TD	"	1315	leachate	"	"	
MW-43	11/14/18	953	water	"	"	
MW-32	"	1100	"	"	"	
MW-33A	"	1300	"	"	"	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacobwalter	Printed Name:	Printed Name:
	Company: SCS	Company: ART	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 3 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-33C	11/14/18	1348	water	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or pre-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-13B	18K0248-01	Water	12-Nov-2018 11:47	16-Nov-2018 11:40
MW-34C	18K0248-02	Water	12-Nov-2018 12:00	16-Nov-2018 11:40
MW-13A	18K0248-03	Water	12-Nov-2018 10:58	16-Nov-2018 11:40
MW-34A	18K0248-04	Water	12-Nov-2018 11:00	16-Nov-2018 11:40
MW-36A	18K0248-05	Water	12-Nov-2018 12:56	16-Nov-2018 11:40
MW-35	18K0248-06	Water	12-Nov-2018 12:57	16-Nov-2018 11:40
MW-15R	18K0248-07	Water	12-Nov-2018 13:53	16-Nov-2018 11:40
MW-16	18K0248-08	Water	12-Nov-2018 14:00	16-Nov-2018 11:40
MW-19C	18K0248-09	Water	12-Nov-2018 14:48	16-Nov-2018 11:40
DUP 1	18K0248-10	Water	12-Nov-2018 14:55	16-Nov-2018 11:40
MW-39	18K0248-11	Water	12-Nov-2018 15:02	16-Nov-2018 11:40
DUP 2	18K0248-12	Water	12-Nov-2018 15:10	16-Nov-2018 11:40
MW-29A	18K0248-13	Water	12-Nov-2018 16:09	16-Nov-2018 11:40
MW-42	18K0248-14	Water	12-Nov-2018 16:50	16-Nov-2018 11:40
LP-LCD	18K0248-15	Water	13-Nov-2018 09:30	16-Nov-2018 11:40
L-INF	18K0248-16	Water	13-Nov-2018 11:15	16-Nov-2018 11:40
OBWL-TD	18K0248-17	Water	13-Nov-2018 13:15	16-Nov-2018 11:40
MW-43	18K0248-18	Water	14-Nov-2018 09:53	16-Nov-2018 11:40
MW-32	18K0248-19	Water	14-Nov-2018 11:00	16-Nov-2018 11:40
MW-33A	18K0248-20	Water	14-Nov-2018 13:00	16-Nov-2018 11:40
MW-33C	18K0248-21	Water	14-Nov-2018 13:48	16-Nov-2018 11:40

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 16, 2018 under ARI work order 18K0248. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Arsenic - EPA Method 200.8

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

18K0248

Client: Test America - Denver | **Project Manager:** Amanda Volgardsen

Project: OVSL | **Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2 fail	
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JDB
Preservation Confirmed By

11/16/18
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SCS Engineers Project Name: OUSL

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18K0248 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 1.3

Time: 1402 1405

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520 6

Cooler Accepted by: SSm Date: 11/16/18 Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		(YES)	NO
What kind of packing material was used? ...	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

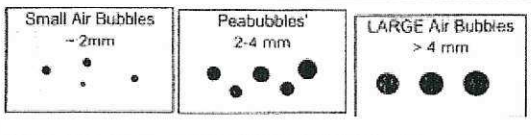
Samples Logged by: JNB Date: 11/16/18 Time: 1433

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2	fail
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JLB
Preservation Confirmed By

11/16/18
Date

preserved DP
11/19/18

Reviewed By

Date

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13B

18K0248-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:47

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000337**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34C

18K0248-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00968**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13A

18K0248-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 10:58

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000189**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34A

18K0248-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:00

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000411**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-36A

18K0248-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:56

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000532**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-35

18K0248-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:57
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000112**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-15R

18K0248-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 13:53

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000193**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-16

18K0248-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000452**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-19C

18K0248-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:48
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00276**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 1

18K0248-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:55
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00281**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-39

18K0248-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:02

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00197**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 2

18K0248-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:10

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00189**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-29A

18K0248-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:09

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00219**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-42

18K0248-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00183**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

LP-LCD

18K0248-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 09:30

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.0102**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

L-INF

18K0248-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.00370**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

OBWL-TD

18K0248-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 13:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00584**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-43

18K0248-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 09:53

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	ND	mg/L	U

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-32

18K0248-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 11:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00984**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33A

18K0248-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000607**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33C

18K0248-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:48

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00277**	mg/L	

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

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGK0701 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: TCH

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGK0701-BLK1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 18:28							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGK0701-BS1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 19:11							
Arsenic	75a	0.00490	0.0000400	mg/L	0.00500		98.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGL0010 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGL0010-BLK1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:33							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGL0010-BS1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:38							
Arsenic	75a	0.00475	0.0000400	mg/L	0.00500		95.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75b	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
DoD-ELAP DW	DoD-Environmental Laboratory Accreditation - Drinking Water	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the applicable reporting or detection limit.
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.

116998

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: Ovid

Site No.:

Sample Point: MW-43 (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11/14/18	9:26	2:17			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Filter Device: (Y) or N; 0.45 µ or ____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

X-Other:

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	25.98	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
		02	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Rate/Unit: Norm

Sample Time (2400 Hr Clock)	Rate	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
9:36	350	1st 4.84	1st 512	10.30		1.53	313.1	
9:43		2nd 4.67	2nd 511	10.71		1.23	327.4	
9:47		3rd 4.72	3rd 511	10.71		1.20	326.8	
9:50		4th 4.77	4th 511	10.71		1.18	325.8	
9:53	V	4.81	511	10.69	0.44	1.15	323.6	26.11
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Flow Rate Units
11/14/18	4.81	511	10.69	0.44	1.15	323.6	261.1

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

FIELD COMMENTS

Sample Appearance: clear Odor: none Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: rainy Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

orange particulates early in purge

Recalibrated pH probe at PSI. Values remained the same. Meter calibrated properly.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Graber		SCS

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-32

Sample ID

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 14 18	1040	20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	20.1 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
(ft)	(ft)	02 (in)	PVC

Note: Total Well Depth, Stick Up, Casing Id. etc, are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate (ml/min)		pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1040	400	1st	5.80	1.536	11.53		3.24	311.01	
1045		2nd	6.12	1.353	11.64		10.67	234.14	
1048		3rd	6.24	1.354	11.65		10.61	171.12	
1051		4th	6.34	1.355	11.66	10.23	10.52	112.04	
1054			6.43	1.355	11.67		10.44	91.56	
1057			6.48	1.356	11.68		10.38	69.8	
1100	V		6.51	1.356	11.69	10.21	10.36	63.4	12.11

Suggested range for 3 consec. readings or state Permit/State requirements:

	+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize	

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (µmhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Temp / DO Units
11 14 18	6.51	1356	11.68	10.21	10.36	63.4	2.1 1

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: Clear Odor: None Color: — Other: —

Weather Conditions (required daily, or as conditions change): Direction/Speed: — Outlook: rainy Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSC

Site No.:

Sample Point: MW-33A (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 14 18	1240	120			

Note: For Passive Sampling, replace "Water Vol In Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

X-Other:

Filter Device: (Y) or N — 0.45 µ or _____ µ (circle or fill in)

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): (ft/msl)

Depth to Water (DTW) (from TOC): 560 (ft)

Groundwater Elevation (site datum, from TOC): (ft/msl)

Total Well Depth (from TOC): (ft)

Stick Up (from ground elevation): (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit ml/min	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1240	400	1st 6.97	1.141	10.06		11.77	211.35	
1245		2nd 6.81	1.141.0	19.85		10.87	211.47	
1248		3rd 6.75	1.141	19.05		10.75	211.28	
1251		4th 6.74	1.141.0	19.67	18.10	10.66	211.18	
1254		6.72	1.141.0	19.57		10.57	210.95	19.51
1257		6.71	1.141	19.53	17.22	10.53	210.73	
1310	↓	6.70	1.141	19.51	16.17	10.51	210.56	19.90
Suggested range for 3 consec. readings or more Permit/State requirements:		+/- 0.2	+/- 3%	-	-	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Time/PSU Units
11 14 18	6.70	1.141	9.51	6.17	0.51	210.56	9.90

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.

FIELD COMMENTS

Sample Appearance: Clear — Odor: None — Color: - — Other: -

Weather Conditions (required daily, or as conditions change): — Direction/Speed: - — Outlook: Overcast — Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11,14,18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: OUSL

Site No.:

Sample Point: MW-33C (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 14 18	13:28	2:20			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Filter Device: (Y) or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: C — A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: C

Filter Type: A — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

X-Other:

Sample Tube Type: D — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 27.8 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: 02 (in)

Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:28	400	1st	6.67	1st	1.163	1st	19.09		13.77	191.6	
13:33		2nd	7.06	2nd	1.163	2nd	19.03		10.64	162.0	
13:36		3rd	7.18	3rd	1.163	3rd	19.02		10.42	128.6	
13:39		4th	7.27	4th	1.162		19.01		10.33	87.6	
13:42			7.35		1.163		19.01		10.31	59.7	
13:45			7.41		1.163		19.01		10.28	36.4	
13:48	V		7.47		1.162		19.00	0.71	10.25	11.8	12.90

Suggested range for 3 consec. readings or note Permit/State requirements: | +/- 0.2 | +/- 3% | - | - | +/- 10% | +/- 25 mV | Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Final DRO Units
11 14 18	7.47	1.162	19.00	0.71	10.25	131	290

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: Clear — **Odor:** none — **Color:** — — **Other:** —

Weather Conditions (required daily, or as conditions change): — **Direction/Speed:** — **Outlook:** Overcast — **Precipitation:** Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/14/18	Sam Graber		SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

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

Chain of Custody Record

8113 9352 4760

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S.G.	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 8113 9352 4738	COC No: 280-17318-3224.1
Client Contact: ~~Mr. Patrick Madej~~ Dan Vecchiarutti	Phone: 425-766-3362	E-Mail: betsy.sara@testamericainc.com		Page: 1 of 1
Company: ~~Waste Management~~ SCS Engineers				Job #: 04204027.21
Address: ~~2615 Davis Street~~ 2405 140th Ave NE #107	Due Date Requested: Standard			
City: ~~San Leandro~~ Bellevue	TAT Requested (days):			
State, Zip: ~~CA, 94577~~ 98005 WA				
Phone: 425-289-5455	PO #:			
Email: DVecchiarutti@scsengineers.com	WO #:			
Project Name: WA02|Olympic View Sanitary LF Event Desc: Quarterly GW Appl/II - Mar Jun Sep Dec	Project #: 28002692			
Site: Washington	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TDS/Alks/Cl/SO4/NO3(cad)	Dissolved Metals	Ammonia/TOC	8260B - long list (TA Buffalo)	8260B SIM (TA Buffalo)	Total Metals	TSS	Total Arsenic (direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A	A	D	N	D		
MW-43	11/14/18	953	G	W	Y	N	X	X	X	X	X	X	X	X	11	Short Hold: NO3(cad)
MW-32	↓	1100	G	W	Y	N	↓	↓	↓	↓	↓	↓	↓	↓	↓	Arsenic - Direct sub to ARI
MW-33A		1300	G	W	Y	N	↓	↓	↓	↓	↓	↓	↓	↓	↓	
MW-33C		1348	G	W	Y	N	↓	↓	↓	↓	↓	↓	↓	↓	↓	
Trip blank	↓	—	-	W	N	N				↓					4	

280-116998 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		11/14/18 1515	SCS			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	11/15/18 1350	TA DEN

Custody Seals Intact: △ Yes △ No

Custody Seal No.: 662652, 662653

Cooler Temperature(s) °C and Other Remarks: -013 5 +1.0 by AP 11/15/18

12/06/2018

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-462877.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 280-116998-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 12/4/2018			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692			
Site: WA02|Olympic View Sanitary LF	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	8260C/5030C (MOD) Appendix II Volatiles	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-18 (280-116998-1)	11/14/18	09:53 Pacific		Water			X	X	6	
MW-32 (280-116998-2)	11/14/18	11:00 Pacific		Water			X	X	6	
MW-33A (280-116998-3)	11/14/18	13:00 Pacific		Water			X	X	6	
MW-33C (280-116998-4)	11/14/18	13:48 Pacific		Water			X	X	6	
TRIP BLANK (280-116998-5)	11/14/18	Pacific		Water			X	X	4	

Note: since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status 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.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

12/06/2018

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116998-1

Login Number: 116998
List Number: 1
Creator: Staack, KiAundra A

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.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-116998-1

Login Number: 116998
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 11/17/18 01:01 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3 #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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-117014-1

Job Description: WA02|Olympic View Sanitary LF - Leachate

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/6/2018 12:45 PM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/06/2018

cc: Mr. Dan Venchiarutti

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF - Leachate

Report Number: 280-117014-1

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

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

Sample Receiving

The samples were received on 11/15/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.8 C.

Holding Times

The 48-hour holding time expired for Biochemical Oxygen Demand (BOD) Method 5210B prior to sample receipt. The client was notified.

All other holding times were within established control limits.

Method Blanks

All Method Blank recoveries were within established control limits.

Laboratory Control Samples (LCS)

The Method 5210B LCS exhibited a recovery of Biochemical Oxygen Demand (BOD) above the upper control limit at 134% (control limits 85%-115%). Because the 48-hour holding time expired, reanalysis was not performed.

All other Laboratory Control Samples were within established control limits.

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

Sample LP-LCD was selected to fulfill the laboratory batch quality control requirements for Method 6010D. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Total Iron above the upper control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

The Method 353.2 MS/MSD performed on a sample from another client exhibited a RPD result outside the RPD limit for Nitrate/Nitrite. Because the corresponding Matrix Spike and Matrix Spike Duplicate recoveries, Laboratory Control Sample, and Method Blank sample were within control limits, this anomaly is considered to be due to matrix interference and no corrective action was taken.

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

Sample Duplicate

The RPD for Total Dissolved Solids (TDS) Method 2540C performed on a sample from another client was outside control limits. Because all other QC and calibration criteria were met no corrective action was needed.

General Comments

The analysis for Total Arsenic Method 200.8 was performed by ARI. ARI is not a TestAmerica approved subcontract laboratory and assumes no liability for the data. Their address and phone number are:
Analytical Resources, Inc.
4611 S. 134th Place
Tukwila, WA 98168-3240

206-695-6200 phone

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-117014-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-117014-1	**LP-LCD**					
Specific Conductivity		3586			umhos/cm	Field Sampling
Dissolved Oxygen		6.98			mg/L	Field Sampling
eH		275.7			millivolts	Field Sampling
Turbidity		6.05			NTU	Field Sampling
Temperature		9.0			Degrees C	Field Sampling
pH		7.36			SU	Field Sampling
Ammonia (as N)		0.52		0.030	mg/L	350.1
Chemical Oxygen Demand (COD)		130		20	mg/L	410.4
Total Organic Carbon - Average		40		1.0	mg/L	SM 5310B
Biochemical Oxygen Demand		22	H b *	13	mg/L	SM5210B
Total Recoverable						
Calcium, Total		95		0.040	mg/L	6010D
Iron, Total		0.24	F1	0.060	mg/L	6010D
Magnesium, Total		57		0.050	mg/L	6010D
Manganese, Total		0.37		0.050	mg/L	6010D
Potassium, Total		78		1.0	mg/L	6010D
Sodium, Total		620		1.0	mg/L	6010D
280-117014-2	**LP-LCD**					
Chloride		540		20	mg/L	300.0
Sulfate		230		20	mg/L	300.0
Nitrate/Nitrite		32		0.50	mg/L	353.2
Nitrate as N		32		0.050	mg/L	353.2
Alkalinity, Total (As CaCO3)		630		5.0	mg/L	SM 2320B
Alkalinity, Bicarbonate (As CaCO3)		630		5.0	mg/L	SM 2320B
Total Dissolved Solids (TDS)		2200		10	mg/L	SM 2540C

METHOD SUMMARY

Client: Waste Management Job Number: 280-117014-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL DEN	SW846 6010D	
Preparation, Total Recoverable or Dissolved Metals	TAL DEN		SW846 3005A
Anions, Ion Chromatography	TAL DEN	MCAWW 300.0	
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrate	TAL DEN	EPA 353.2	
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
COD	TAL DEN	MCAWW 410.4	
Alkalinity	TAL DEN	SM SM 2320B	
Solids, Total Dissolved (TDS)	TAL DEN	SM SM 2540C	
Organic Carbon, Total (TOC)	TAL DEN	SM SM 5310B	
BOD, 5 Day	TAL DEN	SM SM5210B	
Field Sampling	TAL DEN	EPA Field Sampling	
General Subcontract Method	SC0056	Subcontract	

Lab References:

SC0056 = Analytical Resources, Inc

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

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: Waste Management

Job Number: 280-117014-1

Method	Analyst	Analyst ID
SW846 6010D	Lackey, Cara M	CML
EPA Field Sampling	Suporn, Arisa 1	A1S
MCAWW 300.0	Phan, Thu L	TLP
MCAWW 350.1	Pedrick, Joshua A	JAP
MCAWW 353.2	Cherry, Scott V	SVC
EPA 353.2	Jewell, Connie C	CCJ
MCAWW 410.4	Loux, Lauren P	LPL
SM SM 2320B	Barker, Scott G	SGB
SM SM 2540C	Setjoadi, Mayori J	MJS
SM SM 5310B	Loux, Lauren P	LPL
SM SM5210B	Moser, Angela R	ARM

SAMPLE SUMMARY

Client: Waste Management

Job Number: 280-117014-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-117014-1	LP-LCD	Water	11/13/2018 0930	11/15/2018 1350
280-117014-2	LP-LCD	Water	11/14/2018 1145	11/15/2018 1350

SAMPLE RESULTS

Client: Waste Management

Job Number: 280-117014-1

Client Sample ID: **LP-LCD**

Lab Sample ID: 280-117014-1
Client Matrix: Water

Date Sampled: 11/13/2018 0930
Date Received: 11/15/2018 1350

6010D Metals (ICP)-Total Recoverable

Analysis Method:	6010D	Analysis Batch:	280-438709	Instrument ID:	MT_051
Prep Method:	3005A	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2034			Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Calcium, Total	95		0.035	0.040
Iron, Total	0.24	F1	0.022	0.060
Magnesium, Total	57		0.011	0.050
Manganese, Total	0.37		0.00026	0.050
Potassium, Total	78		0.24	1.0
Sodium, Total	620		0.12	1.0

General Chemistry

Client Sample ID: **LP-LCD**

Lab Sample ID: 280-117014-1 Date Sampled: 11/13/2018 0930
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Ammonia (as N)	0.52		mg/L	0.030	0.030	1.0	350.1
Analysis Batch: 280-439267	Analysis Date: 11/29/2018 1104						
Chemical Oxygen Demand (COD)	130		mg/L	20	20	2.0	410.4
Analysis Batch: 280-438214	Analysis Date: 11/20/2018 0651						
Total Organic Carbon - Average	40		mg/L	1.0	1.0	1.0	SM 5310B
Analysis Batch: 280-439731	Analysis Date: 12/01/2018 1228						
Biochemical Oxygen Demand	22	H b *	mg/L	13	13	5.0	SM5210B
Analysis Batch: 280-437818	Analysis Date: 11/15/2018 1710						

General Chemistry

Client Sample ID: **LP-LCD**

Lab Sample ID: 280-117014-2 Date Sampled: 11/14/2018 1145
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chloride	540		mg/L	20	20	20	300.0
Analysis Batch: 280-439235	Analysis Date: 11/29/2018 2322						
Sulfate	230		mg/L	20	20	20	300.0
Analysis Batch: 280-439235	Analysis Date: 11/29/2018 2322						
Nitrate as N	32		mg/L	0.050	0.050	1.0	353.2
Analysis Batch: 280-438438	Analysis Date: 11/21/2018 1058						
Nitrate/Nitrite	32		mg/L	0.50	0.50	10	353.2
Analysis Batch: 280-438364	Analysis Date: 11/20/2018 2027						
Alkalinity, Total (As CaCO3)	630		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/27/2018 0130						
Alkalinity, Bicarbonate (As CaCO3)	630		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/27/2018 0130						
Alkalinity, Carbonate (As CaCO3)	ND		mg/L	5.0	5.0	1.0	SM 2320B
Analysis Batch: 280-438873	Analysis Date: 11/27/2018 0130						
Total Dissolved Solids (TDS)	2200		mg/L	10	10	1.0	SM 2540C
Analysis Batch: 280-438118	Analysis Date: 11/19/2018 0954						

Field Service / Mobile Lab

Client Sample ID: **LP-LCD**

Lab Sample ID: 280-117014-1 Date Sampled: 11/13/2018 0930
Client Matrix: Water Date Received: 11/15/2018 1350

Analyte	Result	Qual	Units	Dil	Method	Analysis Batch	Date Analyzed Date Prepared
Specific Conductivity	3586		umhos/cm	1.0	Field Sampling	280-438054	11/13/2018 1030
Dissolved Oxygen	6.98		mg/L	1.0	Field Sampling	280-438054	11/13/2018 1030
eH	275.7		millivolts	1.0	Field Sampling	280-438054	11/13/2018 1030
Turbidity	6.05		NTU	1.0	Field Sampling	280-438054	11/13/2018 1030
Temperature	9.0		Degrees C	1.0	Field Sampling	280-438054	11/13/2018 1030
pH	7.36		SU	1.0	Field Sampling	280-438054	11/13/2018 1030

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-117014-1

Lab Section	Qualifier	Description
Metals		
	F1	MS and/or MSD Recovery is outside acceptance limits.
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
General Chemistry		
	F3	Duplicate RPD exceeds the control limit
	*	LCS or LCSD is outside acceptance limits.
	F2	MS/MSD RPD exceeds control limits
	b	Result Detected in the Unseeded Control blank (USB).
	H	Sample was prepped or analyzed beyond the specified holding time

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-117014-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-438411					
LCS 280-438411/2-A	Lab Control Sample	R	Water	3005A	
MB 280-438411/1-A	Method Blank	R	Water	3005A	
280-117014-1	LP-LCD	R	Water	3005A	
280-117014-1MS	Matrix Spike	R	Water	3005A	
280-117014-1MSD	Matrix Spike Duplicate	R	Water	3005A	
Analysis Batch:280-438709					
LCS 280-438411/2-A	Lab Control Sample	R	Water	6010D	280-438411
MB 280-438411/1-A	Method Blank	R	Water	6010D	280-438411
280-117014-1	LP-LCD	R	Water	6010D	280-438411
280-117014-1MS	Matrix Spike	R	Water	6010D	280-438411
280-117014-1MSD	Matrix Spike Duplicate	R	Water	6010D	280-438411

Report Basis
R = Total Recoverable

Field Service / Mobile Lab					
Analysis Batch:280-438054					
280-117014-1	LP-LCD	T	Water	Field Sampling	

Report Basis
T = Total

Client: Waste Management Job Number: 280-117014-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-437818					
LCS 280-437818/3	Lab Control Sample	T	Water	SM5210B	
MB 280-437818/4	Method Blank	T	Water	SM5210B	
SCB 280-437818/1	Seeded Control Blank	T	Water	SM5210B	
USB 280-437818/2	Unseeded Control Blank	T	Water	SM5210B	
280-117014-1	LP-LCD	T	Water	SM5210B	
280-117014-1DU	Duplicate	T	Water	SM5210B	
Analysis Batch:280-438118					
LCS 280-438118/2	Lab Control Sample	T	Water	SM 2540C	
MB 280-438118/1	Method Blank	T	Water	SM 2540C	
280-116973-C-2 DU	Duplicate	T	Water	SM 2540C	
280-117014-2	LP-LCD	T	Water	SM 2540C	
Analysis Batch:280-438214					
LCS 280-438214/3	Lab Control Sample	T	Water	410.4	
LCSD 280-438214/4	Lab Control Sample Duplicate	T	Water	410.4	
MB 280-438214/5	Method Blank	T	Water	410.4	
280-116742-A-3 MS	Matrix Spike	T	Water	410.4	
280-116742-A-3 MSD	Matrix Spike Duplicate	T	Water	410.4	
280-117014-1	LP-LCD	T	Water	410.4	
Analysis Batch:280-438364					
LCS 280-438364/59	Lab Control Sample	T	Water	353.2	
MB 280-438364/60	Method Blank	T	Water	353.2	
280-116925-B-1 MS	Matrix Spike	T	Water	353.2	
280-116925-B-1 MSD	Matrix Spike Duplicate	T	Water	353.2	
280-117014-2	LP-LCD	T	Water	353.2	
Analysis Batch:280-438438					
MB 280-438438/1	Method Blank	T	Water	353.2	
280-117014-2	LP-LCD	T	Water	353.2	
Analysis Batch:280-438873					
LCS 280-438873/82	Lab Control Sample	T	Water	SM 2320B	
MB 280-438873/83	Method Blank	T	Water	SM 2320B	
280-117014-2	LP-LCD	T	Water	SM 2320B	
280-117014-2DU	Duplicate	T	Water	SM 2320B	

Client: Waste Management Job Number: 280-117014-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-439235					
LCS 280-439235/4	Lab Control Sample	T	Water	300.0	
LCSD 280-439235/5	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-439235/6	Method Blank	T	Water	300.0	
280-117014-2	LP-LCD	T	Water	300.0	
280-117494-B-1 MS	Matrix Spike	T	Water	300.0	
280-117494-B-1 MSD	Matrix Spike Duplicate	T	Water	300.0	
280-117494-D-2 DU	Duplicate	T	Water	300.0	
Analysis Batch:280-439267					
LCS 280-439267/18	Lab Control Sample	T	Water	350.1	
LCSD 280-439267/19	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-439267/20	Method Blank	T	Water	350.1	
280-116999-B-1 MS	Matrix Spike	T	Water	350.1	
280-116999-B-1 MSD	Matrix Spike Duplicate	T	Water	350.1	
280-117014-1	LP-LCD	T	Water	350.1	
Analysis Batch:280-439731					
LCS 280-439731/3	Lab Control Sample	T	Water	SM 5310B	
MB 280-439731/4	Method Blank	T	Water	SM 5310B	
280-116952-B-3 MS	Matrix Spike	T	Water	SM 5310B	
280-116952-B-3 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-117014-1	LP-LCD	T	Water	SM 5310B	
Analysis Batch:280-439732					
LCS 280-439732/3	Lab Control Sample	T	Water	SM 5310B	
MB 280-439732/4	Method Blank	T	Water	SM 5310B	
280-116952-B-3 MS	Matrix Spike	T	Water	SM 5310B	
280-116952-B-3 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-117014-1	LP-LCD	T	Water	SM 5310B	

Report Basis
T = Total

Client: Waste Management Job Number: 280-117014-1

Method Blank - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-438411/1-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2028	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Calcium, Total	ND		0.035	0.040
Iron, Total	ND		0.022	0.060
Magnesium, Total	ND		0.011	0.050
Manganese, Total	ND		0.00026	0.050
Potassium, Total	ND		0.24	1.0
Sodium, Total	ND		0.12	1.0

Lab Control Sample - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-438411/2-A	Analysis Batch:	280-438709	Instrument ID:	MT_051
Client Matrix:	Water	Prep Batch:	280-438411	Lab File ID:	51A112318B.csv
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/23/2018 2031	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	11/21/2018 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Calcium, Total	50.0	51.5	103	90 - 111	
Iron, Total	1.00	1.04	104	89 - 115	
Magnesium, Total	50.0	51.0	102	90 - 113	
Manganese, Total	0.500	0.511	102	90 - 110	
Potassium, Total	50.0	51.1	102	89 - 114	
Sodium, Total	50.0	51.9	104	90 - 115	

Client: Waste Management

Job Number: 280-117014-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID: 280-117014-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/23/2018 2041
Prep Date: 11/21/2018 1400
Leach Date: N/A

Analysis Batch: 280-438709
Prep Batch: 280-438411
Leach Batch: N/A

Instrument ID: MT_051
Lab File ID: 51A112318B.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 280-117014-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/23/2018 2044
Prep Date: 11/21/2018 1400
Leach Date: N/A

Analysis Batch: 280-438709
Prep Batch: 280-438411
Leach Batch: N/A

Instrument ID: MT_051
Lab File ID: 51A112318B.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Calcium, Total	103	105	75 - 125	1	20		
Iron, Total	129	129	75 - 125	0	20	F1	F1
Magnesium, Total	102	104	75 - 125	1	20		
Manganese, Total	103	103	79 - 121	0	20		
Potassium, Total	103	106	76 - 125	1	20		
Sodium, Total	79	89	75 - 125	1	20	4	4

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438411

Method: 6010D
Preparation: 3005A
Total Recoverable

MS Lab Sample ID: 280-117014-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/23/2018 2041
Prep Date: 11/21/2018 1400
Leach Date: N/A

Units: mg/L

MSD Lab Sample ID: 280-117014-1
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/23/2018 2044
Prep Date: 11/21/2018 1400
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Calcium, Total	95	50.0	50.0	147		148	
Iron, Total	0.24	1.00	1.00	1.53	F1	1.54	F1
Magnesium, Total	57	50.0	50.0	108		109	
Manganese, Total	0.37	0.500	0.500	0.883		0.887	
Potassium, Total	78	50.0	50.0	130		131	
Sodium, Total	620	50.0	50.0	656	4	661	4

Method Blank - Batch: 280-439235

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-439235/6	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1518	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chloride	ND		1.0	1.0
Sulfate	ND		1.0	1.0

Method Reporting Limit Check - Batch: 280-439235

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-439235/3	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1426	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	ND	95	50 - 150	
Sulfate	2.50	ND	95	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439235

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439235/4	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1443	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439235/5	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 1501	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	98	98	90 - 110	0	10		
Sulfate	100	100	90 - 110	0	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439235

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439235/4	Units: mg/L	LCSD Lab Sample ID:	LCSD 280-439235/5	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 1443		Analysis Date:	11/29/2018 1501	
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	97.9	97.9
Sulfate	100	100	99.8	99.8

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439235

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-117494-B-1 MS	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 2028			Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-117494-B-1 MSD	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 2045			Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride	102	103	80 - 120	1	20		
Sulfate	104	105	80 - 120	0	20		

Client: Waste Management

Job Number: 280-117014-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439235

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-117494-B-1 MS	Units: mg/L	MSD Lab Sample ID:	280-117494-B-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/29/2018 2028		Analysis Date:	11/29/2018 2045	
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	6.6	25.0	25.0	32.0	32.3
Sulfate	48	25.0	25.0	73.7	73.9

Duplicate - Batch: 280-439235

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-117494-D-2 DU	Analysis Batch:	280-439235	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/29/2018 2010	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	6.6	6.59	0	15	
Sulfate	40	40.4	0	15	

Method Blank - Batch: 280-439267

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-439267/20	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/29/2018 1016	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Ammonia (as N)	ND		0.030	0.030

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439267/18	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/29/2018 1012	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439267/19	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/29/2018 1014	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia (as N)	104	100	90 - 110	4	10		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439267/18	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439267/19
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/29/2018 1012			Analysis Date:	11/29/2018 1014
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
Ammonia (as N)	2.50	2.50	2.60	2.50

Client: Waste Management Job Number: 280-117014-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116999-B-1 MS	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/29/2018 1020			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116999-B-1 MSD	Analysis Batch:	280-439267	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112918.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	11/29/2018 1022			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia (as N)	99	102	90 - 110	2	10		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439267

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-116999-B-1 MS	Units: mg/L		MSD Lab Sample ID:	280-116999-B-1 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/29/2018 1020			Analysis Date:	11/29/2018 1022
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
Ammonia (as N)	0.29	1.00	1.00	1.29	1.32

Client: Waste Management Job Number: 280-117014-1

Method Blank - Batch: 280-438364

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438364/60	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1915	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate/Nitrite	ND		0.050	0.050

Lab Control Sample - Batch: 280-438364

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 280-438364/59	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 1913	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate/Nitrite	5.00	5.39	108	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438364

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	280-116925-B-1 MS	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 1955			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116925-B-1 MSD	Analysis Batch:	280-438364	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\112018.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/20/2018 2009			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate/Nitrite	101	90	90 - 110	11	10		F2

Client: Waste Management

Job Number: 280-117014-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438364

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	280-116925-B-1 MS	Units: mg/L	MSD Lab Sample ID:	280-116925-B-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/20/2018 1955		Analysis Date:	11/20/2018 2009	
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	
Nitrate/Nitrite	ND	4.00	4.00	4.03	3.62	F2

Client: Waste Management

Job Number: 280-117014-1

Method Blank - Batch: 280-438438

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 280-438438/1	Analysis Batch:	280-438438	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/21/2018 1056	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Nitrate as N	ND		0.050	0.050

Method Blank - Batch: 280-438214 **Method: 410.4**
Preparation: N/A

Lab Sample ID:	MB 280-438214/5	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	2 mL
Analysis Date:	11/20/2018 0651	Units:	mg/L	Final Weight/Volume:	2 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chemical Oxygen Demand (COD)	ND		10	10

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-438214 **Method: 410.4**
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438214/3	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-438214/4	Analysis Batch:	280-438214	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/20/2018 0651	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chemical Oxygen Demand (COD)	105	104	90 - 110	2	11		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-438214 **Method: 410.4**
Preparation: N/A

LCS Lab Sample ID:	LCS 280-438214/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-438214/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/20/2018 0651			Analysis Date:	11/20/2018 0651
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
Chemical Oxygen Demand (COD)	100	100	105	104

Client: Waste Management Job Number: 280-117014-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438214

Method: 410.4
Preparation: N/A

MS Lab Sample ID: 280-116742-A-3 MS
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/20/2018 0651
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 280-438214
Prep Batch: N/A
Leach Batch: N/A

Instrument ID: WC_Genesys20
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

MSD Lab Sample ID: 280-116742-A-3 MSD
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/20/2018 0651
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 280-438214
Prep Batch: N/A
Leach Batch: N/A

Instrument ID: WC_Genesys20
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chemical Oxygen Demand (COD)	91	95	90 - 110	3	11		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-438214

Method: 410.4
Preparation: N/A

MS Lab Sample ID: 280-116742-A-3 MS
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/20/2018 0651
Prep Date: N/A
Leach Date: N/A

Units: mg/L

MSD Lab Sample ID: 280-116742-A-3 MSD
Client Matrix: Water
Dilution: 1.0
Analysis Date: 11/20/2018 0651
Prep Date: N/A
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chemical Oxygen Demand (COD)	13	50.0	50.0	58.4	60.4

Client: Waste Management Job Number: 280-117014-1

Method Blank - Batch: 280-438873

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-438873/83	Analysis Batch:	280-438873	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112618.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/27/2018 0121	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Alkalinity, Total (As CaCO3)	ND		5.0	5.0
Alkalinity, Bicarbonate (As CaCO3)	ND		5.0	5.0
Alkalinity, Carbonate (As CaCO3)	ND		5.0	5.0

Lab Control Sample - Batch: 280-438873

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-438873/82	Analysis Batch:	280-438873	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112618.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/27/2018 0116	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Alkalinity, Total (As CaCO3)	200	196	98	89 - 109	

Duplicate - Batch: 280-438873

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	280-117014-2	Analysis Batch:	280-438873	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	alk 112618.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/27/2018 0139	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Alkalinity, Total (As CaCO3)	630	643	1	10	

Client: Waste Management Job Number: 280-117014-1

Method Blank - Batch: 280-438118

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	MB 280-438118/1	Analysis Batch:	280-438118	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/19/2018 0954	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Dissolved Solids (TDS)	ND		5.0	5.0

Lab Control Sample - Batch: 280-438118

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	LCS 280-438118/2	Analysis Batch:	280-438118	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	11/19/2018 0954	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids (TDS)	500	499	100	93 - 110	

Duplicate - Batch: 280-438118

Method: SM 2540C
Preparation: N/A

Lab Sample ID:	280-116973-C-2 DU	Analysis Batch:	280-438118	Instrument ID:	WC_IC6
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/19/2018 0954	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids (TDS)	2500	2130	15	10	F3

Client: Waste Management Job Number: 280-117014-1

Method Blank - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-439731/4	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0951	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Organic Carbon - Average	ND		1.0	1.0

Lab Control Sample - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	LCS 280-439731/3	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 0933	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon - Average	25.0	25.8	103	88 - 112	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116952-B-3 MS	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 1045			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-116952-B-3 MSD	Analysis Batch:	280-439731	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	120118.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/01/2018 1103			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	101	100	88 - 112	1	15		

Client: Waste Management

Job Number: 280-117014-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-439731

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-116952-B-3 MS	Units: mg/L	MSD Lab Sample ID:	280-116952-B-3 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/01/2018 1045		Analysis Date:	12/01/2018 1103	
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
Total Organic Carbon - Average	1.4	25.0	25.0	26.5	26.4

Client: Waste Management Job Number: 280-117014-1

Method Blank - Batch: 280-437818 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	MB 280-437818/4	Analysis Batch:	280-437818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/15/2018 1710	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Seeded Control Blank - Batch: 280-437818 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	SCB 280-437818/1	Analysis Batch:	280-437818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/15/2018 1710	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Unseeded Control Blank - Batch: 280-437818 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	USB 280-437818/2	Analysis Batch:	280-437818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/15/2018 1710	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Client: Waste Management Job Number: 280-117014-1

Lab Control Sample - Batch: 280-437818 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	LCS 280-437818/3	Analysis Batch:	280-437818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/15/2018 1710	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Biochemical Oxygen Demand	198	265	134	85 - 115	*

Duplicate - Batch: 280-437818 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	280-117014-1	Analysis Batch:	280-437818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/15/2018 1711	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Biochemical Oxygen Demand	22	24.7	11	20	*

Client: Waste Management Job Number: 280-117014-1

Laboratory Chronicle

Lab ID: 280-117014-1 **Client ID: LP-LCD**

Sample Date/Time: 11/13/2018 09:30 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-117014-D-1-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-A		280-438709	280-438411	11/23/2018 20:34	1	TAL DEN	CML
A:350.1	280-117014-C-1		280-439267		11/29/2018 11:04	1	TAL DEN	JAP
A:410.4	280-117014-C-1		280-438214		11/20/2018 06:51	2	TAL DEN	LPL
A:SM 5310B	280-117014-C-1		280-439731		12/01/2018 12:28	1	TAL DEN	LPL
A:SM5210B	280-117014-A-1		280-437818		11/15/2018 17:10	5	TAL DEN	ARM
A:Field Sampling	280-117014-A-1		280-438054		11/13/2018 10:30	1	TAL DEN	A1S

Lab ID: 280-117014-1 MS **Client ID: LP-LCD**

Sample Date/Time: 11/13/2018 09:30 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-117014-D-1-B MS		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-B MS		280-438709	280-438411	11/23/2018 20:41	1	TAL DEN	CML

Lab ID: 280-117014-1 MSD **Client ID: LP-LCD**

Sample Date/Time: 11/13/2018 09:30 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	280-117014-D-1-C MSD		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	280-117014-D-1-C MSD		280-438709	280-438411	11/23/2018 20:44	1	TAL DEN	CML

Lab ID: 280-117014-1 DU **Client ID: LP-LCD**

Sample Date/Time: 11/13/2018 09:30 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	280-117014-A-1 DU		280-437818		11/15/2018 17:11	5	TAL DEN	ARM

Lab ID: 280-117014-2 **Client ID: LP-LCD**

Sample Date/Time: 11/14/2018 11:45 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-117014-A-2		280-439235		11/29/2018 23:22	20	TAL DEN	TLP
A:353.2	280-117014-A-2		280-438364		11/20/2018 20:27	10	TAL DEN	SVC
A:353.2	280-117014-A-2		280-438438		11/21/2018 10:58	1	TAL DEN	CCJ
A:SM 2320B	280-117014-A-2		280-438873		11/27/2018 01:30	1	TAL DEN	SGB
A:SM 2540C	280-117014-A-2		280-438118		11/19/2018 09:54	1	TAL DEN	MJS

Client: Waste Management Job Number: 280-117014-1

Laboratory Chronicle

Lab ID: 280-117014-2 DU **Client ID: LP-LCD**

Sample Date/Time: 11/14/2018 11:45 Received Date/Time: 11/15/2018 13:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2320B	280-117014-A-2 DU		280-438873		11/27/2018 01:39	1	TAL DEN	SGB

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	MB 280-438411/1-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	MB 280-438411/1-A		280-438709	280-438411	11/23/2018 20:28	1	TAL DEN	CML
A:300.0	MB 280-439235/6		280-439235		11/29/2018 15:18	1	TAL DEN	TLP
A:350.1	MB 280-439267/20		280-439267		11/29/2018 10:16	1	TAL DEN	JAP
A:353.2	MB 280-438364/60		280-438364		11/20/2018 19:15	1	TAL DEN	SVC
A:353.2	MB 280-438438/1		280-438438		11/21/2018 10:56	1	TAL DEN	CCJ
A:410.4	MB 280-438214/5		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:SM 2320B	MB 280-438873/83		280-438873		11/27/2018 01:21	1	TAL DEN	SGB
A:SM 2540C	MB 280-438118/1		280-438118		11/19/2018 09:54	1	TAL DEN	MJS
A:SM 5310B	MB 280-439731/4		280-439731		12/01/2018 09:51	1	TAL DEN	LPL
A:SM5210B	MB 280-437818/4		280-437818		11/15/2018 17:10	1	TAL DEN	ARM

Lab ID: USB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	USB 280-437818/2		280-437818		11/15/2018 17:10	1	TAL DEN	ARM

Lab ID: SCB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	SCB 280-437818/1		280-437818		11/15/2018 17:10	1	TAL DEN	ARM

Client: Waste Management Job Number: 280-117014-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	LCS 280-438411/2-A		280-438709	280-438411	11/21/2018 14:00	1	TAL DEN	LRD
A:6010D	LCS 280-438411/2-A		280-438709	280-438411	11/23/2018 20:31	1	TAL DEN	CML
A:300.0	LCS 280-439235/4		280-439235		11/29/2018 14:43	1	TAL DEN	TLP
A:350.1	LCS 280-439267/18		280-439267		11/29/2018 10:12	1	TAL DEN	JAP
A:353.2	LCS 280-438364/59		280-438364		11/20/2018 19:13	1	TAL DEN	SVC
A:410.4	LCS 280-438214/3		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:SM 2320B	LCS 280-438873/82		280-438873		11/27/2018 01:16	1	TAL DEN	SGB
A:SM 2540C	LCS 280-438118/2		280-438118		11/19/2018 09:54	1	TAL DEN	MJS
A:SM 5310B	LCS 280-439731/3		280-439731		12/01/2018 09:33	1	TAL DEN	LPL
A:SM5210B	LCS 280-437818/3		280-437818		11/15/2018 17:10	1	TAL DEN	ARM

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	LCSD 280-439235/5		280-439235		11/29/2018 15:01	1	TAL DEN	TLP
A:350.1	LCSD 280-439267/19		280-439267		11/29/2018 10:14	1	TAL DEN	JAP
A:410.4	LCSD 280-438214/4		280-438214		11/20/2018 06:51	1	TAL DEN	LPL

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-439235/3		280-439235		11/29/2018 14:26	1	TAL DEN	TLP

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/28/2018 14:35 Received Date/Time: 11/29/2018 11:25

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-117494-B-1 MS		280-439235		11/29/2018 20:28	1	TAL DEN	TLP
A:350.1	280-116999-B-1 MS		280-439267		11/29/2018 10:20	1	TAL DEN	JAP
A:353.2	280-116925-B-1 MS		280-438364		11/20/2018 19:55	1	TAL DEN	SVC
A:410.4	280-116742-A-3 MS		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:SM 5310B	280-116952-B-3 MS		280-439731		12/01/2018 10:45	1	TAL DEN	LPL

Client: Waste Management Job Number: 280-117014-1

Laboratory Chronicle

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/28/2018 14:35 Received Date/Time: 11/29/2018 11:25

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-117494-B-1 MSD		280-439235		11/29/2018 20:45	1	TAL DEN	TLP
A:350.1	280-116999-B-1 MSD		280-439267		11/29/2018 10:22	1	TAL DEN	JAP
A:353.2	280-116925-B-1 MSD		280-438364		11/20/2018 20:09	1	TAL DEN	SVC
A:410.4	280-116742-A-3 MSD		280-438214		11/20/2018 06:51	1	TAL DEN	LPL
A:SM 5310B	280-116952-B-3 MSD		280-439731		12/01/2018 11:03	1	TAL DEN	LPL

Lab ID: DU **Client ID: N/A**

Sample Date/Time: 11/28/2018 12:30 Received Date/Time: 11/29/2018 11:25

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-117494-D-2 DU		280-439235		11/29/2018 20:10	1	TAL DEN	TLP
A:SM 2540C	280-116973-C-2 DU		280-438118		11/19/2018 09:54	1	TAL DEN	MJS

Lab References:
TAL DEN = TestAmerica Denver

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 December 2018

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

RE: OVSL

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

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

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

Associated Work Order(s)	Associated SDG ID(s)
18K0248	N/A

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

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

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 18K0248	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 1 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level Total Arsenic	Notes/Comments
MW-13B	11/12/18	1147	water	1	X	
MW-34C		1200				
MW-13A		1058				
MW-34A		1100				
MW-36A		1256				
MW-35		1257				
MW-15R		1353				
MW-16		1400				
MW-14C		1448				
Dup 1		1455				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 2 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3 °C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-39	11/12/18	1502	water	1	X	
Dup 2	"	1510	"	"	"	
MW-29A	"	1609	"	"	"	
MW-42	"	1650	"	"	"	
LP-LCD	11/13/18	930	"	"	"	
L-INF	"	1115	leachate	"	"	
OBWL-TD	"	1315	leachate	"	"	
MW-43	11/14/18	953	water	"	"	
MW-32	"	1100	"	"	"	
MW-33A	"	1300	"	"	"	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacobwalter	Printed Name:	Printed Name:
	Company: SCS	Company: ART	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Date: 11/15/18	
ARI Client Company: SCS Engineers	Phone: 425-289-5443	Page: 3 of 3	
Client Contact: Sam Graber		No. of Coolers: 1	Cooler Temps: 1.3°C
Client Project Name: OVSL			
Client Project #: 04204027.21	Samplers: SG and TB		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level total Arsenic	Notes/Comments
MW-33C	11/14/18	1348	water	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Sam Graber	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 11/16/18 1140	Date & Time: 11/16/18 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or pre-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-13B	18K0248-01	Water	12-Nov-2018 11:47	16-Nov-2018 11:40
MW-34C	18K0248-02	Water	12-Nov-2018 12:00	16-Nov-2018 11:40
MW-13A	18K0248-03	Water	12-Nov-2018 10:58	16-Nov-2018 11:40
MW-34A	18K0248-04	Water	12-Nov-2018 11:00	16-Nov-2018 11:40
MW-36A	18K0248-05	Water	12-Nov-2018 12:56	16-Nov-2018 11:40
MW-35	18K0248-06	Water	12-Nov-2018 12:57	16-Nov-2018 11:40
MW-15R	18K0248-07	Water	12-Nov-2018 13:53	16-Nov-2018 11:40
MW-16	18K0248-08	Water	12-Nov-2018 14:00	16-Nov-2018 11:40
MW-19C	18K0248-09	Water	12-Nov-2018 14:48	16-Nov-2018 11:40
DUP 1	18K0248-10	Water	12-Nov-2018 14:55	16-Nov-2018 11:40
MW-39	18K0248-11	Water	12-Nov-2018 15:02	16-Nov-2018 11:40
DUP 2	18K0248-12	Water	12-Nov-2018 15:10	16-Nov-2018 11:40
MW-29A	18K0248-13	Water	12-Nov-2018 16:09	16-Nov-2018 11:40
MW-42	18K0248-14	Water	12-Nov-2018 16:50	16-Nov-2018 11:40
LP-LCD	18K0248-15	Water	13-Nov-2018 09:30	16-Nov-2018 11:40
L-INF	18K0248-16	Water	13-Nov-2018 11:15	16-Nov-2018 11:40
OBWL-TD	18K0248-17	Water	13-Nov-2018 13:15	16-Nov-2018 11:40
MW-43	18K0248-18	Water	14-Nov-2018 09:53	16-Nov-2018 11:40
MW-32	18K0248-19	Water	14-Nov-2018 11:00	16-Nov-2018 11:40
MW-33A	18K0248-20	Water	14-Nov-2018 13:00	16-Nov-2018 11:40
MW-33C	18K0248-21	Water	14-Nov-2018 13:48	16-Nov-2018 11:40

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 16, 2018 under ARI work order 18K0248. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Arsenic - EPA Method 200.8

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

18K0248

Client: Test America - Denver | **Project Manager:** Amanda Volgardsen

Project: OVSL | **Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2 fail	
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JDB
Preservation Confirmed By

11/16/18
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SCS Engineers Project Name: OUSL

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 18K0248 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1402 1305 1.3

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520 6

Cooler Accepted by: SSm Date: 11/16/18 Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		(YES)	NO
What kind of packing material was used? ...	Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

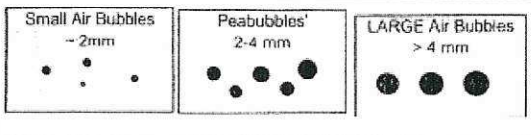
Samples Logged by: JNB Date: 11/16/18 Time: 1433

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

WORK ORDER

18K0248

Client: Test America - Denver	**Project Manager:** Amanda Volgardsen
Project: OVSL	**Project Number:** 04204027.20

Analysis	Due	TAT	Expires	Comments
18K0248-20 MW-33A [Water] Sampled 14-Nov-2018 13:00				
Met 200.8 - As	12/03/2018	10	5/13/2019	
18K0248-21 MW-33C [Water] Sampled 14-Nov-2018 13:48				
Met 200.8 - As	12/03/2018	10	5/13/2019	

Preservation Confirmation

Container ID	Container Type		pH	
18K0248-01 A	Miscellaneous Container	HNO3	<2	pass
18K0248-02 A	Miscellaneous Container		<2	
18K0248-03 A	Miscellaneous Container		<2	
18K0248-04 A	Miscellaneous Container		<2	
18K0248-05 A	Miscellaneous Container		<2	
18K0248-06 A	Miscellaneous Container		<2	
18K0248-07 A	Miscellaneous Container		<2	
18K0248-08 A	Miscellaneous Container		<2	
18K0248-09 A	Miscellaneous Container		<2	
18K0248-10 A	Miscellaneous Container		<2	
18K0248-11 A	Miscellaneous Container		<2	
18K0248-12 A	Miscellaneous Container		<2	
18K0248-13 A	Miscellaneous Container		<2	
18K0248-14 A	Miscellaneous Container		<2	
18K0248-15 A	Miscellaneous Container		<2	
18K0248-16 A	Miscellaneous Container		>2	fail
18K0248-17 A	Miscellaneous Container		<2	pass
18K0248-18 A	Miscellaneous Container		<2	
18K0248-19 A	Miscellaneous Container		<2	
18K0248-20 A	Miscellaneous Container		<2	
18K0248-21 A	Miscellaneous Container		<2	

JLB
Preservation Confirmed By

11/16/18
Date

preserved DP
11/19/18

Reviewed By

Date

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13B

18K0248-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:47

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000337**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34C

18K0248-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00968**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-13A

18K0248-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 10:58

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000189**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-34A

18K0248-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 11:00

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000411**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-36A

18K0248-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:56

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000532**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-35

18K0248-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 12:57
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000112**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-15R

18K0248-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 13:53

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000193**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-16

18K0248-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:00
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000452**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-19C

18K0248-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:48

Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 Sample Size: 100 mL
Prepared: 30-Nov-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00276**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 1

18K0248-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 14:55
Instrument: ICPMS2 Analyst: TCH — Analyzed: 11/30/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGK0701 — Sample Size: 100 mL
Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00281**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-39

18K0248-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:02

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00197**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

DUP 2

18K0248-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 15:10
Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 — Sample Size: 100 mL
Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00189**	mg/L	

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Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-29A

18K0248-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:09

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00219**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-42

18K0248-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/12/2018 16:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00183**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

LP-LCD

18K0248-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 09:30

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.0102**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

L-INF

18K0248-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGK0701 — Sample Size: 100 mL

Prepared: 30-Nov-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	**0.00370**	mg/L	D

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

OBWL-TD

18K0248-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/13/2018 13:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00584**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-43

18K0248-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 09:53

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	ND	mg/L	U

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-32

18K0248-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 11:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00984**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33A

18K0248-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:00

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Preparation Batch: BGL0010 — Sample Size: 100 mL

Prepared: 03-Dec-2018 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.000607**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

MW-33C

18K0248-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 — Sampled: 11/14/2018 13:48

Instrument: ICPMS2 Analyst: MCB — Analyzed: 12/03/2018

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BGL0010 Sample Size: 100 mL
Prepared: 03-Dec-2018 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	**0.00277**	mg/L	

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGK0701 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: TCH

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGK0701-BLK1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 18:28							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGK0701-BS1)				Prepared: 30-Nov-2018 Analyzed: 30-Nov-2018 19:11							
Arsenic	75a	0.00490	0.0000400	mg/L	0.00500		98.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Metals and Metallic Compounds - Quality Control

Batch BGL0010 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BGL0010-BLK1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:33							
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BGL0010-BS1)				Prepared: 03-Dec-2018 Analyzed: 03-Dec-2018 18:38							
Arsenic	75a	0.00475	0.0000400	mg/L	0.00500		95.0	80-120			

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75b	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/07/2019
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
DoD-ELAP DW	DoD-Environmental Laboratory Accreditation - Drinking Water	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-011	05/12/2019
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Test America - Denver	Project: OVSL	
4955 Yarrow Street	Project Number: 04204027.20	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	04-Dec-2018 14:24

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the applicable reporting or detection limit.
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.

117014-1

FIELD INFORMATION FORM

WM WASTE MANAGEMENT

Site Name: ~~LDCCR~~ OSL

Site No.:

Sample Point: LF-LCD (Sample ID)

This Waste Management Field Information Form is Required. This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
11 13 18	930				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Purging Device ____ A-Submersible Pump B-Peristaltic Pump C-QED Bladder Pump D-Bailer E-Piston Pump F-Dipper/Bottle

Sampling Device ____

X-Other: ____

Filter Type: ____ A-In-line Disposable B-Pressure C-Vacuum X-Other

Sample Tube Type: ____ A-Teflon B-Stainless Steel C-PVC D-Polypropylene X-Other: ____

WELL DATA

Well Elevation (at TOC) ____ (ft/msl)

Depth to Water (DTW) (from TOC) ____ (ft)

Groundwater Elevation (site datum, from TOC) ____ (ft/msl)

Total Well Depth (from TOC) ____ (ft)

Stick Up (from ground elevation) ____ (ft)

Casing ID ____ (in)

Casing Material ____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
930		1st 7.36	1st 3586	9.0	6.05	6.98	275.7	
		2nd	2nd					
		3rd	3rd					
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units
11 13 18	7.36	3586	9.0	6.05	6.98	275.7	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: off white/yellow

Odor: None

Color: off white/yellow

Other: -

Weather Conditions (required daily, or as conditions change):

Direction/Speed: -

Outlook: cloudy

Precipitation: Y or (N)

FIELD COMMENTS

Specific Comments (including purge/well volume calculations if required):

Purged system Dry. Collected Cl, SO4, Alk, TDS + NO3 bottle on 11/14/18 @ 1145

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
11/13/18	Sam Graber	[signature]	SCS
/ /			

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S.G.	Lab PM: Sara, Betsy A	Carrier Tracking No(s): 8113 9352 4760	COC No: 280-31456-972.1
Client Contact: Dan Venchiarutti	Phone: 425-766-3362	E-Mail: betsy.sara@testamericainc.com		Page: Page 1 of 1

Company: ~~Waste Management~~ SCS Engineers	Analysis Requested	Job #: 01204027.21
Address: ~~Olympic View Transfer Station 9300 Southwest Barney White Rd~~ 2405 140th Ave NE #107	Due Date Requested: Standard	Preservation Codes:
City: ~~Bremerton~~ Bellevue	TAT Requested (days): 4	A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WA, ~~98312~~ 98005		
Phone: 425-289-5455	PO #:	Other:
Email: ~~cluckie@wm.com~~ DVenchiarutti@scsengineers.com	WO #:	
Project Name: WA02|Olympic View Sanitary LF	Project #: 28002692-Quarterly Leachate Appll - Mar Jun Sep	
Site: Washington	SSOW#:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Cl/SO4/Alks/TDS/NO3(353.2-cad)	Total Metals	Ammonia/TOC/COD	BOD	Total Arsenic (direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	S	N	D		
LP-LCD	11/13/18	930	G	Water	N	N	~~X~~	X	X	X	X	~~4~~ 3	short holds: BOD and Nitrate (353.2-cad)
LP-LCD	11/14/18	1145	G	Water	N	N	X					1	Total LL Arsenic - direct sub from field to ARI

280-117014 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11/14/18 1515	~~SCS~~			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/15/18 1350	Company ~~TAL~~ DEN

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 662652	Cooler Temperature(s) °C and Other Remarks: -0.2 5 +1.0 by AP 11/15/18

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-117014-1

Login Number: 117014

List Source: TestAmerica Denver

List Number: 1

Creator: Quint, Jessica A

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.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-117519-1

Job Description: WA02|Olympic View Sanitary LF

For:
Waste Management
2615 Davis Street
San Leandro, CA 94577

Attention: Mr. Patrick Madej

Approved for release.
Betsy A Sara
Project Manager II
12/14/2018 1:02 PM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
12/14/2018

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.

Table of Contents

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF

Report Number: 280-117519-1

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

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

Sample Receiving

The samples were received on 11/30/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.9 C.

Holding Times

The analysis for Biochemical Oxygen Demand (BOD) Method 5210B for samples LR-01-112818, LR-03-112818 and LR-04-112818 was performed outside of hold due to more than half of the hold time expiring during transit. It is TestAmerica's policy to analyze all samples within holding times, but when samples are received with less than half the hold time remaining, this can not be guaranteed.

All other holding times were within established control limits.

Method Blanks

All Method Blank recoveries were within established control limits.

Laboratory Control Samples (LCS)

All Laboratory Control Samples were within established control limits.

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

The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Chemical Oxygen Demand (COD) Method 410.4. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

EXECUTIVE SUMMARY - Detections

Client: Waste Management Job Number: 280-117519-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-117519-1	**LR-01-112818**					
Chemical Oxygen Demand (COD)		400		50	mg/L	410.4
Biochemical Oxygen Demand		29	H	25	mg/L	SM5210B
280-117519-2	**LR-02-112818**					
Biochemical Oxygen Demand		4.9		2.5	mg/L	SM5210B
280-117519-3	**LR-03-112818**					
Chemical Oxygen Demand (COD)		320		50	mg/L	410.4
280-117519-4	**LR-04-112818**					
Chemical Oxygen Demand (COD)		740		50	mg/L	410.4
Biochemical Oxygen Demand		30	H	25	mg/L	SM5210B

METHOD SUMMARY

Client: Waste Management Job Number: 280-117519-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
COD	TAL DEN	MCAWW 410.4	
BOD, 5 Day	TAL DEN	SM SM5210B	

Lab References:

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"

METHOD / ANALYST SUMMARY

Client: Waste Management

Job Number: 280-117519-1

Method	Analyst	Analyst ID
MCAWW 410.4	Loux, Lauren P	LPL
SM SM5210B	Duplin, Alysha 1	A1D

SAMPLE SUMMARY

Client: Waste Management

Job Number: 280-117519-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-117519-1	LR-01-112818	Water	11/28/2018 1030	11/30/2018 0915
280-117519-2	LR-02-112818	Water	11/28/2018 1035	11/30/2018 0915
280-117519-3	LR-03-112818	Water	11/28/2018 1040	11/30/2018 0915
280-117519-4	LR-04-112818	Water	11/28/2018 1045	11/30/2018 0915

SAMPLE RESULTS

General Chemistry

Client Sample ID: **LR-01-112818**

Lab Sample ID: 280-117519-1 Date Sampled: 11/28/2018 1030
Client Matrix: Water Date Received: 11/30/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chemical Oxygen Demand (COD)	400		mg/L	50	50	5.0	410.4
Analysis Batch: 280-440859	Analysis Date: 12/12/2018 0558						
Biochemical Oxygen Demand	29	H	mg/L	25	25	10	SM5210B
Analysis Batch: 280-439410	Analysis Date: 11/30/2018 1258						

General Chemistry

Client Sample ID: **LR-02-112818**

Lab Sample ID: 280-117519-2 Date Sampled: 11/28/2018 1035
Client Matrix: Water Date Received: 11/30/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chemical Oxygen Demand (COD)	ND		mg/L	10	10	1.0	410.4
Analysis Batch: 280-440859	Analysis Date: 12/12/2018 0558						
Biochemical Oxygen Demand	4.9		mg/L	2.5	2.5	1.0	SM5210B
Analysis Batch: 280-439410	Analysis Date: 11/30/2018 0849						

General Chemistry

Client Sample ID: **LR-03-112818**

Lab Sample ID: 280-117519-3 Date Sampled: 11/28/2018 1040
Client Matrix: Water Date Received: 11/30/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chemical Oxygen Demand (COD)	320		mg/L	50	50	5.0	410.4
Analysis Batch: 280-440859	Analysis Date: 12/12/2018 0558						
Biochemical Oxygen Demand	ND	H	mg/L	25	25	10	SM5210B
Analysis Batch: 280-439410	Analysis Date: 11/30/2018 1258						

General Chemistry

Client Sample ID: **LR-04-112818**

Lab Sample ID: 280-117519-4 Date Sampled: 11/28/2018 1045
Client Matrix: Water Date Received: 11/30/2018 0915

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Chemical Oxygen Demand (COD)	740		mg/L	50	50	5.0	410.4
Analysis Batch: 280-440859	Analysis Date: 12/12/2018 0558						
Biochemical Oxygen Demand	30	H	mg/L	25	25	10	SM5210B
Analysis Batch: 280-439410	Analysis Date: 11/30/2018 1258						

DATA REPORTING QUALIFIERS

Client: Waste Management Job Number: 280-117519-1

Lab Section	Qualifier	Description
General Chemistry		
	F1	MS and/or MSD Recovery is outside acceptance limits.
	H	Sample was prepped or analyzed beyond the specified holding time

QUALITY CONTROL RESULTS

Client: Waste Management Job Number: 280-117519-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-439410					
LCS 280-439410/3	Lab Control Sample	T	Water	SM5210B	
LCSD 280-439410/4	Lab Control Sample Duplicate	T	Water	SM5210B	
MB 280-439410/5	Method Blank	T	Water	SM5210B	
SCB 280-439410/1	Seeded Control Blank	T	Water	SM5210B	
USB 280-439410/2	Unseeded Control Blank	T	Water	SM5210B	
280-117519-1	LR-01-112818	T	Water	SM5210B	
280-117519-2	LR-02-112818	T	Water	SM5210B	
280-117519-2DU	Duplicate	T	Water	SM5210B	
280-117519-3	LR-03-112818	T	Water	SM5210B	
280-117519-4	LR-04-112818	T	Water	SM5210B	
Analysis Batch:280-440859					
LCS 280-440859/3	Lab Control Sample	T	Water	410.4	
LCSD 280-440859/4	Lab Control Sample Duplicate	T	Water	410.4	
MB 280-440859/5	Method Blank	T	Water	410.4	
280-117519-1	LR-01-112818	T	Water	410.4	
280-117519-2	LR-02-112818	T	Water	410.4	
280-117519-3	LR-03-112818	T	Water	410.4	
280-117519-4	LR-04-112818	T	Water	410.4	
280-117523-C-1 MS	Matrix Spike	T	Water	410.4	
280-117523-C-1 MSD	Matrix Spike Duplicate	T	Water	410.4	

Report Basis
T = Total

Method Blank - Batch: 280-440859

Method: 410.4
Preparation: N/A

Lab Sample ID:	MB 280-440859/5	Analysis Batch:	280-440859	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	2 mL
Analysis Date:	12/12/2018 0558	Units:	mg/L	Final Weight/Volume:	2 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Chemical Oxygen Demand (COD)	ND		10	10

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-440859

Method: 410.4
Preparation: N/A

LCS Lab Sample ID:	LCS 280-440859/3	Analysis Batch:	280-440859	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/12/2018 0558	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-440859/4	Analysis Batch:	280-440859	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/12/2018 0558	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chemical Oxygen Demand (COD)	98	99	90 - 110	1	11		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-440859

Method: 410.4
Preparation: N/A

LCS Lab Sample ID:	LCS 280-440859/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-440859/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/12/2018 0558			Analysis Date:	12/12/2018 0558
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
Chemical Oxygen Demand (COD)	100	100	98.0	98.7

Client: Waste Management Job Number: 280-117519-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-440859

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-117523-C-1 MS	Analysis Batch:	280-440859	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/12/2018 0558			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-117523-C-1 MSD	Analysis Batch:	280-440859	Instrument ID:	WC_Genesys20
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/12/2018 0558			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chemical Oxygen Demand (COD)	112	116	90 - 110	4	11	F1	F1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-440859

Method: 410.4
Preparation: N/A

MS Lab Sample ID:	280-117523-C-1 MS	Units: mg/L	MSD Lab Sample ID: 280-117523-C-1 MSD
Client Matrix:	Water		Client Matrix: Water
Dilution:	1.0		Dilution: 1.0
Analysis Date:	12/12/2018 0558		Analysis Date: 12/12/2018 0558
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	
Chemical Oxygen Demand (COD)	ND	50.0	50.0	56.0	F1	58.0	F1

Client: Waste Management Job Number: 280-117519-1

Method Blank - Batch: 280-439410 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	MB 280-439410/5	Analysis Batch:	280-439410	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0849	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Seeded Control Blank - Batch: 280-439410 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	SCB 280-439410/1	Analysis Batch:	280-439410	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0849	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Unseeded Control Blank - Batch: 280-439410 **Method: SM5210B**
Preparation: N/A

Lab Sample ID:	USB 280-439410/2	Analysis Batch:	280-439410	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0849	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Biochemical Oxygen Demand	ND		2.0	2.0

Client: Waste Management Job Number: 280-117519-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-439410

Method: SM5210B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439410/3	Analysis Batch:	280-439410	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0849	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-439410/4	Analysis Batch:	280-439410	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0849	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Biochemical Oxygen Demand	101	95	85 - 115	6	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-439410

Method: SM5210B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-439410/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-439410/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/30/2018 0849			Analysis Date:	11/30/2018 0849
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
Biochemical Oxygen Demand	198	198	200	188

Duplicate - Batch: 280-439410

Method: SM5210B
Preparation: N/A

Lab Sample ID:	280-117519-2	Analysis Batch:	280-439410	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2018 0849	Units:	mg/L	Final Weight/Volume:	300 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Biochemical Oxygen Demand	4.9	4.95	0.9	20	

Client: Waste Management Job Number: 280-117519-1

Laboratory Chronicle

Lab ID: 280-117519-1 **Client ID: LR-01-112818**

Sample Date/Time: 11/28/2018 10:30 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	280-117519-B-1		280-440859		12/12/2018 05:58	5	TAL DEN	LPL
A:SM5210B	280-117519-A-1		280-439410		11/30/2018 12:58	10	TAL DEN	A1D

Lab ID: 280-117519-2 **Client ID: LR-02-112818**

Sample Date/Time: 11/28/2018 10:35 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	280-117519-B-2		280-440859		12/12/2018 05:58	1	TAL DEN	LPL
A:SM5210B	280-117519-A-2		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Lab ID: 280-117519-2 DU **Client ID: LR-02-112818**

Sample Date/Time: 11/28/2018 10:35 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	280-117519-A-2 DU		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Lab ID: 280-117519-3 **Client ID: LR-03-112818**

Sample Date/Time: 11/28/2018 10:40 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	280-117519-B-3		280-440859		12/12/2018 05:58	5	TAL DEN	LPL
A:SM5210B	280-117519-A-3		280-439410		11/30/2018 12:58	10	TAL DEN	A1D

Lab ID: 280-117519-4 **Client ID: LR-04-112818**

Sample Date/Time: 11/28/2018 10:45 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	280-117519-B-4		280-440859		12/12/2018 05:58	5	TAL DEN	LPL
A:SM5210B	280-117519-A-4		280-439410		11/30/2018 12:58	10	TAL DEN	A1D

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	MB 280-440859/5		280-440859		12/12/2018 05:58	1	TAL DEN	LPL
A:SM5210B	MB 280-439410/5		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Client: Waste Management Job Number: 280-117519-1

Laboratory Chronicle

Lab ID: USB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	USB 280-439410/2		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Lab ID: SCB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM5210B	SCB 280-439410/1		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	LCS 280-440859/3		280-440859		12/12/2018 05:58	1	TAL DEN	LPL
A:SM5210B	LCS 280-439410/3		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	LCSD 280-440859/4		280-440859		12/12/2018 05:58	1	TAL DEN	LPL
A:SM5210B	LCSD 280-439410/4		280-439410		11/30/2018 08:49	1	TAL DEN	A1D

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/29/2018 13:50 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	280-117523-C-1 MS		280-440859		12/12/2018 05:58	1	TAL DEN	LPL

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/29/2018 13:50 Received Date/Time: 11/30/2018 09:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:410.4	280-117523-C-1 MSD		280-440859		12/12/2018 05:58	1	TAL DEN	LPL

Lab References:
TAL DEN = TestAmerica Denver

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

Chain of Custody Record

Denver #280

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

12/14/2018

Client Information	Sampler: JACKSON LUNDGREN	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-82138-26646.1
Client Contact: Mr. Patrick Madej	Phone: 415 286 6876	E-Mail: betsy.sara@testamericainc.com		Page: Page 1 of 1
Company: Waste Management				Job #:
Address: 2615 Davis Street	Due Date Requested:			
City: San Leandro	TAT Requested (days):			
State, Zip: CA, 94577				
Phone:	PO #: Purchase Order Requested			
Email: pmadej@wm.com	WO #:			
Project Name: WA02|Olympic View Sanitary LF	Project #: skip sites/event and log from 28002692 "BOD and COD"			
Site: Washington	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	COD	BOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N		
LR-01-112818	112818		G	W			X	X		short hold: BOD
LR-02-112818							X	X		update contacts to WM and consultant Peter Bannister only
LR-03-112818							X	X		
LR-04-112818							X	X		* LR-01 LR-02 LR-03 LR-04 SAMPLES TAKEN @ 1030, 1035, 1040, and 1045 RESPECTIVELY (NOT WRITTEN ON SAMPLES)

280-117519 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
JACKSON LUNDGREN	112818 1205	ASP.			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/30/18 0915	Company TA DEN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: -0.1 S FIO by AP 11/30/18

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-117519-1

Login Number: 117519
List Number: 1
Creator: Paul, Amanda E

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.	False	Refer to job narrative for details
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Refer to job narrative for details
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Appendix C

2018 Annual Time Series, Trend Test, & Predication Limit Evaluation

Olympic View Sanitary Landfill

Annual Statistical Evaluation & Summary

2018 Monitoring Year

Prepared for:

SCS ENGINEERS

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Bellevue, Washington 98005
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Prepared by:

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Geochemical and Statistical Data Analysis

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JANUARY 2019

CONTENTS:

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1. Statistical Trend Analysis

- Trend Results Summary Table (showing status through Q4 2018) (Table 1-1)
- Time-Series Graphs Depicting Significant Trends for “Trend Test A”
- Time-Series Graphs Depicting Significant Trends for “Trend Test B”

TABLE 1-1

Results of Sen's Non-Parametric Test for Trend

FOURTH QUARTER 2018 REPORT

Trend Test Period: January 2005 through December 2018

Trend Test Wells:

- Compliance Wells: MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43
- Performance Wells: MW-19C*
- Downgradient Wells: MW-29A*, MW-32, MW-33A*, MW-33C*, MW-36A*
- Upgradient Wells MW-13A, MW-13B, MW-16, MW-35

*sampled semi-annually; trend status shown is most recent available

Trend Test A *= all organic parameters listed in Appendix I and Appendix II of WAC 173-351-990 that have been detected at least once in at least one of 16 wells comprising the network of 1) compliance, 2) performance, 3) downgradient, and 4) upgradient site monitoring wells, during the trend test period. This includes the following constituents:*

	Significant Increasing Trends	Significant Decreasing Trends
1,2-Dichloroethene (total)	None	None
1,2-Dichlorobenzene	None	None
1,4-Dichlorobenzene	None	None
2-Butanone (MEK)	None	None
Acetone	None	None
Carbon Disulfide	None	None
Chlorobenzene	None	None
Chlorodifluoromethane	None	None
Chloroform	None	None
Chloromethane	None	None
cis-1,2-dichloroethene	None	None
Dichlorodifluoromethane	None	None
Dichlorofluoromethane	None	None
Ethyl Ether	None	None
Methylene Chloride	None	None
Naphthalene	None	None
n-Butyl Alcohol	None	None
tert-Butyl Alcohol	None	None
Tetrahydrofuran	None	None
trans-1,2-Dichloroethene	None	None
Trichloroethene	None	MW-19C (graph 325)
Vinyl Chloride	None	MW-19C (graph 341) MW-32 (graph 343) MW-34C (graph 347)

TABLE 1-1

Trend Test B *= all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)*

	Significant Increasing Trends	Significant Decreasing Trends
Alkalinity, bicarbonate (as CaCO3)	MW-13B (graph 2) MW-35 (graph 12)	MW-15R (graph 3) MW-16 (graph 4) MW-34A (graph 10) MW-34C (graph 11) MW-36A (graph 13) MW-42 (graph 15)
Alkalinity, total (as CaCO3)	MW-13B (graph 18) MW-35 (graph 28)	MW-15R (graph 19) MW-16 (graph 20) MW-34A (graph 26) MW-34C (graph 27) MW-36A (graph 29) MW-42 (graph 31)
Ammonia (as N)	None	MW-19C (graph 37) MW-29A (graph 38) MW-43 (graph 48)
Antimony, total	None	None
Arsenic, total	MW-42 (graph 79)	MW-19C (graph 69)
Barium, total	None	MW-15R (graph 83) MW-32 (graph 87)
Beryllium, total	None	None
Cadmium, total	None	None
Calcium, dissolved	None	MW-15R (graph 131) MW-16 (graph 132) MW-29A (graph 134) MW-32 (graph 135) MW-33A (graph 136) MW-34A (graph 138) MW-34C (graph 139) MW-36A (graph 141) MW-43 (graph 144)

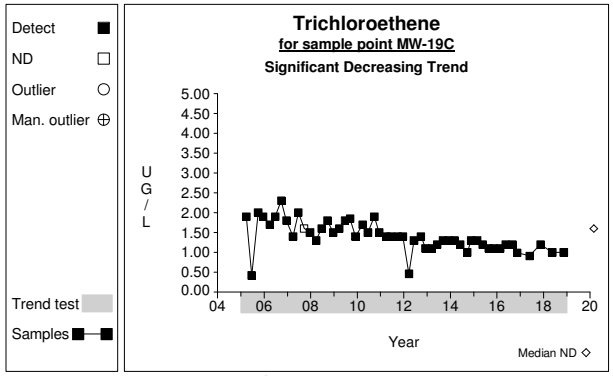
TABLE 1-1

Chloride	MW-39 (graph 158)	MW-13A (graph 145) MW-13B (graph 146) MW-15R (graph 147) MW-16 (graph 148) MW-19C (graph 149) MW-29A (graph 150) MW-33A (graph 152) MW-34A (graph 154) MW-34C (graph 155) MW-35 (graph 156) MW-36A (graph 157)
Chromium, total	None	None
Cobalt, total	None	None
Copper, total	None	None
Iron, total	None	None
Lead, total	None	None
Magnesium, dissolved	None	MW-15R (graph 243) MW-16 (graph 244) MW-32 (graph 247) MW-33A (graph 248) MW-34A (graph 250) MW-34C (graph 251) MW-42 (graph 255)
Manganese, total	None	MW-15R (graph 259) MW-42 (graph 271)
Nickel, total	None	None
Nitrate (as N)	MW-35 (graph 300)	None
pH	MW-29A (graph 310) MW-32 (graph 311) MW-34C (graph 315) MW-42 (graph 319)	MW-34A (graph 314)
Potassium, dissolved	MW-42 (graph 335)	None
Selenium, total	None	None
Silver, total	None	None
Sodium, dissolved	None	MW-15R (graph 371) MW-16 (graph 372) MW-19C (graph 373) MW-32 (graph 375) MW-34A (graph 378) MW-34C (graph 379) MW-36A (graph 381) MW-42 (graph 383) MW-43 (graph 384)

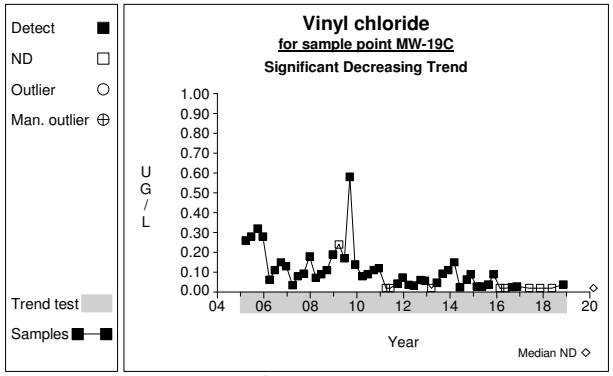
TABLE 1-1

Specific Conductivity	MW-13B (graph 386) MW-35 (graph 396)	MW-15R (graph 387) MW-19C (graph 389) MW-29A (graph 390) MW-32 (graph 391) MW-33A (graph 392) MW-34A (graph 394) MW-34C (graph 395)
Sulfate	None	MW-13A (graph 401) MW-13B (graph 402) MW-16 (graph 404) MW-19C (graph 405) MW-32 (graph 407) MW-36A (graph 413) MW-42 (graph 415) MW-43 (graph 416)
Temperature	MW-15R (graph 419) MW-34A (graph 426) MW-34C (graph 427) MW-35 (graph 428)	None
Thallium, total	None	None
Total Dissolved Solids	None	MW-15R (graph 451) MW-32 (graph 455) MW-33A (graph 456) MW-34A (graph 458) MW-34C (graph 459)
Total Organic Carbon	None	None
Vanadium, total	None	MW-34A (graph 490)
Zinc, total	None	None

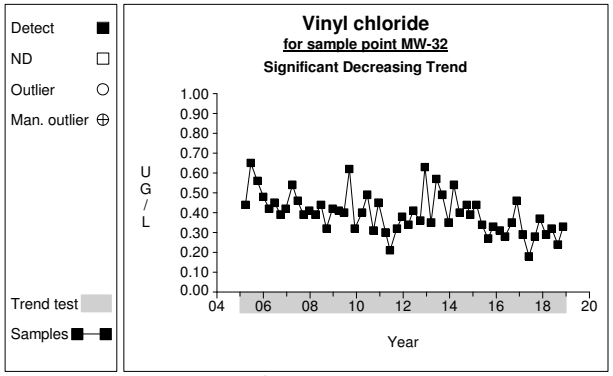
Time Series



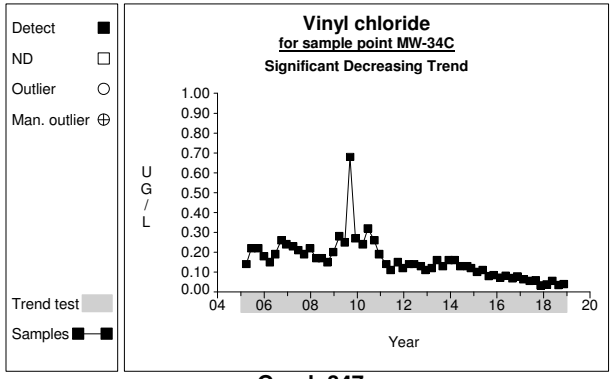
Graph 325



Graph 341

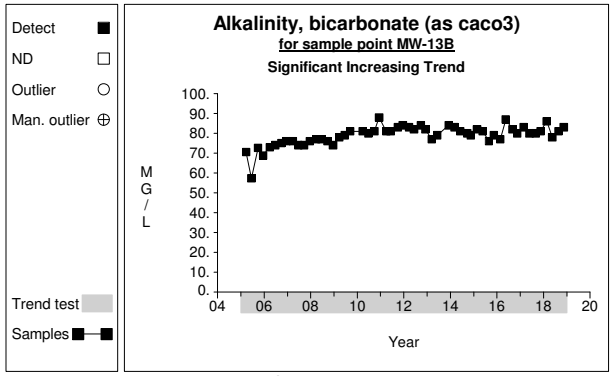


Graph 343

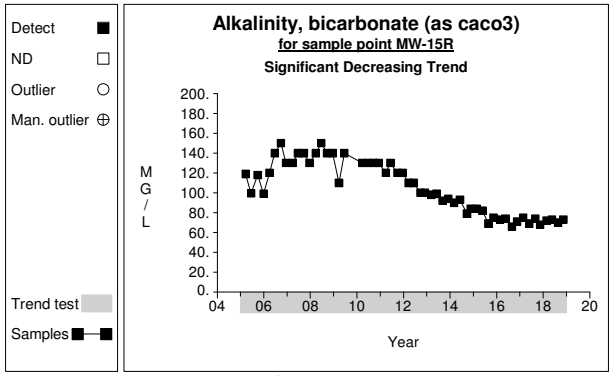


Graph 347

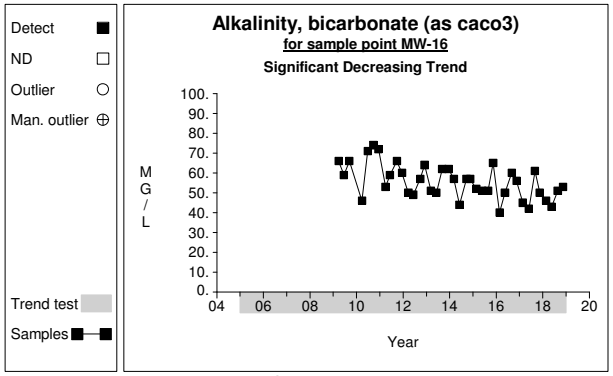
Time Series



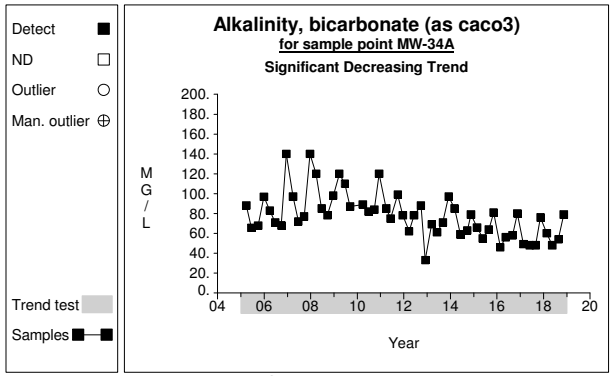
Graph 2



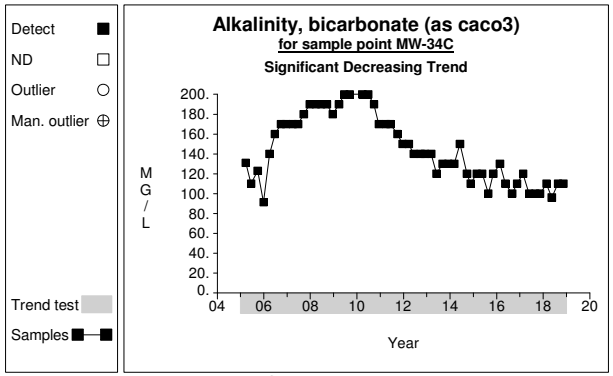
Graph 3



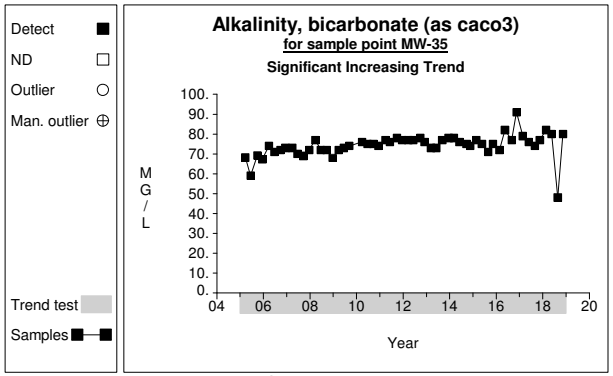
Graph 4



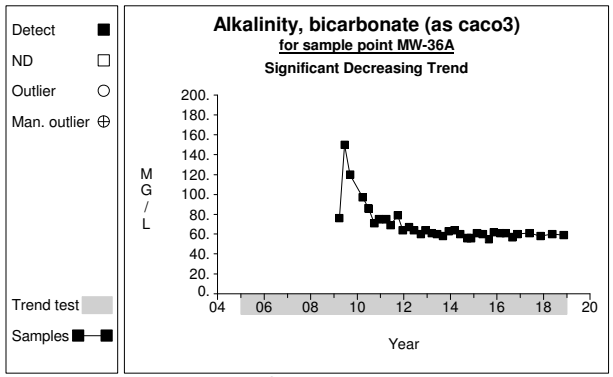
Graph 10



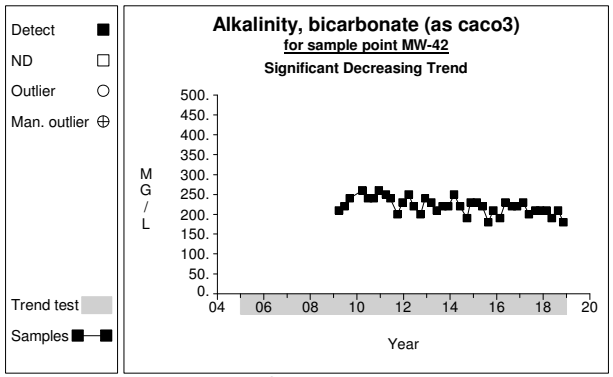
Graph 11



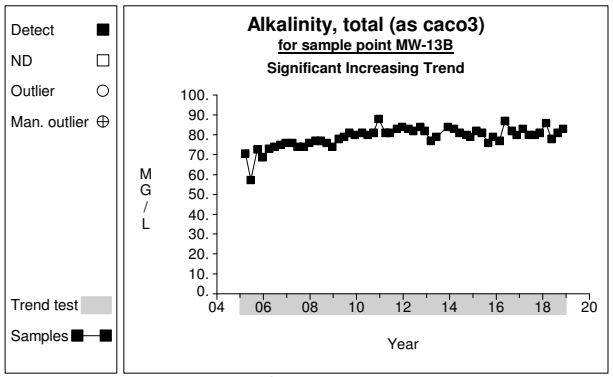
Graph 12



Graph 13

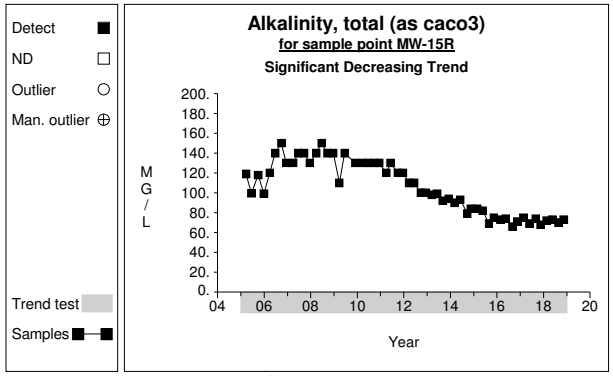


Graph 15

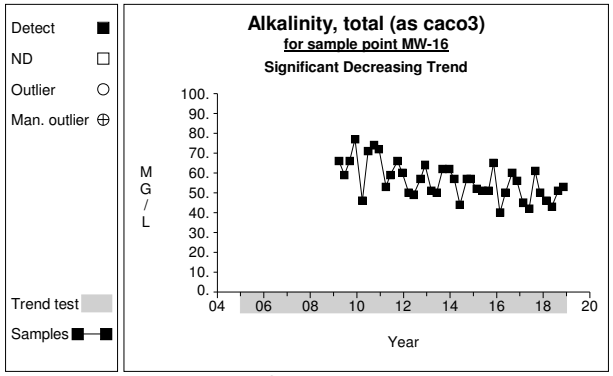


Graph 18

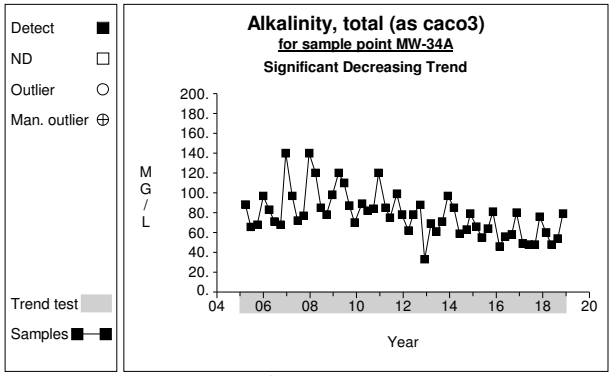
Time Series



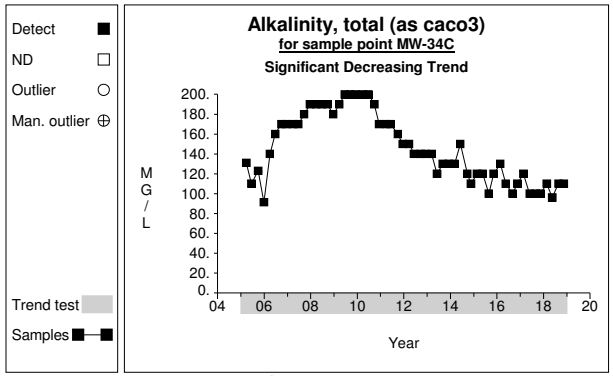
Graph 19



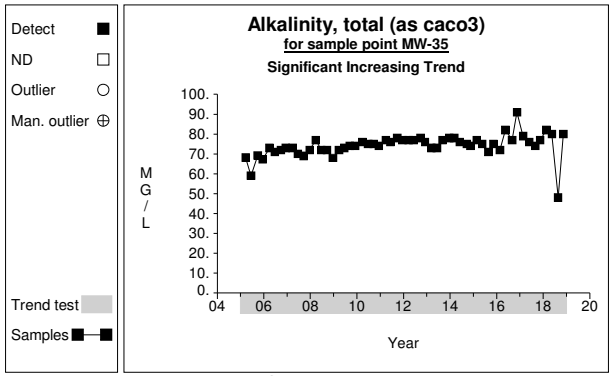
Graph 20



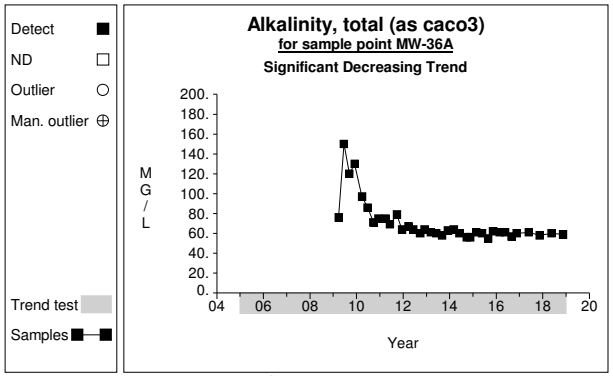
Graph 26



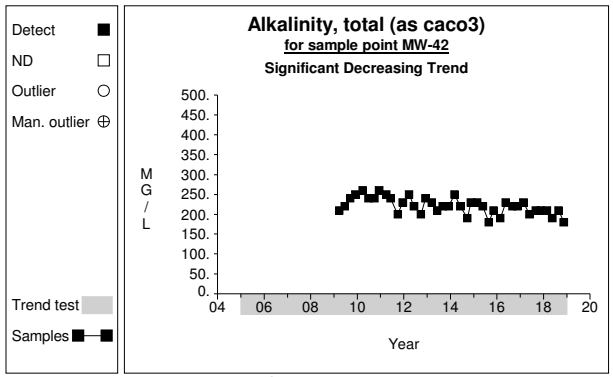
Graph 27



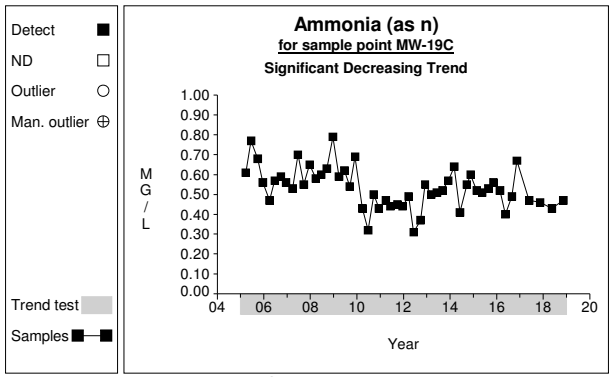
Graph 28



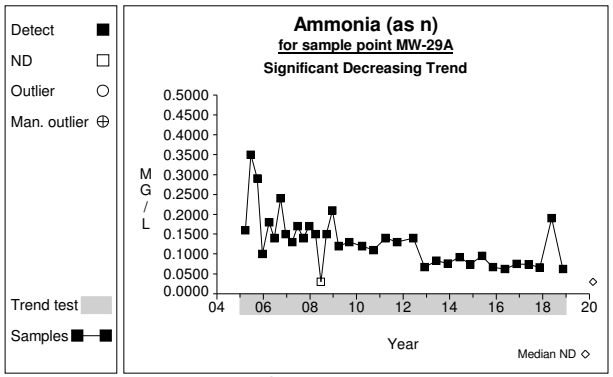
Graph 29



Graph 31

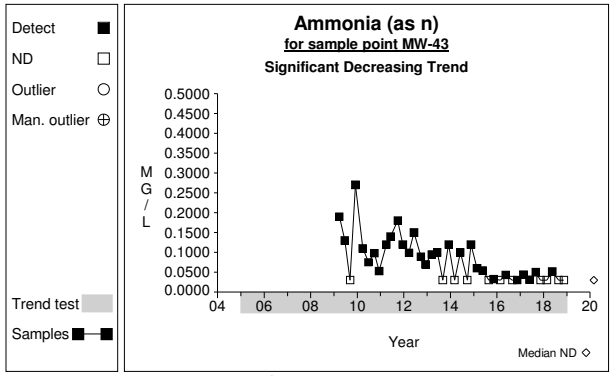


Graph 37

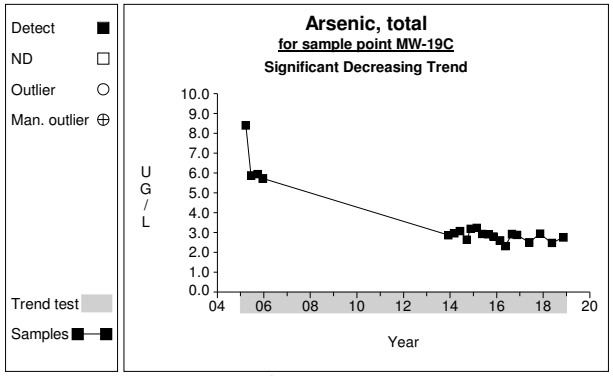


Graph 38

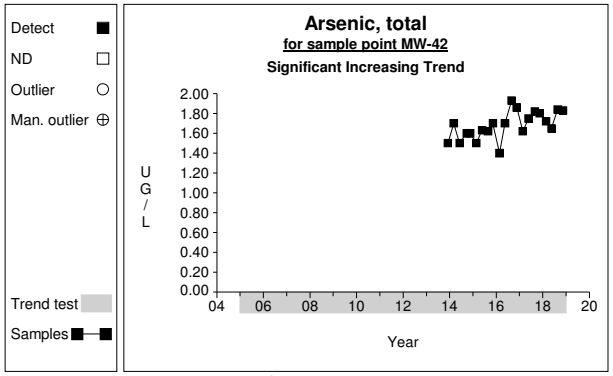
Time Series



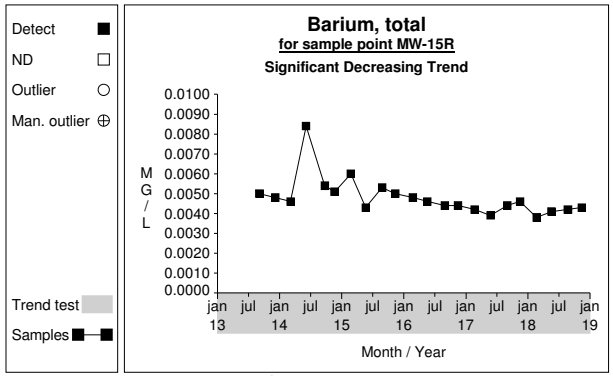
Graph 48



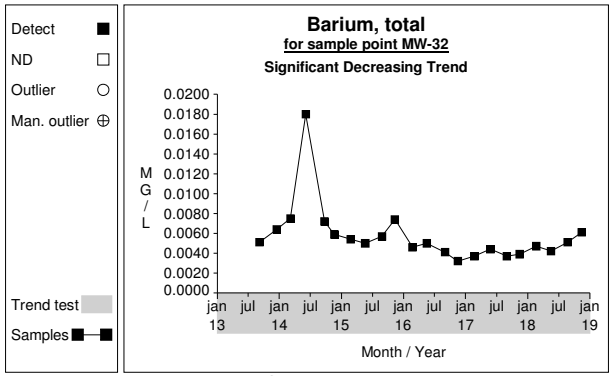
Graph 69



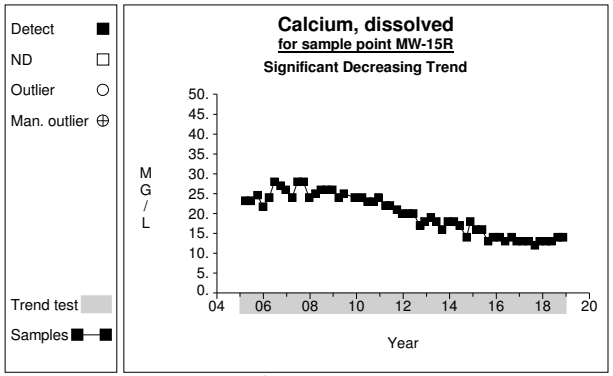
Graph 79



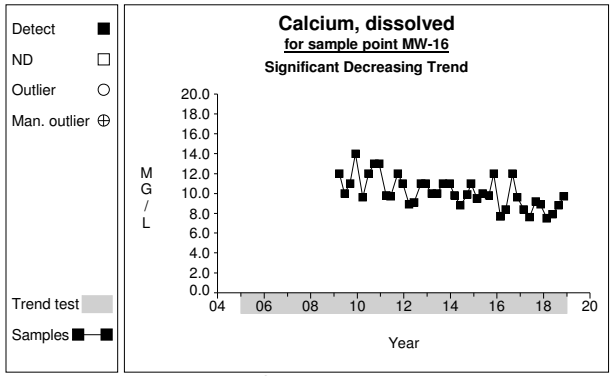
Graph 83



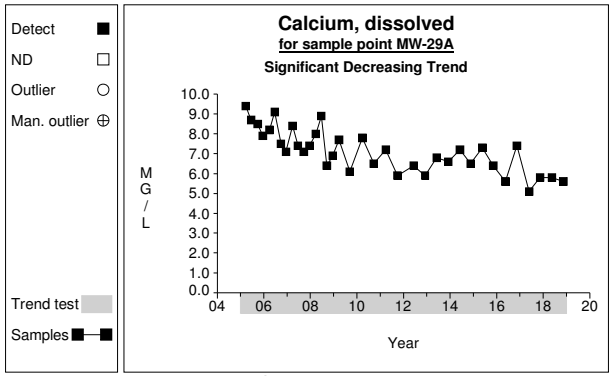
Graph 87



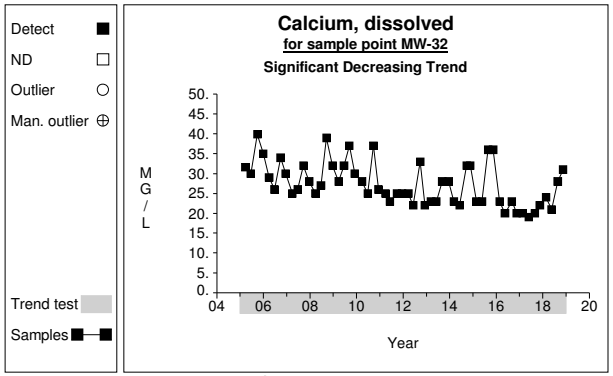
Graph 131



Graph 132

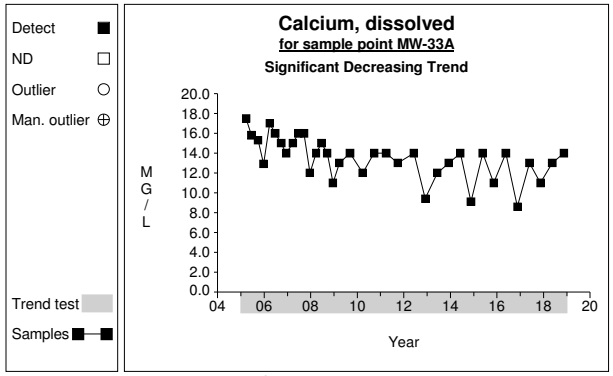


Graph 134

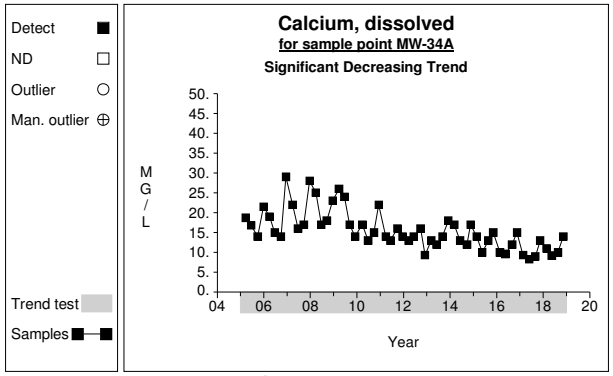


Graph 135

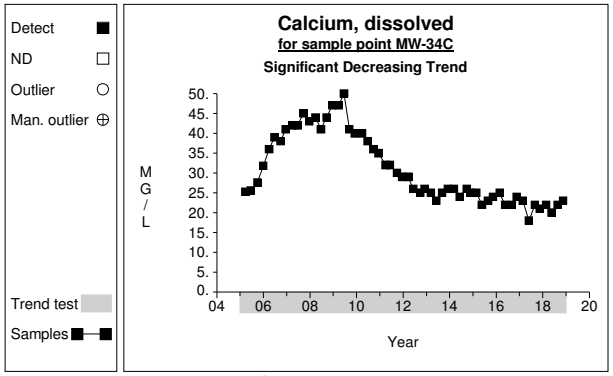
Time Series



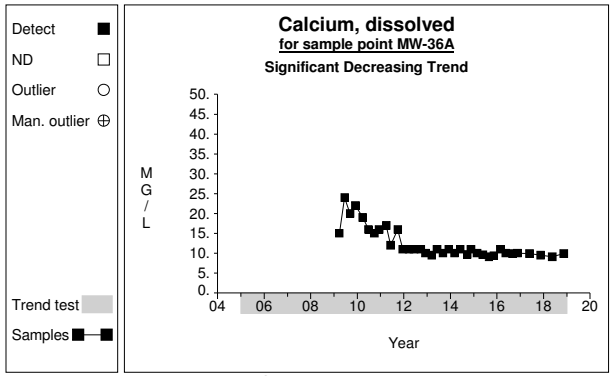
Graph 136



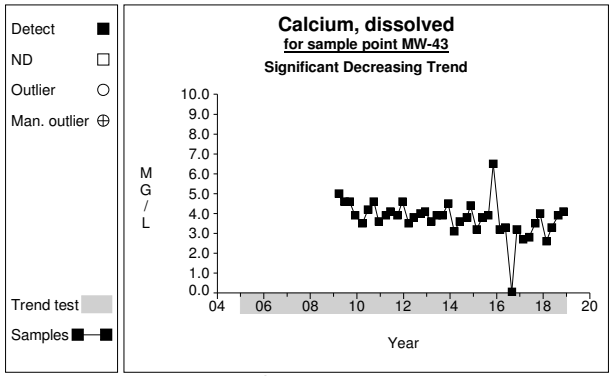
Graph 138



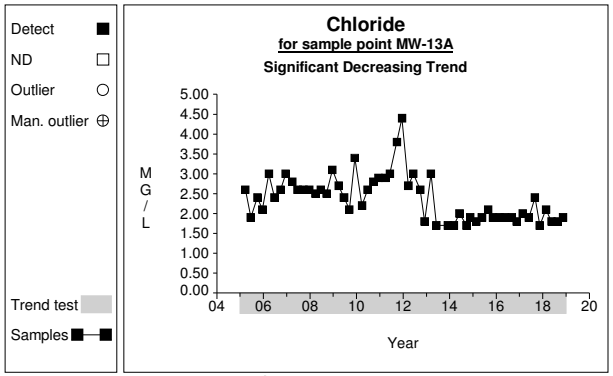
Graph 139



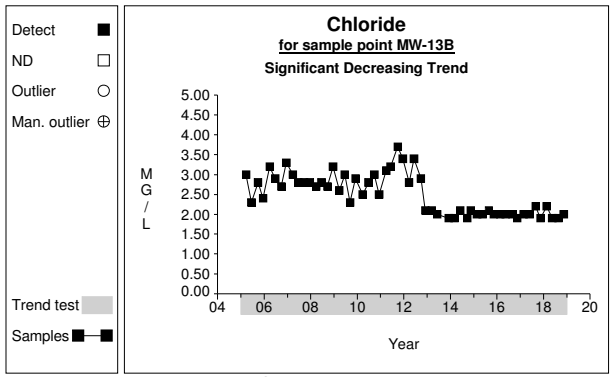
Graph 141



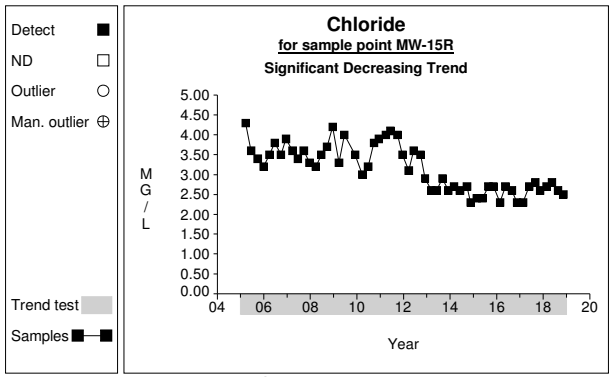
Graph 144



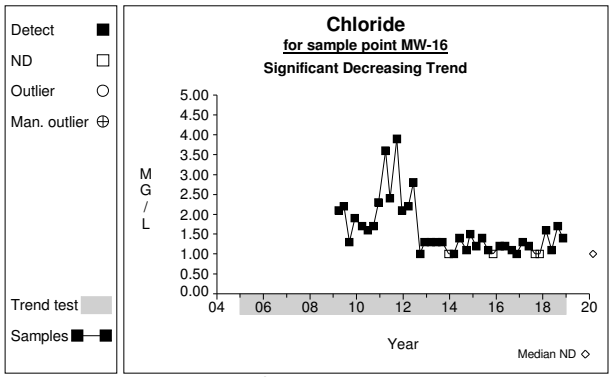
Graph 145



Graph 146

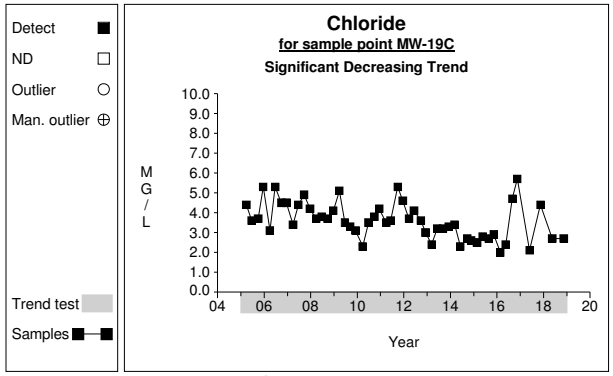


Graph 147

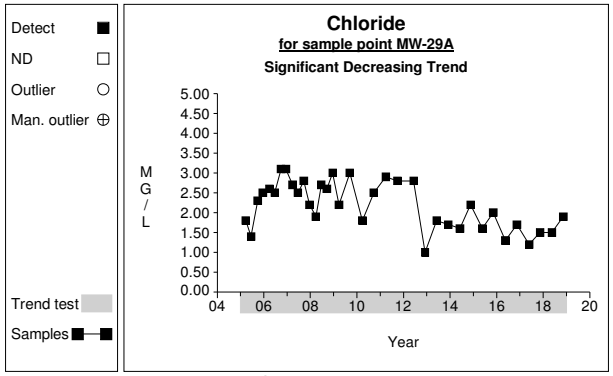


Graph 148

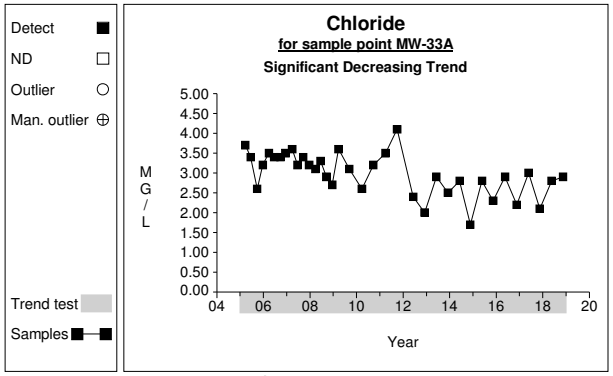
Time Series



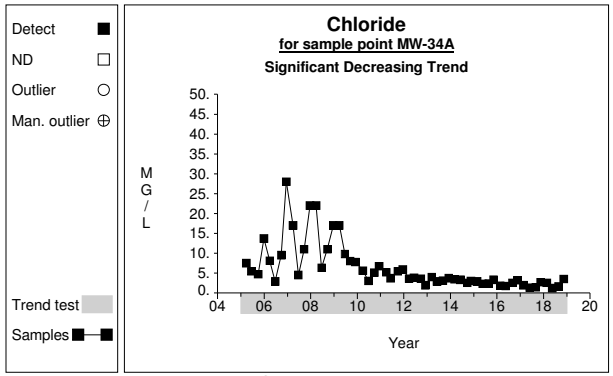
Graph 149



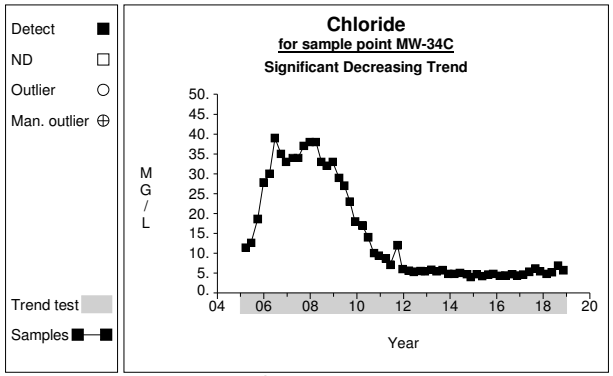
Graph 150



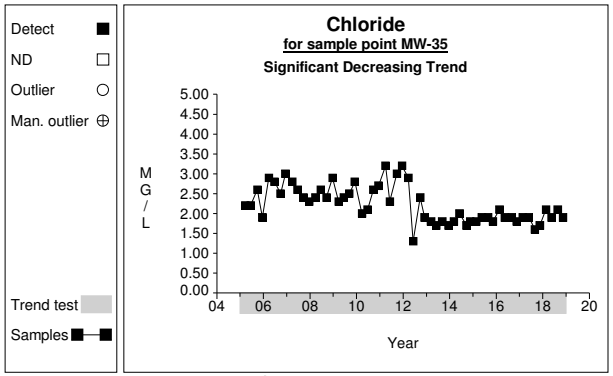
Graph 152



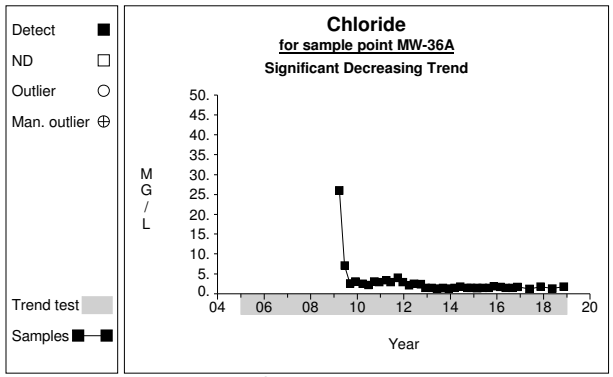
Graph 154



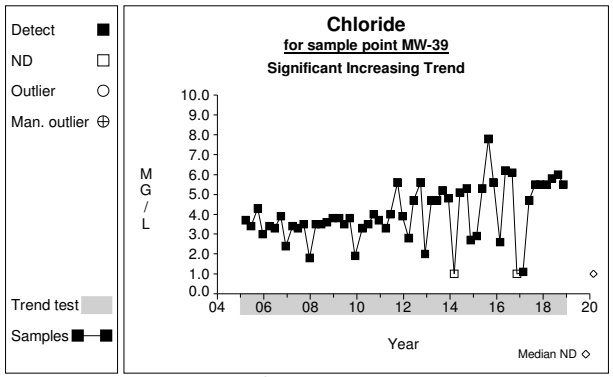
Graph 155



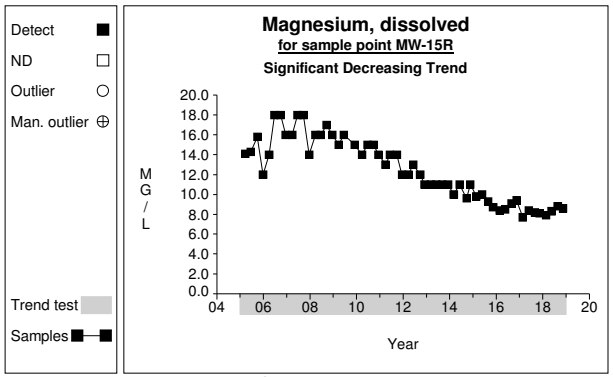
Graph 156



Graph 157

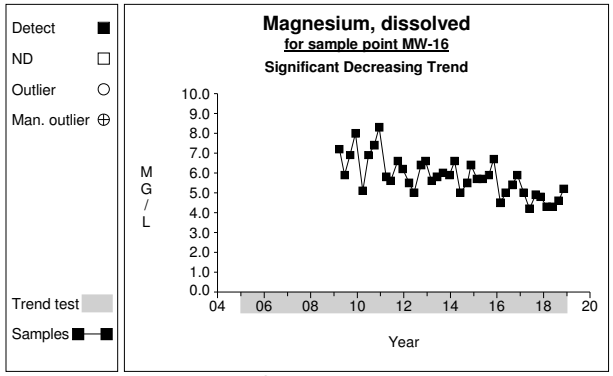


Graph 158

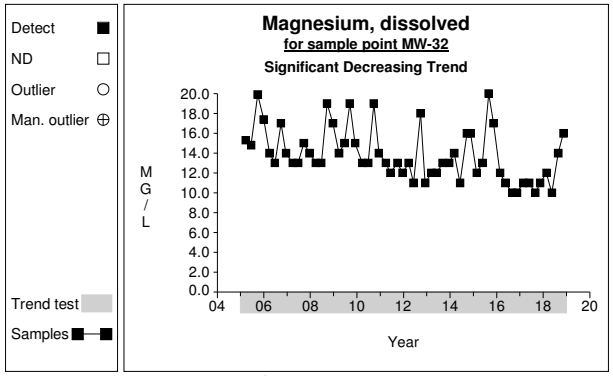


Graph 243

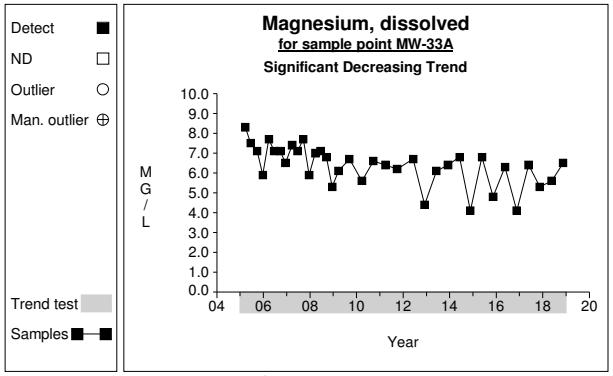
Time Series



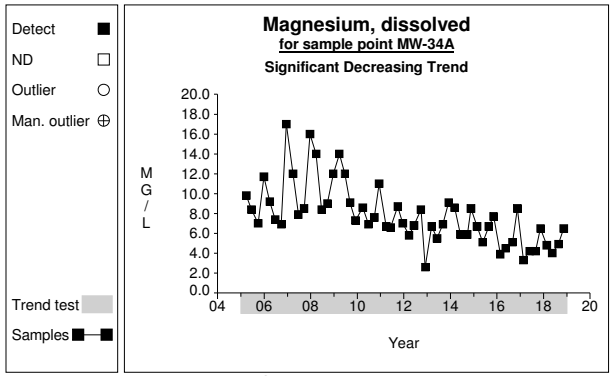
Graph 244



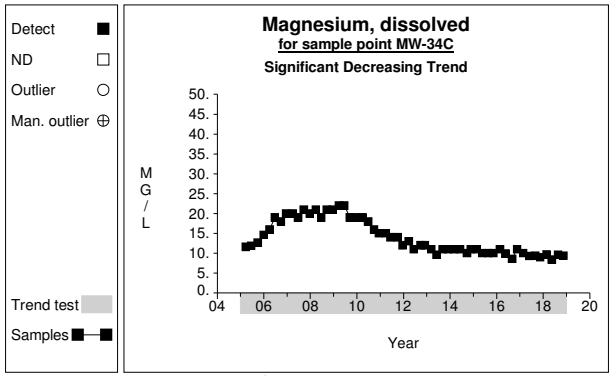
Graph 247



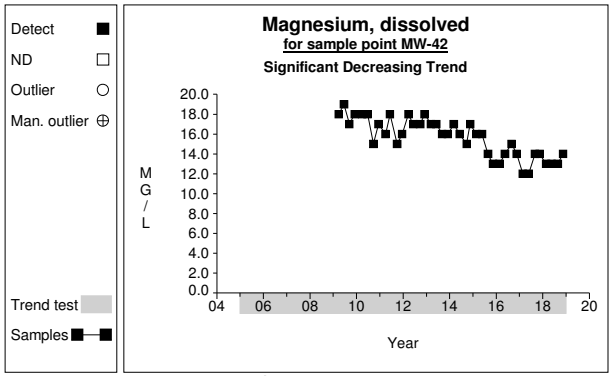
Graph 248



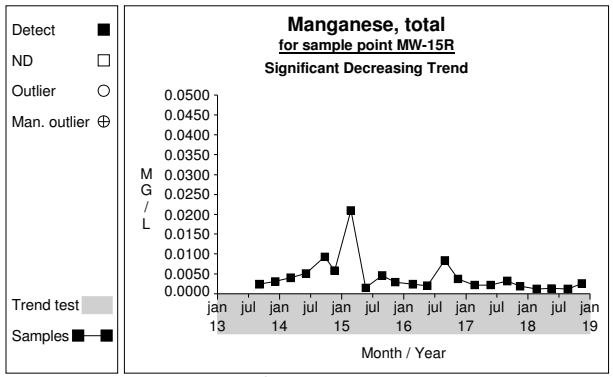
Graph 250



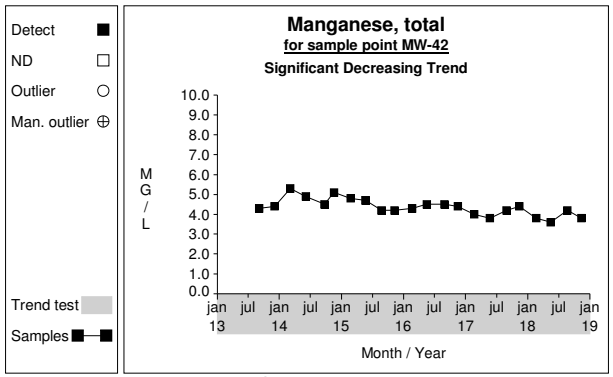
Graph 251



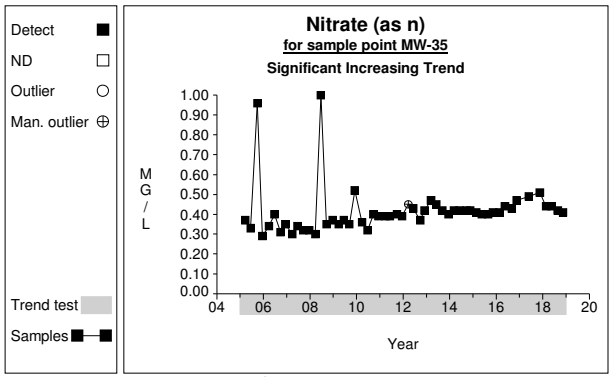
Graph 255



Graph 259

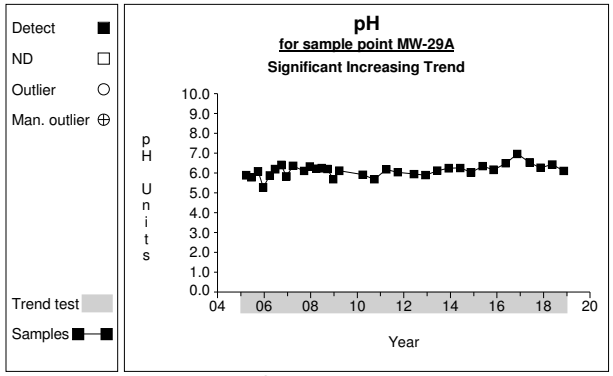


Graph 271

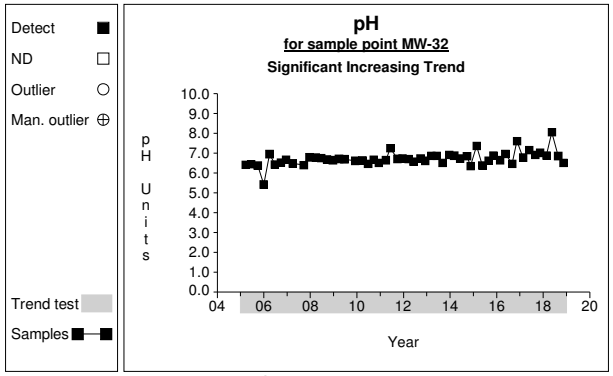


Graph 300

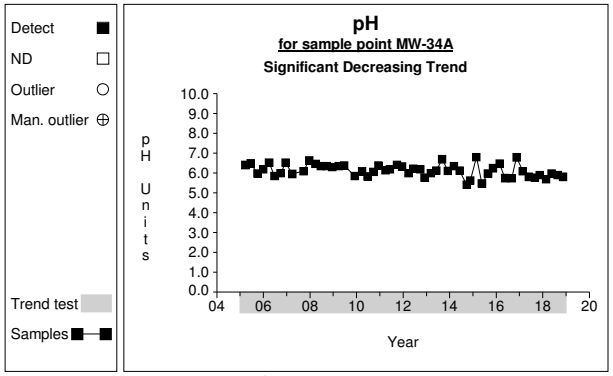
Time Series



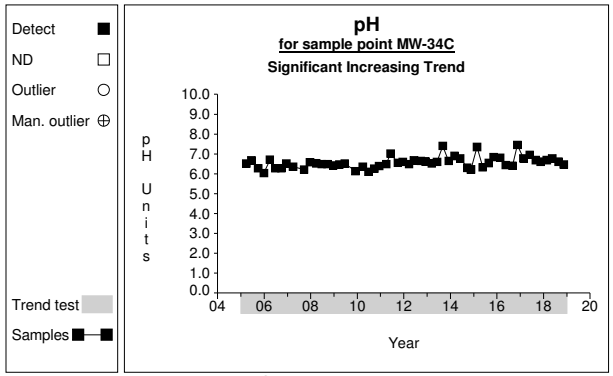
Graph 310



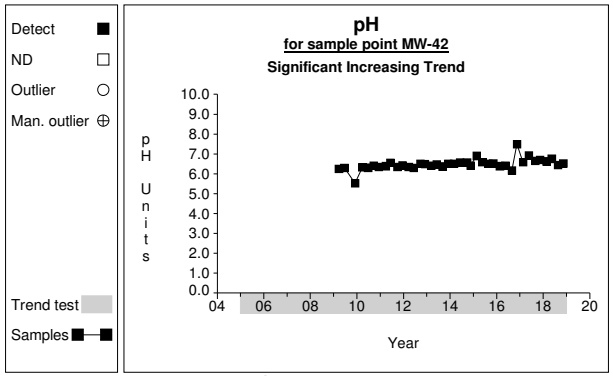
Graph 311



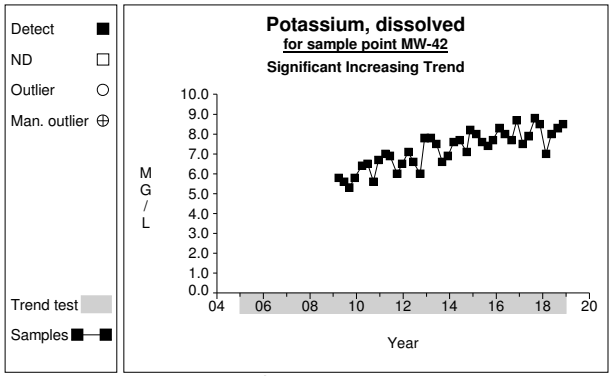
Graph 314



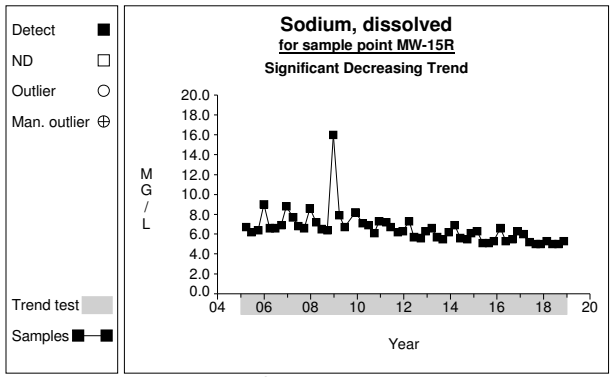
Graph 315



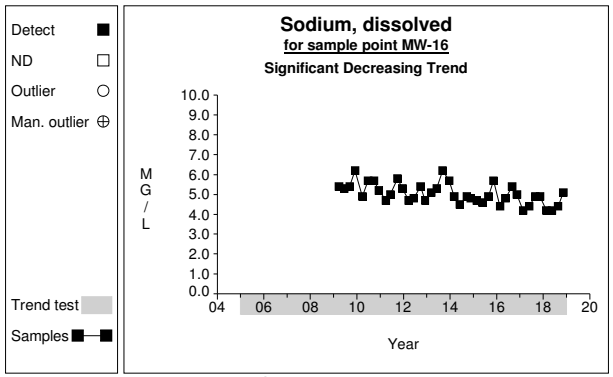
Graph 319



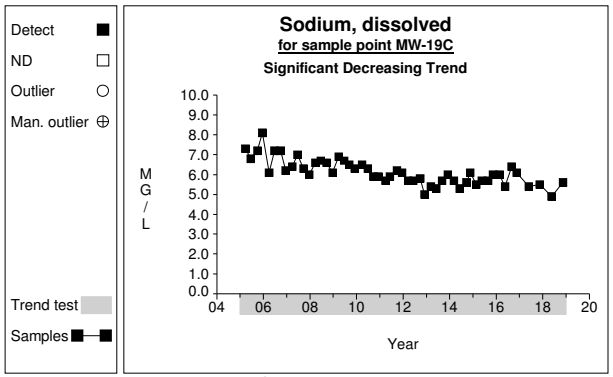
Graph 335



Graph 371

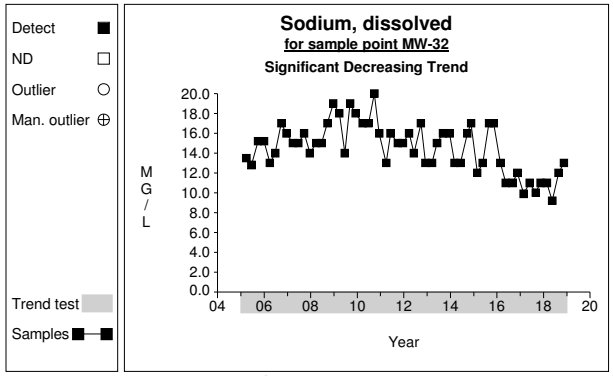


Graph 372

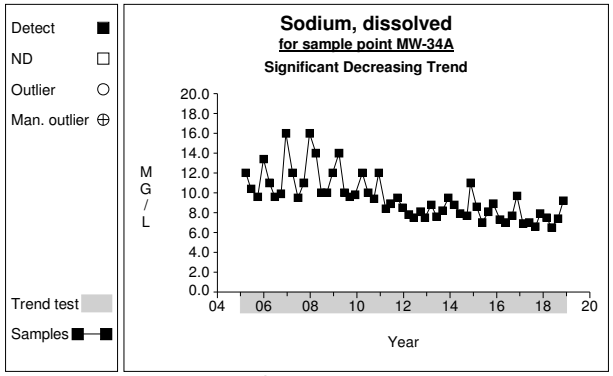


Graph 373

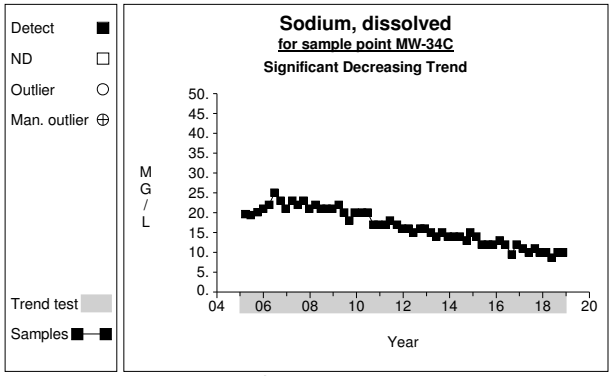
Time Series



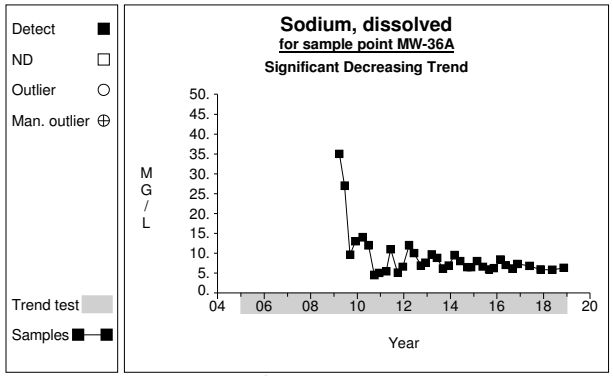
Graph 375



Graph 378



Graph 379



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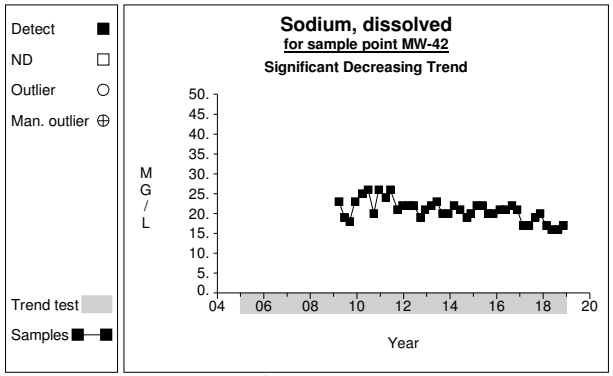

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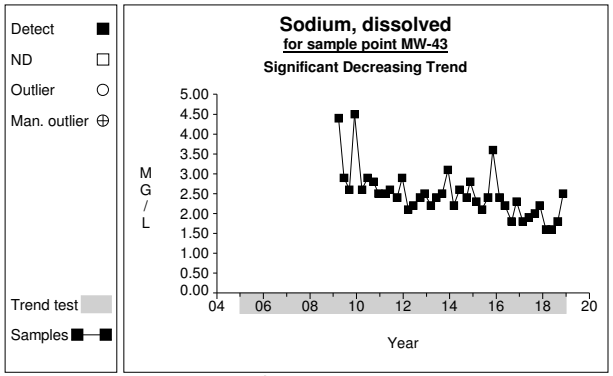

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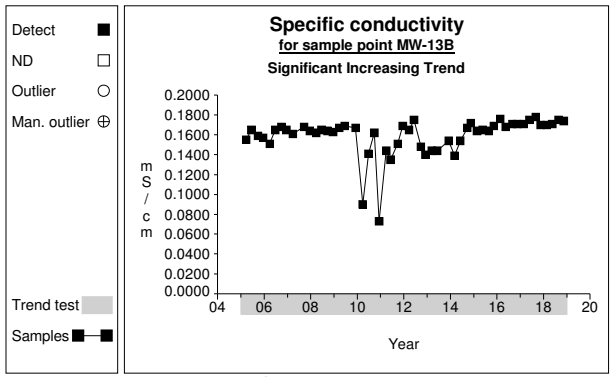

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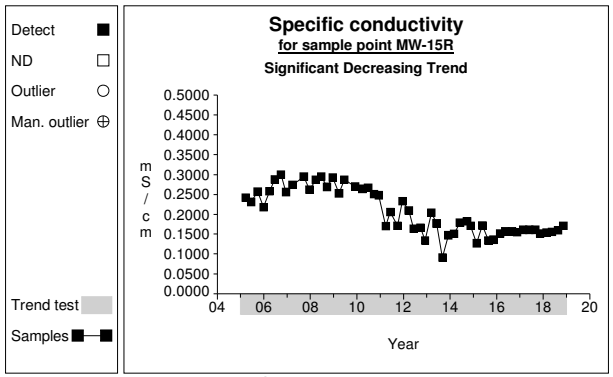

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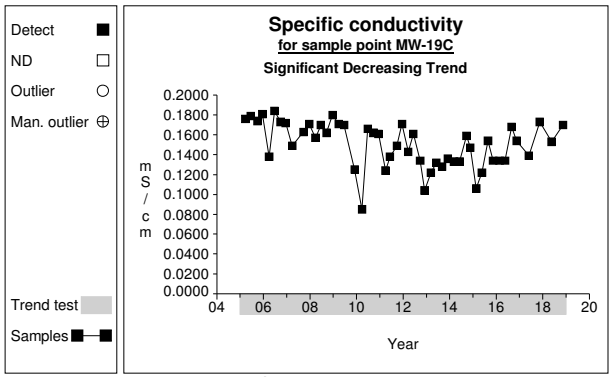
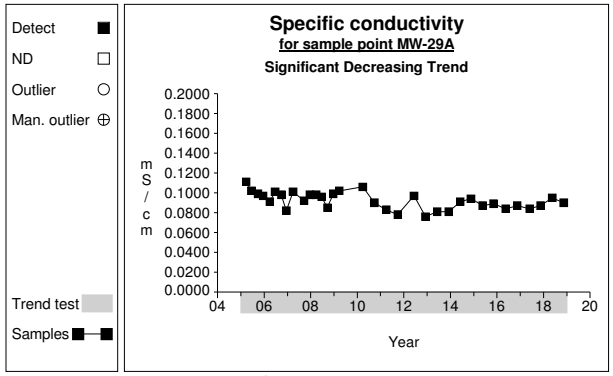


Graph 389

Time Series



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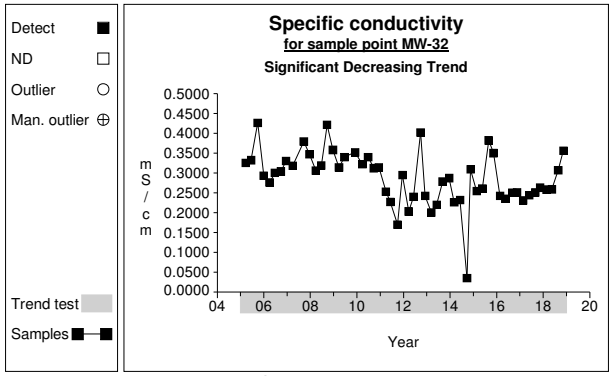

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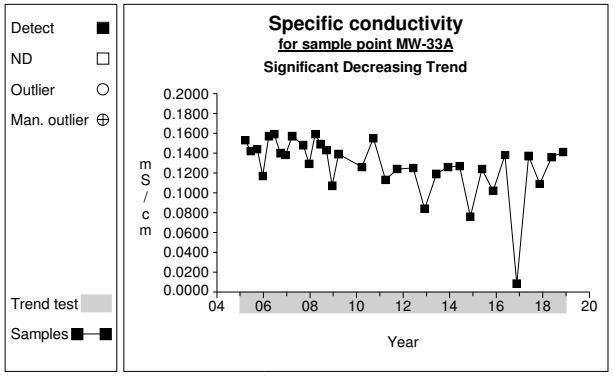
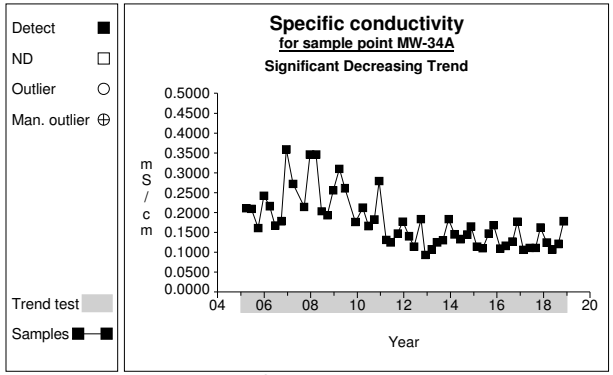
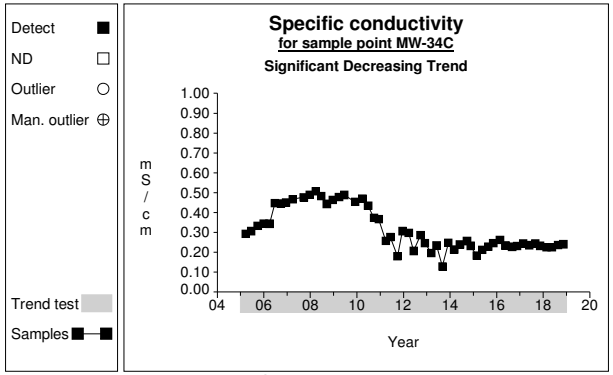


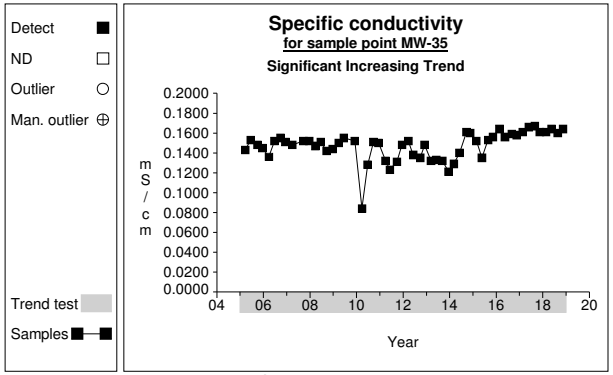
Graph 392



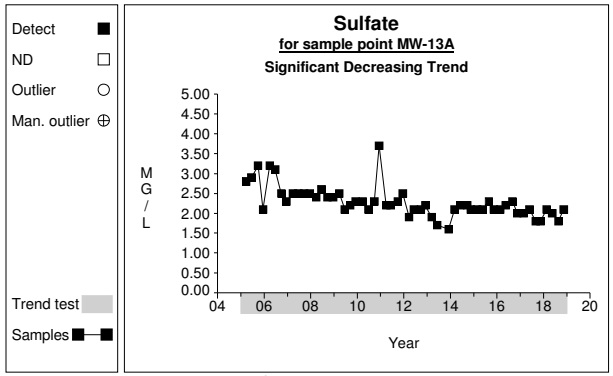
Graph 394



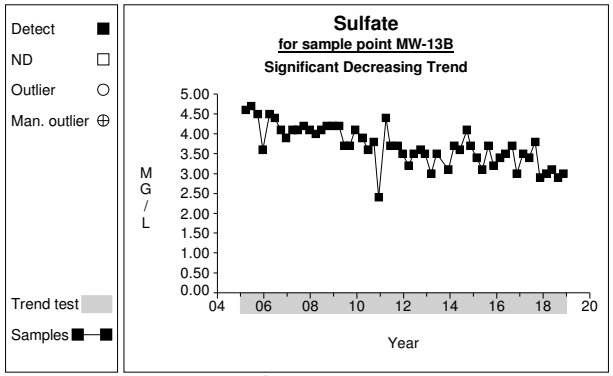
Graph 395



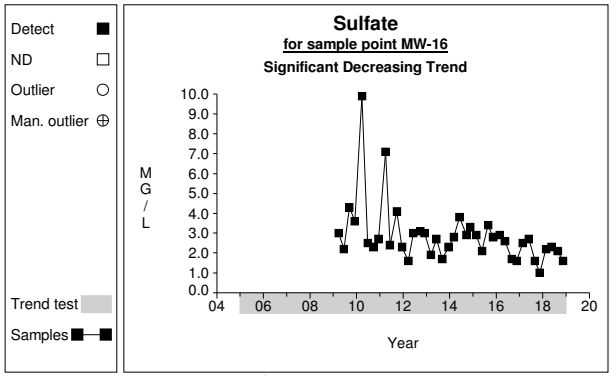
Graph 396



Graph 401

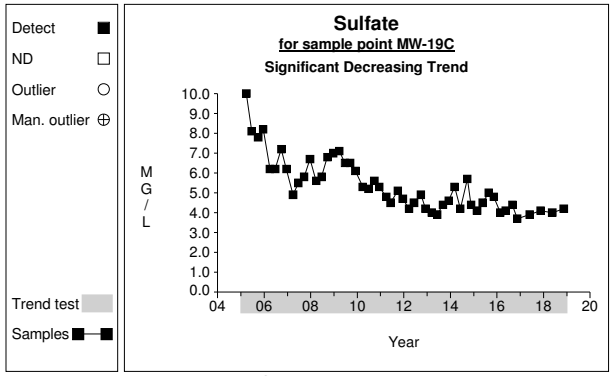


Graph 402

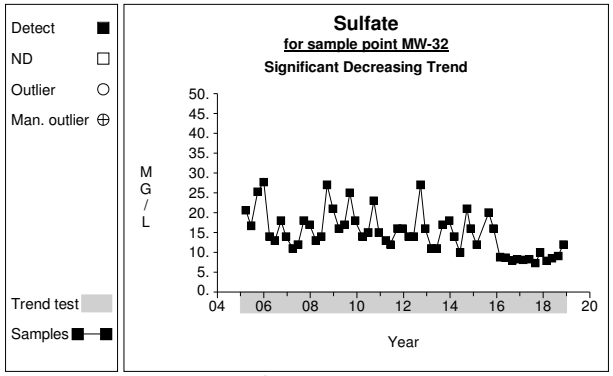


Graph 404

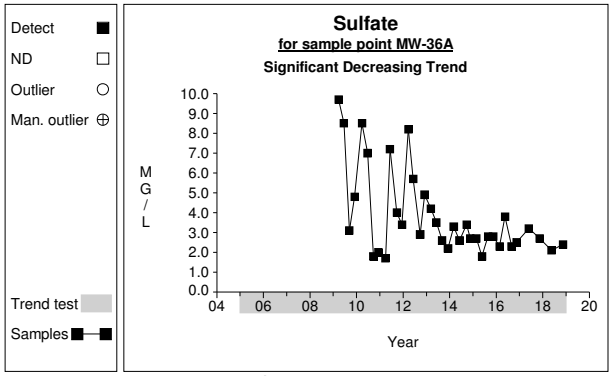
Time Series



Graph 405



Graph 407



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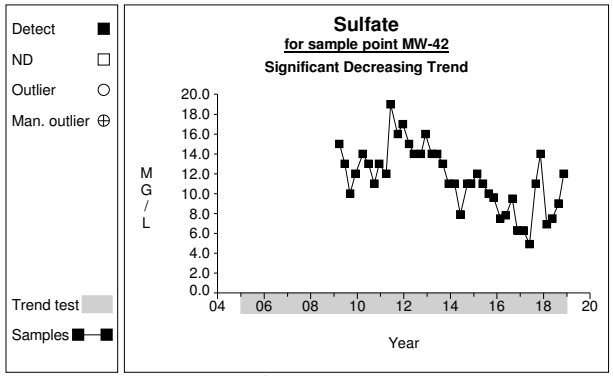
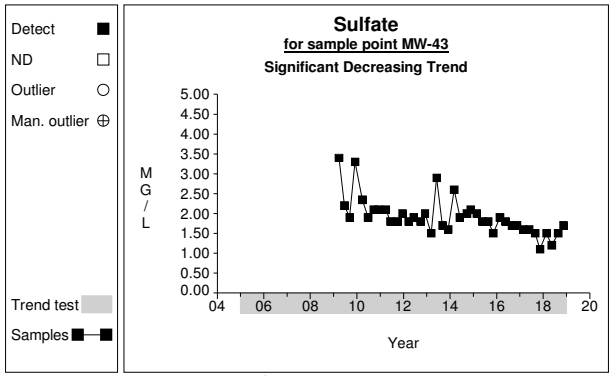


Graph 415



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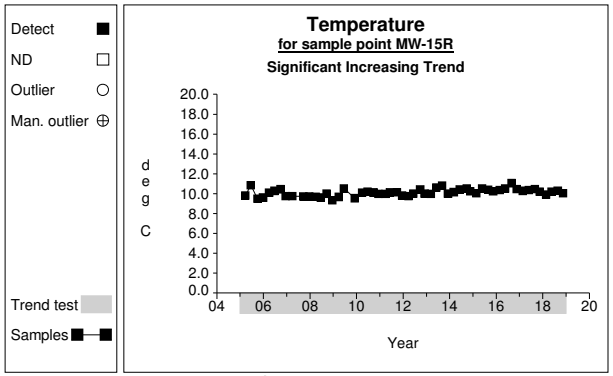
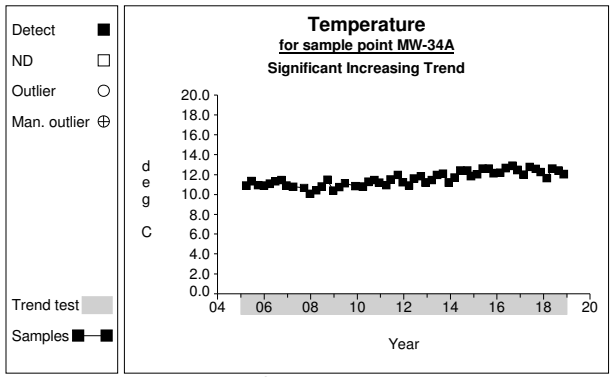
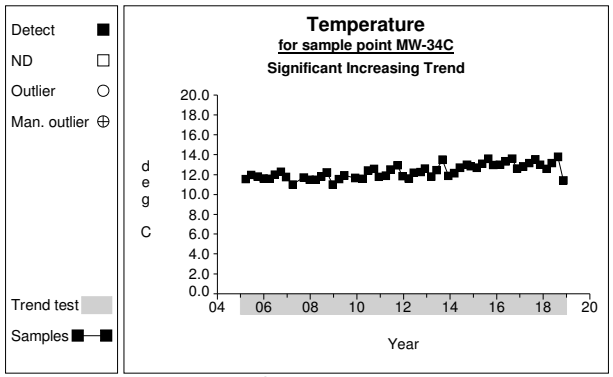


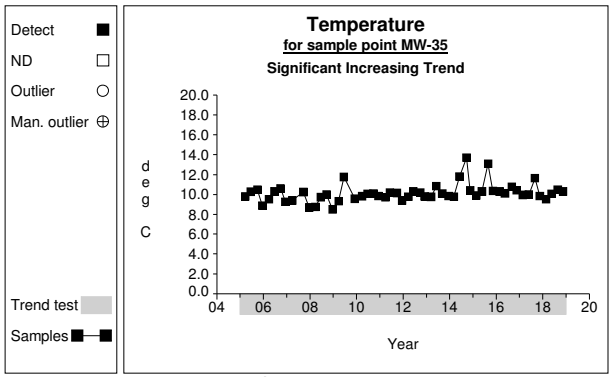
Graph 419



Graph 426

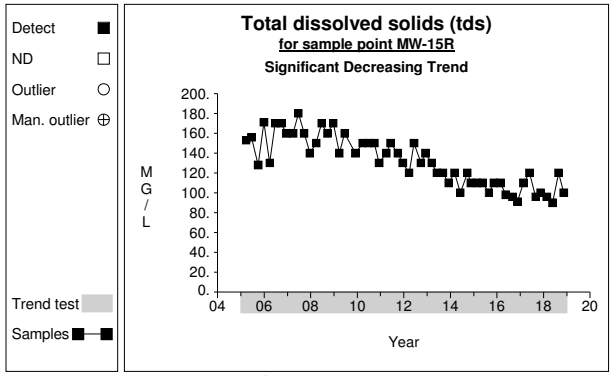


Graph 427

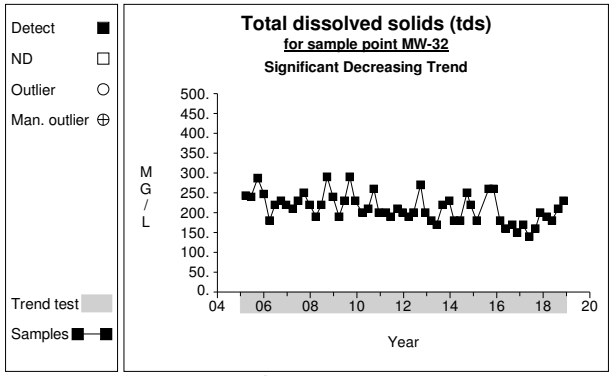


Graph 428

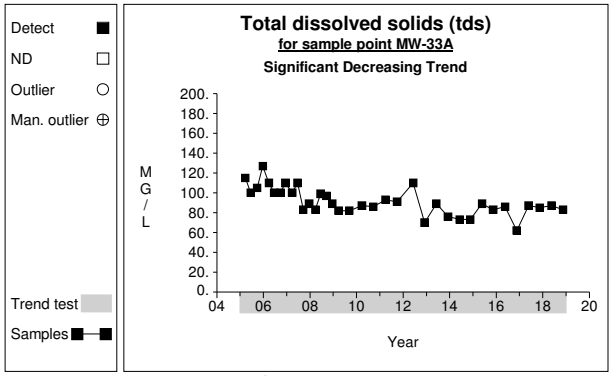
Time Series



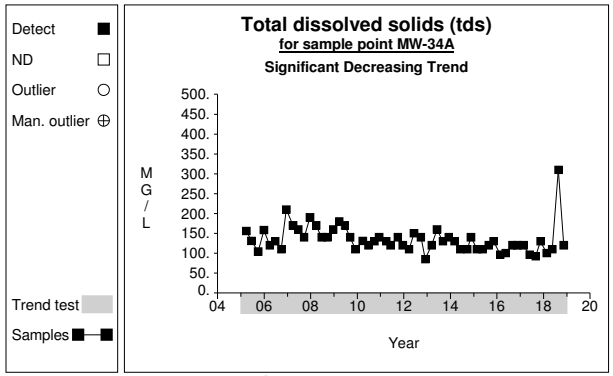
Graph 451



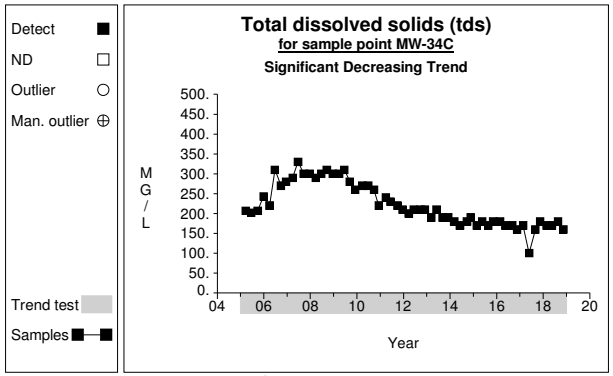
Graph 455



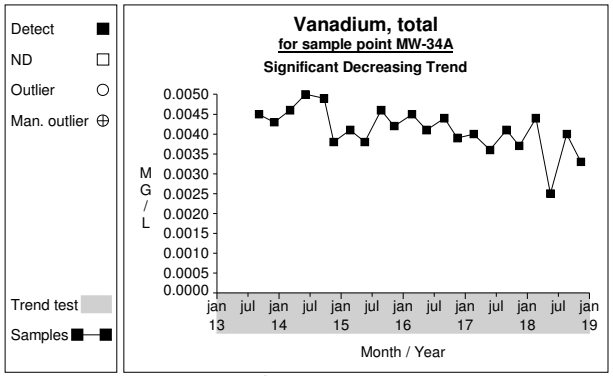
Graph 456



Graph 458



Graph 459



Graph 490

2. Prediction Limits for Detection Monitoring

- 2018 Prediction Limits and Q4 2018 Exeedance Summary Table (Table 2-1)
- Updated Prediction Limits for Use During 2019 Monitoring Year (Table 2-2)
- Upgradient Data used in 2019 Prediction Limit Calculations (Table 2-3)
- Results of Shapiro-Wilk Test for Normality for 2019 Upgradient Data (Table 2-4)
- Comparison of 2018 Prediction Limits with 2019 Prediction Limits (Table 2-5)

TABLE 2-1
SUMMARY OF CURRENT PREDICTION LIMIT EXCEEDANCES
Q4 2018
Olympic View Sanitary Landfill

Statistical Methodology:

1. Inter-Well Prediction Limits using DUMPStat™
2. Upgradient Data Set: pooled data from wells MW-13A, MW-13B, MW-16, and MW-35
3. "Detection Monitoring" well comparisons:
   - complance wells: MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43
   - downgradient wells: MW-29A*, MW-32, MW-33A*, MW-33C*, MW-36A*

     *sampled semi-annually, most current results presented
4. Parameters: all Appendix I and II inorganic and ground water quality parameters
5. Background Data Sets: January 2005 - December 2017
6. Arsenic: only low-level Method 200.8 data used
7. Units: mg/L = milligrams per liter; ug/L = micrograms per liter; mS/cm = millisiemens per centimeter; deg C = degrees Celcius

Parameter	Unit	Well	Latest Result	Date Sampled	Prediction Limit
Alkalinity, bicarbonate (as caco3)	MG/L	MW-32	140	11/14/2018	96
Alkalinity, bicarbonate (as caco3)	MG/L	MW-34C	110	11/12/2018	96
Alkalinity, bicarbonate (as caco3)	MG/L	MW-39	100	11/12/2018	96
Alkalinity, bicarbonate (as caco3)	MG/L	MW-42	180	11/12/2018	96
Alkalinity, total (as caco3)	MG/L	MW-32	140	11/14/2018	96
Alkalinity, total (as caco3)	MG/L	MW-34C	110	11/12/2018	96
Alkalinity, total (as caco3)	MG/L	MW-39	100	11/12/2018	96
Alkalinity, total (as caco3)	MG/L	MW-42	180	11/12/2018	96
Ammonia (as n)	MG/L	MW-39	0.51	11/12/2018	0.3
Ammonia (as n)	MG/L	MW-42	4	11/12/2018	0.3
Arsenic, total	UG/L	MW-29A	2.19	11/12/2018	0.466
Arsenic, total	UG/L	MW-32	9.84	11/14/2018	0.466
Arsenic, total	UG/L	MW-33A	0.607	11/14/2018	0.466
Arsenic, total	UG/L	MW-33C	2.77	11/14/2018	0.466
Arsenic, total	UG/L	MW-34C	9.68	11/12/2018	0.466
Arsenic, total	UG/L	MW-36A	0.532	11/12/2018	0.466
Arsenic, total	UG/L	MW-39	1.97	11/12/2018	0.466
Arsenic, total	UG/L	MW-42	1.83	11/12/2018	0.466
Barium, total	MG/L	MW-29A	0.0081	11/12/2018	0.0044
Barium, total	MG/L	MW-32	0.0061	11/14/2018	0.0044
Barium, total	MG/L	MW-33C	0.0045	11/14/2018	0.0044
Barium, total	MG/L	MW-34C	0.095	11/12/2018	0.0044
Barium, total	MG/L	MW-39	0.018	11/12/2018	0.0044
Barium, total	MG/L	MW-42	0.099	11/12/2018	0.0044
Calcium, dissolved	MG/L	MW-32	31	11/14/2018	18
Calcium, dissolved	MG/L	MW-34C	23	11/12/2018	18

Parameter	Unit	Well	Latest Result	Date Sampled	Prediction Limit
Calcium, dissolved	MG/L	MW-42	39	11/12/2018	18
Chloride	MG/L	MW-32	14	11/14/2018	4.4
Chloride	MG/L	MW-34C	5.7	11/12/2018	4.4
Chloride	MG/L	MW-39	5.5	11/12/2018	4.4
Chloride	MG/L	MW-42	20	11/12/2018	4.4
Cobalt, total	MG/L	MW-39	0.0064	11/12/2018	0.003
Iron, total	MG/L	MW-29A	3.6	11/12/2018	0.31
Iron, total	MG/L	MW-32	0.81	11/14/2018	0.31
Iron, total	MG/L	MW-33A	2.4	11/14/2018	0.31
Iron, total	MG/L	MW-34C	22	11/12/2018	0.31
Iron, total	MG/L	MW-39	35	11/12/2018	0.31
Iron, total	MG/L	MW-42	24	11/12/2018	0.31
Magnesium, dissolved	MG/L	MW-32	16	11/14/2018	11.1905
Magnesium, dissolved	MG/L	MW-42	14	11/12/2018	11.1905
Manganese, total	MG/L	MW-29A	1.2	11/12/2018	0.032
Manganese, total	MG/L	MW-32	2.6	11/14/2018	0.032
Manganese, total	MG/L	MW-33C	0.18	11/14/2018	0.032
Manganese, total	MG/L	MW-34C	1.1	11/12/2018	0.032
Manganese, total	MG/L	MW-39	0.45	11/12/2018	0.032
Manganese, total	MG/L	MW-42	3.8	11/12/2018	0.032
pH	pH Units	MW-34A	5.8	11/12/2018	5.84 - 8.20
Potassium, dissolved	MG/L	MW-42	8.5	11/12/2018	1.4
Sodium, dissolved	MG/L	MW-32	13	11/14/2018	7.7
Sodium, dissolved	MG/L	MW-34A	9.2	11/12/2018	7.7
Sodium, dissolved	MG/L	MW-34C	10	11/12/2018	7.7
Sodium, dissolved	MG/L	MW-39	8.7	11/12/2018	7.7
Sodium, dissolved	MG/L	MW-42	17	11/12/2018	7.7
Specific conductivity	mS/cm	MW-32	0.356	11/14/2018	0.18
Specific conductivity	mS/cm	MW-34C	0.24	11/12/2018	0.18
Specific conductivity	mS/cm	MW-39	0.267	11/12/2018	0.18
Specific conductivity	mS/cm	MW-42	0.531	11/12/2018	0.18
Sulfate	MG/L	MW-32	12	11/14/2018	9.9
Sulfate	MG/L	MW-42	12	11/12/2018	9.9
Total dissolved solids (tds)	MG/L	MW-32	230	11/14/2018	175
Total dissolved solids (tds)	MG/L	MW-42	270	11/12/2018	175
Total organic carbon (toc)	MG/L	MW-42	6.1	11/12/2018	6.0
Zinc, total	MG/L	MW-34C	0.0077	11/12/2018	0.0056

TABLE 2-2
STATISTICAL PREDICTION LIMITS UPDATED FOR 2019 MONITORING YEAR
Olympic View Sanitary Landfill

Statistical Methodology:

1. Inter-Well Prediction Limits using DUMPStat
2. Upgradient Data Set: pooled data from wells 13A, 13B, 16, and 35
3. "Detection Monitoring" well comparisons:
   - compliance wells
   - performance well
   - downgradient wells
4. Parameters: all Appendix I and II inorganic and ground water quality parameters
5. Background Data Sets: January 2005 - December 2018 (updated annually)
6. Arsenic: only low-level Method 200.8 data used
7. Units: mg/L = milligrams per liter; ug/L = micrograms per liter; mS/cm = millisiemens per centimeter; deg C = degrees Celcius

Constituent	Units	Distributional Assumption[1]	Total N[2]	Detected N	Mean	Standard Deviation	Prediction Limit[3]	Nonparametric Confidence[4]
Alkalinity, bicarbonate (as caco3)	MG/L	nonparametric	202	202			96	0.99
Alkalinity, total (as caco3)	MG/L	nonparametric	206	206			96	0.99
Ammonia (as n)	MG/L	nonparametric	202	73			0.3	0.99
Antimony, total	MG/L	nonparametric	86	3			0.0013	0.99
Arsenic, total	UG/L	normal	93	93	0.2423	0.1016	0.4784	
Barium, total	MG/L	normal	86	86	0.0032	0.0005	0.0043	
Beryllium, total	MG/L	nonparametric	86	0			Current RL*	0.99
Cadmium, total	MG/L	nonparametric	86	0			Current RL*	0.99
Calcium, dissolved	MG/L	nonparametric	206	206			18	0.99
Chloride	MG/L	nonparametric	206	202			4.4	0.99
Chromium, total	MG/L	nonparametric	86	39			0.0092	0.99
Cobalt, total	MG/L	nonparametric	86	0			Current RL*	0.99
Copper, total	MG/L	nonparametric	86	1			0.0021	0.99
Iron, total	MG/L	nonparametric	86	11			0.31	0.99
Lead, total	MG/L	nonparametric	86	1			0.0014	0.99
Magnesium, dissolved	MG/L	normal	206	206	8.1762	1.3343	11.2376	
Manganese, total	MG/L	nonparametric	85	23			0.032	0.99
Nickel, total	MG/L	nonparametric	86	1			0.0041	0.99
Nitrate (as n)	MG/L	nonparametric	194	194			1.8	0.99
pH	pH Units	normal	197	197	7.0121	0.4613	5.83 - 8.19	
Potassium, dissolved	MG/L	nonparametric	206	14			1.4	0.99
Selenium, total	MG/L	nonparametric	86	0			Current RL*	0.99
Silver, total	MG/L	nonparametric	86	0			Current RL*	0.99
Sodium, dissolved	MG/L	nonparametric	206	206			7.7	0.99
Specific conductivity	mS/cm	nonparametric	199	199			0.18	0.99
Sulfate	MG/L	nonparametric	206	205			9.9	0.99
Temperature	deg C	nonparametric	199	199			14.32	0.99
Thallium, total	MG/L	nonparametric	86	0			Current RL*	0.99
Total dissolved solids (tds)	MG/L	nonparametric	206	206			175	0.99
Total organic carbon (toc)	MG/L	nonparametric	194	7			6	0.99
Vanadium, total	MG/L	nonparametric	86	85			0.0061	0.99
Zinc, total	MG/L	nonparametric	86	1			0.0056	0.99

[1] Distributional Assumption based on Multiple Group Shapiro-Wilk Test (results presented on Table 2-4 herein).

[2] N = number of background data points from the pooled upgradient well data set AFTER removal of outliers (see Table 2-3 for outliers).

[3] Prediction Limit calculated at 95% confidence level and adjusted for multiple comparisons and one verification resample per Unified Guidance (USEPA, March 2009).

[4] Nonparametric confidence level as calculated by DUMPStat.

*Current RL: in cases where all background data are non-detected, a nonparametric prediction limit is set at the current constituent-specific laboratory reporting limit (RL).

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, bicarbonate (as caco3)	MW-13A	03/22/2005		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/15/2005		63.8	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/27/2005		75.6	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/15/2005		72.5	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/28/2006		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/21/2006		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/26/2006		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/13/2006		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/27/2007		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/19/2007		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/19/2007		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/19/2007		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/25/2008		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/18/2008		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/17/2008		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/17/2008		92	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/24/2009		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/17/2009		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/10/2009		87	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/25/2010		86	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/23/2010		86	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/23/2010		96	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/08/2010		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/30/2011		88	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/06/2011		89	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/27/2011		89	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/14/2011		90	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/21/2012		89	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/08/2012		87	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/26/2012		87	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/03/2012		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/11/2013		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/05/2013		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	12/03/2013		86	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	03/04/2014		87	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	06/02/2014		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	09/22/2014		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	11/17/2014		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	02/23/2015		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	05/19/2015		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	08/26/2015		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	11/10/2015		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	02/22/2016		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	05/16/2016		90	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	08/31/2016		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	11/14/2016		92	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	02/22/2017		85	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	05/24/2017		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	08/30/2017		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	11/13/2017		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	02/20/2018		87	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	05/15/2018		78	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	08/21/2018		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13A	11/12/2018		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/22/2005		70.6	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/15/2005		57.3	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/27/2005		72.7	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/15/2005		68.8	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/29/2006		73	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/21/2006		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/26/2006		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/13/2006		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/27/2007		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/19/2007		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/18/2007		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/19/2007		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/25/2008		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/18/2008		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/17/2008		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/16/2008		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/24/2009		78	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, bicarbonate (as caco3)	MW-13B	06/17/2009		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/10/2009		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/25/2010		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/23/2010		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/23/2010		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/08/2010		88	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/30/2011		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/06/2011		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/27/2011		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/14/2011		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/21/2012		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/08/2012		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/26/2012		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/03/2012		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/11/2013		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/05/2013		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	12/03/2013		84	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	03/04/2014		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	06/02/2014		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	09/22/2014		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	11/17/2014		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	02/23/2015		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	05/19/2015		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	08/26/2015		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	11/10/2015		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	02/22/2016		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	05/16/2016		87	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	08/31/2016		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	11/14/2016		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	02/22/2017		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	05/24/2017		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	08/30/2017		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	11/13/2017		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	02/20/2018		86	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	05/15/2018		78	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	08/21/2018		81	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-13B	11/12/2018		83	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	03/24/2009		66	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	06/16/2009		59	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	09/09/2009		66	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	03/25/2010		46	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	06/24/2010		71	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	09/24/2010		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	12/09/2010		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	03/30/2011		53	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	06/07/2011		59	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	09/27/2011		66	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	12/13/2011		60	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	03/21/2012		50	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	06/08/2012		49	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	09/27/2012		57	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	12/04/2012		64	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	03/12/2013		51	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	06/04/2013		50	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	09/05/2013		62	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	12/16/2013		62	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	03/05/2014		57	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	06/02/2014		44	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	09/22/2014		57	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	11/18/2014		57	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	02/23/2015		52	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	05/20/2015		51	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	08/26/2015		51	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	11/11/2015		65	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	02/24/2016		40	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	05/16/2016		50	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	08/31/2016		60	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	11/14/2016		56	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	02/22/2017		45	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	05/24/2017		42	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	08/30/2017		61	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, bicarbonate (as caco3)	MW-16	11/13/2017		50	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	02/20/2018		46	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	05/17/2018		43	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	08/22/2018		51	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-16	11/12/2018		53	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/22/2005		68.2	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/14/2005		59	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/27/2005		69.2	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/15/2005		67.3	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/28/2006		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/21/2006		71	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/26/2006		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/12/2006		73	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/27/2007		73	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/20/2007		70	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/18/2007		69	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/20/2007		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/25/2008		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/18/2008		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/18/2008		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/19/2008		68	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/24/2009		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/16/2009		73	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/10/2009		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/25/2010		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/23/2010		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/23/2010		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/09/2010		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/30/2011		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/06/2011		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/26/2011		78	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/13/2011		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/21/2012		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/06/2012		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/26/2012		78	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/04/2012		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/13/2013		73	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/06/2013		73	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/05/2013		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	12/16/2013		78	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	03/04/2014		78	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	06/02/2014		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	09/22/2014		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	11/17/2014		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	02/25/2015		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	05/19/2015		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	08/26/2015		71	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	11/10/2015		75	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	02/22/2016		72	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	05/16/2016		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	08/31/2016		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	11/15/2016		91	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	02/22/2017		79	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	05/24/2017		76	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	08/30/2017		74	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	11/15/2017		77	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	02/20/2018		82	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	05/17/2018		80	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	08/22/2018		48	MG/L	
Alkalinity, bicarbonate (as caco3)	MW-35	11/12/2018		80	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/22/2005		75	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/15/2005		63.8	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/27/2005		75.6	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/15/2005		72.5	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/28/2006		80	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/21/2006		79	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/26/2006		80	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/13/2006		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/27/2007		83	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/19/2007		81	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/19/2007		79	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, total (as caco3)	MW-13A	12/19/2007		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/25/2008		83	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/18/2008		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/17/2008		81	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/17/2008		92	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/24/2009		81	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/17/2009		84	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/10/2009		87	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/03/2009		84	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/25/2010		86	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/23/2010		86	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/23/2010		96	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/08/2010		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/30/2011		88	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/06/2011		89	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/27/2011		89	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/14/2011		90	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/21/2012		89	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/08/2012		87	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/26/2012		87	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/03/2012		83	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/11/2013		81	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/05/2013		83	MG/L	
Alkalinity, total (as caco3)	MW-13A	12/03/2013		86	MG/L	
Alkalinity, total (as caco3)	MW-13A	03/04/2014		87	MG/L	
Alkalinity, total (as caco3)	MW-13A	06/02/2014		84	MG/L	
Alkalinity, total (as caco3)	MW-13A	09/22/2014		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	11/17/2014		79	MG/L	
Alkalinity, total (as caco3)	MW-13A	02/23/2015		84	MG/L	
Alkalinity, total (as caco3)	MW-13A	05/19/2015		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	08/26/2015		77	MG/L	
Alkalinity, total (as caco3)	MW-13A	11/10/2015		81	MG/L	
Alkalinity, total (as caco3)	MW-13A	02/22/2016		80	MG/L	
Alkalinity, total (as caco3)	MW-13A	05/16/2016		90	MG/L	
Alkalinity, total (as caco3)	MW-13A	08/31/2016		84	MG/L	
Alkalinity, total (as caco3)	MW-13A	11/14/2016		92	MG/L	
Alkalinity, total (as caco3)	MW-13A	02/22/2017		85	MG/L	
Alkalinity, total (as caco3)	MW-13A	05/24/2017		82	MG/L	
Alkalinity, total (as caco3)	MW-13A	08/30/2017		80	MG/L	
Alkalinity, total (as caco3)	MW-13A	11/13/2017		81	MG/L	
Alkalinity, total (as caco3)	MW-13A	02/20/2018		87	MG/L	
Alkalinity, total (as caco3)	MW-13A	05/15/2018		78	MG/L	
Alkalinity, total (as caco3)	MW-13A	08/21/2018		79	MG/L	
Alkalinity, total (as caco3)	MW-13A	11/12/2018		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/22/2005		70.6	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/15/2005		57.3	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/27/2005		72.7	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/15/2005		68.8	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/29/2006		73	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/21/2006		74	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/26/2006		75	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/13/2006		76	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/27/2007		76	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/19/2007		74	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/18/2007		74	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/19/2007		76	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/25/2008		77	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/18/2008		77	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/17/2008		76	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/16/2008		74	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/24/2009		78	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/17/2009		79	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/10/2009		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/03/2009		80	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/25/2010		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/23/2010		80	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/23/2010		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/08/2010		88	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/30/2011		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/06/2011		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/27/2011		83	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, total (as caco3)	MW-13B	12/14/2011		84	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/21/2012		83	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/08/2012		82	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/26/2012		84	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/03/2012		82	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/11/2013		77	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/05/2013		79	MG/L	
Alkalinity, total (as caco3)	MW-13B	12/03/2013		84	MG/L	
Alkalinity, total (as caco3)	MW-13B	03/04/2014		83	MG/L	
Alkalinity, total (as caco3)	MW-13B	06/02/2014		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	09/22/2014		80	MG/L	
Alkalinity, total (as caco3)	MW-13B	11/17/2014		79	MG/L	
Alkalinity, total (as caco3)	MW-13B	02/23/2015		82	MG/L	
Alkalinity, total (as caco3)	MW-13B	05/19/2015		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	08/26/2015		76	MG/L	
Alkalinity, total (as caco3)	MW-13B	11/10/2015		79	MG/L	
Alkalinity, total (as caco3)	MW-13B	02/22/2016		77	MG/L	
Alkalinity, total (as caco3)	MW-13B	05/16/2016		87	MG/L	
Alkalinity, total (as caco3)	MW-13B	08/31/2016		82	MG/L	
Alkalinity, total (as caco3)	MW-13B	11/14/2016		80	MG/L	
Alkalinity, total (as caco3)	MW-13B	02/22/2017		83	MG/L	
Alkalinity, total (as caco3)	MW-13B	05/24/2017		80	MG/L	
Alkalinity, total (as caco3)	MW-13B	08/30/2017		80	MG/L	
Alkalinity, total (as caco3)	MW-13B	11/13/2017		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	02/20/2018		86	MG/L	
Alkalinity, total (as caco3)	MW-13B	05/15/2018		78	MG/L	
Alkalinity, total (as caco3)	MW-13B	08/21/2018		81	MG/L	
Alkalinity, total (as caco3)	MW-13B	11/12/2018		83	MG/L	
Alkalinity, total (as caco3)	MW-16	03/24/2009		66	MG/L	
Alkalinity, total (as caco3)	MW-16	06/16/2009		59	MG/L	
Alkalinity, total (as caco3)	MW-16	09/09/2009		66	MG/L	
Alkalinity, total (as caco3)	MW-16	12/03/2009		77	MG/L	
Alkalinity, total (as caco3)	MW-16	03/25/2010		46	MG/L	
Alkalinity, total (as caco3)	MW-16	06/24/2010		71	MG/L	
Alkalinity, total (as caco3)	MW-16	09/24/2010		74	MG/L	
Alkalinity, total (as caco3)	MW-16	12/09/2010		72	MG/L	
Alkalinity, total (as caco3)	MW-16	03/30/2011		53	MG/L	
Alkalinity, total (as caco3)	MW-16	06/07/2011		59	MG/L	
Alkalinity, total (as caco3)	MW-16	09/27/2011		66	MG/L	
Alkalinity, total (as caco3)	MW-16	12/13/2011		60	MG/L	
Alkalinity, total (as caco3)	MW-16	03/21/2012		50	MG/L	
Alkalinity, total (as caco3)	MW-16	06/08/2012		49	MG/L	
Alkalinity, total (as caco3)	MW-16	09/27/2012		57	MG/L	
Alkalinity, total (as caco3)	MW-16	12/04/2012		64	MG/L	
Alkalinity, total (as caco3)	MW-16	03/12/2013		51	MG/L	
Alkalinity, total (as caco3)	MW-16	06/04/2013		50	MG/L	
Alkalinity, total (as caco3)	MW-16	09/05/2013		62	MG/L	
Alkalinity, total (as caco3)	MW-16	12/16/2013		62	MG/L	
Alkalinity, total (as caco3)	MW-16	03/05/2014		57	MG/L	
Alkalinity, total (as caco3)	MW-16	06/02/2014		44	MG/L	
Alkalinity, total (as caco3)	MW-16	09/22/2014		57	MG/L	
Alkalinity, total (as caco3)	MW-16	11/18/2014		57	MG/L	
Alkalinity, total (as caco3)	MW-16	02/23/2015		52	MG/L	
Alkalinity, total (as caco3)	MW-16	05/20/2015		51	MG/L	
Alkalinity, total (as caco3)	MW-16	08/26/2015		51	MG/L	
Alkalinity, total (as caco3)	MW-16	11/11/2015		65	MG/L	
Alkalinity, total (as caco3)	MW-16	02/24/2016		40	MG/L	
Alkalinity, total (as caco3)	MW-16	05/16/2016		50	MG/L	
Alkalinity, total (as caco3)	MW-16	08/31/2016		60	MG/L	
Alkalinity, total (as caco3)	MW-16	11/14/2016		56	MG/L	
Alkalinity, total (as caco3)	MW-16	02/22/2017		45	MG/L	
Alkalinity, total (as caco3)	MW-16	05/24/2017		42	MG/L	
Alkalinity, total (as caco3)	MW-16	08/30/2017		61	MG/L	
Alkalinity, total (as caco3)	MW-16	11/13/2017		50	MG/L	
Alkalinity, total (as caco3)	MW-16	02/20/2018		46	MG/L	
Alkalinity, total (as caco3)	MW-16	05/17/2018		43	MG/L	
Alkalinity, total (as caco3)	MW-16	08/22/2018		51	MG/L	
Alkalinity, total (as caco3)	MW-16	11/12/2018		53	MG/L	
Alkalinity, total (as caco3)	MW-35	03/22/2005		68.2	MG/L	
Alkalinity, total (as caco3)	MW-35	06/14/2005		59	MG/L	
Alkalinity, total (as caco3)	MW-35	09/27/2005		69.2	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, total (as caco3)	MW-35	12/15/2005		67.3	MG/L	
Alkalinity, total (as caco3)	MW-35	03/28/2006		73	MG/L	
Alkalinity, total (as caco3)	MW-35	06/21/2006		71	MG/L	
Alkalinity, total (as caco3)	MW-35	09/26/2006		72	MG/L	
Alkalinity, total (as caco3)	MW-35	12/12/2006		73	MG/L	
Alkalinity, total (as caco3)	MW-35	03/27/2007		73	MG/L	
Alkalinity, total (as caco3)	MW-35	06/20/2007		70	MG/L	
Alkalinity, total (as caco3)	MW-35	09/18/2007		69	MG/L	
Alkalinity, total (as caco3)	MW-35	12/20/2007		72	MG/L	
Alkalinity, total (as caco3)	MW-35	03/25/2008		77	MG/L	
Alkalinity, total (as caco3)	MW-35	06/18/2008		72	MG/L	
Alkalinity, total (as caco3)	MW-35	09/18/2008		72	MG/L	
Alkalinity, total (as caco3)	MW-35	12/19/2008		68	MG/L	
Alkalinity, total (as caco3)	MW-35	03/24/2009		72	MG/L	
Alkalinity, total (as caco3)	MW-35	06/16/2009		73	MG/L	
Alkalinity, total (as caco3)	MW-35	09/10/2009		74	MG/L	
Alkalinity, total (as caco3)	MW-35	12/03/2009		74	MG/L	
Alkalinity, total (as caco3)	MW-35	03/25/2010		76	MG/L	
Alkalinity, total (as caco3)	MW-35	06/23/2010		75	MG/L	
Alkalinity, total (as caco3)	MW-35	09/23/2010		75	MG/L	
Alkalinity, total (as caco3)	MW-35	12/09/2010		74	MG/L	
Alkalinity, total (as caco3)	MW-35	03/30/2011		77	MG/L	
Alkalinity, total (as caco3)	MW-35	06/06/2011		76	MG/L	
Alkalinity, total (as caco3)	MW-35	09/26/2011		78	MG/L	
Alkalinity, total (as caco3)	MW-35	12/13/2011		77	MG/L	
Alkalinity, total (as caco3)	MW-35	03/21/2012		77	MG/L	
Alkalinity, total (as caco3)	MW-35	06/06/2012		77	MG/L	
Alkalinity, total (as caco3)	MW-35	09/26/2012		78	MG/L	
Alkalinity, total (as caco3)	MW-35	12/04/2012		76	MG/L	
Alkalinity, total (as caco3)	MW-35	03/13/2013		73	MG/L	
Alkalinity, total (as caco3)	MW-35	06/06/2013		73	MG/L	
Alkalinity, total (as caco3)	MW-35	09/05/2013		77	MG/L	
Alkalinity, total (as caco3)	MW-35	12/16/2013		78	MG/L	
Alkalinity, total (as caco3)	MW-35	03/04/2014		78	MG/L	
Alkalinity, total (as caco3)	MW-35	06/02/2014		76	MG/L	
Alkalinity, total (as caco3)	MW-35	09/22/2014		75	MG/L	
Alkalinity, total (as caco3)	MW-35	11/17/2014		74	MG/L	
Alkalinity, total (as caco3)	MW-35	02/25/2015		77	MG/L	
Alkalinity, total (as caco3)	MW-35	05/19/2015		75	MG/L	
Alkalinity, total (as caco3)	MW-35	08/26/2015		71	MG/L	
Alkalinity, total (as caco3)	MW-35	11/10/2015		75	MG/L	
Alkalinity, total (as caco3)	MW-35	02/22/2016		72	MG/L	
Alkalinity, total (as caco3)	MW-35	05/16/2016		82	MG/L	
Alkalinity, total (as caco3)	MW-35	08/31/2016		77	MG/L	
Alkalinity, total (as caco3)	MW-35	11/15/2016		91	MG/L	
Alkalinity, total (as caco3)	MW-35	02/22/2017		79	MG/L	
Alkalinity, total (as caco3)	MW-35	05/24/2017		76	MG/L	
Alkalinity, total (as caco3)	MW-35	08/30/2017		74	MG/L	
Alkalinity, total (as caco3)	MW-35	11/15/2017		77	MG/L	
Alkalinity, total (as caco3)	MW-35	02/20/2018		82	MG/L	
Alkalinity, total (as caco3)	MW-35	05/17/2018		80	MG/L	
Alkalinity, total (as caco3)	MW-35	08/22/2018		48	MG/L	
Alkalinity, total (as caco3)	MW-35	11/12/2018		80	MG/L	
Ammonia (as n)	MW-13A	03/22/2005		0.02	MG/L	
Ammonia (as n)	MW-13A	06/15/2005		0.13	MG/L	
Ammonia (as n)	MW-13A	09/27/2005		0.021	MG/L	
Ammonia (as n)	MW-13A	12/15/2005	ND	0.02	MG/L	
Ammonia (as n)	MW-13A	03/28/2006		0.049	MG/L	
Ammonia (as n)	MW-13A	06/21/2006		0.068	MG/L	
Ammonia (as n)	MW-13A	09/26/2006		0.036	MG/L	
Ammonia (as n)	MW-13A	12/13/2006	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	03/27/2007	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	06/19/2007	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	09/19/2007	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	12/19/2007		0.042	MG/L	
Ammonia (as n)	MW-13A	03/25/2008		0.05	MG/L	
Ammonia (as n)	MW-13A	06/18/2008	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	09/17/2008	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	12/17/2008		0.063	MG/L	
Ammonia (as n)	MW-13A	03/24/2009		0.083	MG/L	
Ammonia (as n)	MW-13A	06/17/2009		0.093	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Ammonia (as n)	MW-13A	09/10/2009	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	12/03/2009		0.059	MG/L	
Ammonia (as n)	MW-13A	03/25/2010		0.046	MG/L	
Ammonia (as n)	MW-13A	06/23/2010	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	09/23/2010		0.049	MG/L	
Ammonia (as n)	MW-13A	12/08/2010		0.061	MG/L	
Ammonia (as n)	MW-13A	03/30/2011		0.064	MG/L	
Ammonia (as n)	MW-13A	06/06/2011	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	09/27/2011		0.075	MG/L	
Ammonia (as n)	MW-13A	12/14/2011		0.086	MG/L	
Ammonia (as n)	MW-13A	03/21/2012		0.039	MG/L	
Ammonia (as n)	MW-13A	06/08/2012		0.28	MG/L	
Ammonia (as n)	MW-13A	09/26/2012		0.087	MG/L	
Ammonia (as n)	MW-13A	12/03/2012		0.12	MG/L	
Ammonia (as n)	MW-13A	03/11/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	06/05/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	12/03/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	03/04/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	06/02/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	09/22/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	11/17/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	02/23/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	05/19/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	08/26/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	11/10/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	02/22/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	05/16/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	08/31/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	11/14/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	02/22/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	05/24/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	08/30/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	11/13/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	02/20/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	05/15/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	08/21/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13A	11/12/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	03/22/2005	ND	0.02	MG/L	
Ammonia (as n)	MW-13B	06/15/2005		0.12	MG/L	
Ammonia (as n)	MW-13B	09/27/2005		0.17	MG/L	
Ammonia (as n)	MW-13B	12/15/2005	ND	0.02	MG/L	
Ammonia (as n)	MW-13B	03/29/2006		0.036	MG/L	
Ammonia (as n)	MW-13B	06/21/2006	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	09/26/2006		0.03	MG/L	
Ammonia (as n)	MW-13B	12/13/2006	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	03/27/2007	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	06/19/2007		0.03	MG/L	
Ammonia (as n)	MW-13B	12/19/2007		0.11	MG/L	
Ammonia (as n)	MW-13B	03/25/2008		0.06	MG/L	
Ammonia (as n)	MW-13B	06/18/2008	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	09/17/2008	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	12/16/2008		0.056	MG/L	
Ammonia (as n)	MW-13B	03/24/2009		0.063	MG/L	
Ammonia (as n)	MW-13B	06/17/2009		0.087	MG/L	
Ammonia (as n)	MW-13B	09/10/2009		0.045	MG/L	
Ammonia (as n)	MW-13B	12/03/2009	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	03/25/2010		0.044	MG/L	
Ammonia (as n)	MW-13B	06/23/2010	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	09/23/2010		0.045	MG/L	
Ammonia (as n)	MW-13B	12/08/2010		0.052	MG/L	
Ammonia (as n)	MW-13B	03/30/2011		0.062	MG/L	
Ammonia (as n)	MW-13B	06/06/2011	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	09/27/2011		0.032	MG/L	
Ammonia (as n)	MW-13B	12/14/2011		0.03	MG/L	
Ammonia (as n)	MW-13B	03/21/2012	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	06/08/2012		0.2	MG/L	
Ammonia (as n)	MW-13B	09/26/2012		0.076	MG/L	
Ammonia (as n)	MW-13B	12/03/2012	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	03/11/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	06/05/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	12/03/2013	ND	0.03	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Ammonia (as n)	MW-13B	03/04/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	06/02/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	09/22/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	11/17/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	02/23/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	05/19/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	08/26/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	11/10/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	02/22/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	05/16/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	08/31/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	11/14/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	02/22/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	05/24/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	08/30/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	11/13/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	02/20/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	05/15/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	08/21/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-13B	11/12/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-16	03/24/2009		0.062	MG/L	
Ammonia (as n)	MW-16	06/16/2009		0.093	MG/L	
Ammonia (as n)	MW-16	09/09/2009		0.036	MG/L	
Ammonia (as n)	MW-16	12/03/2009		0.058	MG/L	
Ammonia (as n)	MW-16	03/25/2010		0.046	MG/L	
Ammonia (as n)	MW-16	06/24/2010	ND	0.03	MG/L	
Ammonia (as n)	MW-16	09/24/2010	ND	0.03	MG/L	
Ammonia (as n)	MW-16	12/09/2010		0.059	MG/L	
Ammonia (as n)	MW-16	03/30/2011		0.06	MG/L	
Ammonia (as n)	MW-16	06/07/2011		0.048	MG/L	
Ammonia (as n)	MW-16	09/27/2011	ND	0.03	MG/L	
Ammonia (as n)	MW-16	12/13/2011	ND	0.03	MG/L	
Ammonia (as n)	MW-16	03/21/2012		0.042	MG/L	
Ammonia (as n)	MW-16	06/08/2012		0.34	MG/L	*
Ammonia (as n)	MW-16	09/27/2012		0.3	MG/L	
Ammonia (as n)	MW-16	12/04/2012	ND	0.03	MG/L	
Ammonia (as n)	MW-16	03/12/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-16	06/04/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-16	09/05/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-16	12/16/2013		0.096	MG/L	
Ammonia (as n)	MW-16	03/05/2014		0.051	MG/L	
Ammonia (as n)	MW-16	06/02/2014		0.058	MG/L	
Ammonia (as n)	MW-16	09/22/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-16	11/18/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-16	02/23/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-16	05/20/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-16	08/26/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-16	11/11/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-16	02/24/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-16	05/16/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-16	08/31/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-16	11/14/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-16	02/22/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-16	05/24/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-16	08/30/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-16	11/13/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-16	02/20/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-16	05/17/2018		0.031	MG/L	
Ammonia (as n)	MW-16	08/22/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-16	11/12/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-35	03/22/2005	ND	0.02	MG/L	
Ammonia (as n)	MW-35	06/14/2005		0.12	MG/L	
Ammonia (as n)	MW-35	09/27/2005		0.15	MG/L	
Ammonia (as n)	MW-35	12/15/2005	ND	0.02	MG/L	
Ammonia (as n)	MW-35	03/28/2006	ND	0.03	MG/L	
Ammonia (as n)	MW-35	06/21/2006	ND	0.03	MG/L	
Ammonia (as n)	MW-35	09/26/2006		0.033	MG/L	
Ammonia (as n)	MW-35	12/12/2006	ND	0.03	MG/L	
Ammonia (as n)	MW-35	03/27/2007	ND	0.03	MG/L	
Ammonia (as n)	MW-35	06/20/2007		0.042	MG/L	
Ammonia (as n)	MW-35	12/20/2007		0.06	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Ammonia (as n)	MW-35	03/25/2008		0.059	MG/L	
Ammonia (as n)	MW-35	06/18/2008	ND	0.03	MG/L	
Ammonia (as n)	MW-35	09/18/2008	ND	0.03	MG/L	
Ammonia (as n)	MW-35	12/19/2008		0.081	MG/L	
Ammonia (as n)	MW-35	03/24/2009		0.06	MG/L	
Ammonia (as n)	MW-35	06/16/2009		0.066	MG/L	
Ammonia (as n)	MW-35	09/10/2009	ND	0.03	MG/L	
Ammonia (as n)	MW-35	12/03/2009		0.076	MG/L	
Ammonia (as n)	MW-35	03/25/2010		0.041	MG/L	
Ammonia (as n)	MW-35	06/23/2010	ND	0.03	MG/L	
Ammonia (as n)	MW-35	09/23/2010		0.053	MG/L	
Ammonia (as n)	MW-35	12/09/2010		0.055	MG/L	
Ammonia (as n)	MW-35	03/30/2011		0.063	MG/L	
Ammonia (as n)	MW-35	06/06/2011		0.18	MG/L	
Ammonia (as n)	MW-35	09/26/2011		0.065	MG/L	
Ammonia (as n)	MW-35	12/13/2011	ND	0.03	MG/L	
Ammonia (as n)	MW-35	03/21/2012		0.03	MG/L	
Ammonia (as n)	MW-35	06/06/2012		0.6	MG/L	*
Ammonia (as n)	MW-35	09/26/2012		0.069	MG/L	
Ammonia (as n)	MW-35	12/04/2012	ND	0.03	MG/L	
Ammonia (as n)	MW-35	03/13/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-35	06/06/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-35	09/05/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-35	12/16/2013	ND	0.03	MG/L	
Ammonia (as n)	MW-35	03/04/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-35	06/02/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-35	09/22/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-35	11/17/2014	ND	0.03	MG/L	
Ammonia (as n)	MW-35	02/25/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-35	05/19/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-35	08/26/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-35	11/10/2015	ND	0.03	MG/L	
Ammonia (as n)	MW-35	02/22/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-35	05/16/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-35	08/31/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-35	11/15/2016	ND	0.03	MG/L	
Ammonia (as n)	MW-35	02/22/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-35	05/24/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-35	08/30/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-35	11/15/2017	ND	0.03	MG/L	
Ammonia (as n)	MW-35	02/20/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-35	05/17/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-35	08/22/2018	ND	0.03	MG/L	
Ammonia (as n)	MW-35	11/12/2018	ND	0.03	MG/L	
Antimony, total	MW-13A	12/03/2013	ND	0.001	MG/L	
Antimony, total	MW-13A	03/04/2014	ND	0.001	MG/L	
Antimony, total	MW-13A	06/02/2014	ND	0.001	MG/L	
Antimony, total	MW-13A	09/22/2014	ND	0.001	MG/L	
Antimony, total	MW-13A	11/17/2014	ND	0.001	MG/L	
Antimony, total	MW-13A	02/23/2015	ND	0.001	MG/L	
Antimony, total	MW-13A	05/19/2015	ND	0.001	MG/L	
Antimony, total	MW-13A	08/26/2015	ND	0.001	MG/L	
Antimony, total	MW-13A	11/10/2015	ND	0.001	MG/L	
Antimony, total	MW-13A	02/22/2016	ND	0.001	MG/L	
Antimony, total	MW-13A	05/16/2016	ND	0.001	MG/L	
Antimony, total	MW-13A	08/31/2016		0.001	MG/L	
Antimony, total	MW-13A	11/14/2016	ND	0.001	MG/L	
Antimony, total	MW-13A	02/22/2017	ND	0.001	MG/L	
Antimony, total	MW-13A	05/24/2017	ND	0.001	MG/L	
Antimony, total	MW-13A	08/30/2017	ND	0.001	MG/L	
Antimony, total	MW-13A	11/13/2017	ND	0.001	MG/L	
Antimony, total	MW-13A	02/20/2018	ND	0.001	MG/L	
Antimony, total	MW-13A	05/15/2018	ND	0.001	MG/L	
Antimony, total	MW-13A	08/21/2018	ND	0.001	MG/L	
Antimony, total	MW-13A	11/12/2018	ND	0.001	MG/L	
Antimony, total	MW-13B	12/03/2013	ND	0.001	MG/L	
Antimony, total	MW-13B	03/04/2014	ND	0.001	MG/L	
Antimony, total	MW-13B	06/02/2014	ND	0.001	MG/L	
Antimony, total	MW-13B	09/22/2014	ND	0.001	MG/L	
Antimony, total	MW-13B	11/17/2014	ND	0.001	MG/L	
Antimony, total	MW-13B	02/23/2015	ND	0.001	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Antimony, total	MW-13B	05/19/2015	ND	0.001	MG/L	
Antimony, total	MW-13B	08/26/2015	ND	0.001	MG/L	
Antimony, total	MW-13B	11/10/2015	ND	0.001	MG/L	
Antimony, total	MW-13B	02/22/2016	ND	0.001	MG/L	
Antimony, total	MW-13B	05/16/2016	ND	0.001	MG/L	
Antimony, total	MW-13B	08/31/2016	ND	0.001	MG/L	
Antimony, total	MW-13B	11/14/2016	ND	0.001	MG/L	
Antimony, total	MW-13B	02/22/2017	ND	0.001	MG/L	
Antimony, total	MW-13B	05/24/2017	ND	0.001	MG/L	
Antimony, total	MW-13B	08/30/2017	ND	0.001	MG/L	
Antimony, total	MW-13B	11/13/2017	ND	0.001	MG/L	
Antimony, total	MW-13B	02/20/2018	ND	0.001	MG/L	
Antimony, total	MW-13B	05/15/2018	ND	0.001	MG/L	
Antimony, total	MW-13B	08/21/2018	ND	0.001	MG/L	
Antimony, total	MW-13B	11/12/2018	ND	0.001	MG/L	
Antimony, total	MW-16	09/05/2013	ND	0.001	MG/L	
Antimony, total	MW-16	12/16/2013	ND	0.001	MG/L	
Antimony, total	MW-16	03/05/2014	ND	0.001	MG/L	
Antimony, total	MW-16	06/02/2014	ND	0.001	MG/L	
Antimony, total	MW-16	09/22/2014	ND	0.001	MG/L	
Antimony, total	MW-16	11/18/2014	ND	0.001	MG/L	
Antimony, total	MW-16	02/23/2015		0.0011	MG/L	
Antimony, total	MW-16	05/20/2015	ND	0.001	MG/L	
Antimony, total	MW-16	08/26/2015	ND	0.001	MG/L	
Antimony, total	MW-16	11/11/2015		0.0013	MG/L	
Antimony, total	MW-16	02/24/2016	ND	0.001	MG/L	
Antimony, total	MW-16	05/16/2016	ND	0.001	MG/L	
Antimony, total	MW-16	08/31/2016	ND	0.001	MG/L	
Antimony, total	MW-16	11/14/2016	ND	0.001	MG/L	
Antimony, total	MW-16	02/22/2017	ND	0.001	MG/L	
Antimony, total	MW-16	05/24/2017	ND	0.001	MG/L	
Antimony, total	MW-16	08/30/2017	ND	0.001	MG/L	
Antimony, total	MW-16	11/13/2017	ND	0.001	MG/L	
Antimony, total	MW-16	02/20/2018	ND	0.001	MG/L	
Antimony, total	MW-16	05/17/2018	ND	0.001	MG/L	
Antimony, total	MW-16	08/22/2018	ND	0.001	MG/L	
Antimony, total	MW-16	11/12/2018	ND	0.001	MG/L	
Antimony, total	MW-35	09/05/2013	ND	0.001	MG/L	
Antimony, total	MW-35	12/16/2013	ND	0.001	MG/L	
Antimony, total	MW-35	03/04/2014	ND	0.001	MG/L	
Antimony, total	MW-35	06/02/2014	ND	0.001	MG/L	
Antimony, total	MW-35	09/22/2014	ND	0.001	MG/L	
Antimony, total	MW-35	11/17/2014	ND	0.001	MG/L	
Antimony, total	MW-35	02/25/2015	ND	0.001	MG/L	
Antimony, total	MW-35	05/19/2015	ND	0.001	MG/L	
Antimony, total	MW-35	08/26/2015	ND	0.001	MG/L	
Antimony, total	MW-35	11/10/2015	ND	0.001	MG/L	
Antimony, total	MW-35	02/22/2016	ND	0.001	MG/L	
Antimony, total	MW-35	05/16/2016	ND	0.001	MG/L	
Antimony, total	MW-35	08/31/2016	ND	0.001	MG/L	
Antimony, total	MW-35	11/15/2016	ND	0.001	MG/L	
Antimony, total	MW-35	02/22/2017	ND	0.001	MG/L	
Antimony, total	MW-35	05/24/2017	ND	0.001	MG/L	
Antimony, total	MW-35	08/30/2017	ND	0.001	MG/L	
Antimony, total	MW-35	11/15/2017	ND	0.001	MG/L	
Antimony, total	MW-35	02/20/2018	ND	0.001	MG/L	
Antimony, total	MW-35	05/17/2018	ND	0.001	MG/L	
Antimony, total	MW-35	08/22/2018	ND	0.001	MG/L	
Antimony, total	MW-35	11/12/2018	ND	0.001	MG/L	
Arsenic, total	MW-13A	03/22/2005	ND	5	UG/L	*
Arsenic, total	MW-13A	06/15/2005		0.22	UG/L	
Arsenic, total	MW-13A	09/27/2005		0.23	UG/L	
Arsenic, total	MW-13A	12/15/2005		0.21	UG/L	
Arsenic, total	MW-13A	12/03/2013		0.17	UG/L	
Arsenic, total	MW-13A	03/04/2014		0.18	UG/L	
Arsenic, total	MW-13A	06/02/2014		0.2	UG/L	
Arsenic, total	MW-13A	09/22/2014		0.17	UG/L	
Arsenic, total	MW-13A	11/17/2014		0.18	UG/L	
Arsenic, total	MW-13A	02/23/2015		0.21	UG/L	
Arsenic, total	MW-13A	05/19/2015		0.18	UG/L	
Arsenic, total	MW-13A	08/26/2015		0.19	UG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Arsenic, total	MW-13A	11/10/2015		0.2	UG/L	
Arsenic, total	MW-13A	02/22/2016		0.2	UG/L	
Arsenic, total	MW-13A	05/16/2016		0.16	UG/L	
Arsenic, total	MW-13A	08/31/2016		0.177	UG/L	
Arsenic, total	MW-13A	11/14/2016		0.17	UG/L	
Arsenic, total	MW-13A	02/22/2017		0.201	UG/L	
Arsenic, total	MW-13A	05/24/2017		0.181	UG/L	
Arsenic, total	MW-13A	08/30/2017		0.191	UG/L	
Arsenic, total	MW-13A	11/13/2017		0.193	UG/L	
Arsenic, total	MW-13A	02/20/2018		0.199	UG/L	
Arsenic, total	MW-13A	05/15/2018		0.183	UG/L	
Arsenic, total	MW-13A	08/21/2018		0.199	UG/L	
Arsenic, total	MW-13A	11/12/2018		0.189	UG/L	
Arsenic, total	MW-13B	03/22/2005	ND	5	UG/L	*
Arsenic, total	MW-13B	06/15/2005		0.37	UG/L	
Arsenic, total	MW-13B	09/27/2005		0.39	UG/L	
Arsenic, total	MW-13B	12/15/2005		0.38	UG/L	
Arsenic, total	MW-13B	12/03/2013		0.28	UG/L	
Arsenic, total	MW-13B	03/04/2014		0.32	UG/L	
Arsenic, total	MW-13B	06/02/2014		0.33	UG/L	
Arsenic, total	MW-13B	09/22/2014		0.3	UG/L	
Arsenic, total	MW-13B	11/17/2014		0.3	UG/L	
Arsenic, total	MW-13B	02/23/2015		0.36	UG/L	
Arsenic, total	MW-13B	05/19/2015		0.31	UG/L	
Arsenic, total	MW-13B	08/26/2015		0.31	UG/L	
Arsenic, total	MW-13B	11/10/2015		0.3	UG/L	
Arsenic, total	MW-13B	02/22/2016		0.3	UG/L	
Arsenic, total	MW-13B	05/16/2016		0.29	UG/L	
Arsenic, total	MW-13B	08/31/2016		0.311	UG/L	
Arsenic, total	MW-13B	11/14/2016		0.314	UG/L	
Arsenic, total	MW-13B	02/22/2017		0.324	UG/L	
Arsenic, total	MW-13B	05/24/2017		0.327	UG/L	
Arsenic, total	MW-13B	08/30/2017		0.338	UG/L	
Arsenic, total	MW-13B	11/13/2017		0.311	UG/L	
Arsenic, total	MW-13B	02/20/2018		0.366	UG/L	
Arsenic, total	MW-13B	05/15/2018		0.342	UG/L	
Arsenic, total	MW-13B	08/21/2018		0.377	UG/L	
Arsenic, total	MW-13B	11/12/2018		0.337	UG/L	
Arsenic, total	MW-16	12/23/2013		0.29	UG/L	
Arsenic, total	MW-16	03/05/2014		0.43	UG/L	
Arsenic, total	MW-16	06/02/2014		0.33	UG/L	
Arsenic, total	MW-16	09/22/2014		0.32	UG/L	
Arsenic, total	MW-16	11/18/2014		0.35	UG/L	
Arsenic, total	MW-16	02/23/2015		0.37	UG/L	
Arsenic, total	MW-16	05/20/2015		0.34	UG/L	
Arsenic, total	MW-16	08/26/2015		0.32	UG/L	
Arsenic, total	MW-16	11/11/2015		0.3	UG/L	
Arsenic, total	MW-16	02/24/2016		0.3	UG/L	
Arsenic, total	MW-16	05/16/2016		0.3	UG/L	
Arsenic, total	MW-16	08/31/2016		0.311	UG/L	
Arsenic, total	MW-16	11/14/2016		0.381	UG/L	
Arsenic, total	MW-16	02/22/2017		0.383	UG/L	
Arsenic, total	MW-16	05/24/2017		0.375	UG/L	
Arsenic, total	MW-16	08/30/2017		0.353	UG/L	
Arsenic, total	MW-16	11/13/2017		0.364	UG/L	
Arsenic, total	MW-16	02/20/2018		0.446	UG/L	
Arsenic, total	MW-16	05/17/2018		0.367	UG/L	
Arsenic, total	MW-16	08/22/2018		0.173	UG/L	
Arsenic, total	MW-16	11/12/2018		0.452	UG/L	
Arsenic, total	MW-35	03/22/2005	ND	5	UG/L	*
Arsenic, total	MW-35	06/14/2005		0.14	UG/L	
Arsenic, total	MW-35	09/27/2005		0.15	UG/L	
Arsenic, total	MW-35	12/15/2005		0.14	UG/L	
Arsenic, total	MW-35	12/23/2013		0.12	UG/L	
Arsenic, total	MW-35	03/04/2014		0.11	UG/L	
Arsenic, total	MW-35	06/02/2014		0.12	UG/L	
Arsenic, total	MW-35	09/22/2014		0.11	UG/L	
Arsenic, total	MW-35	11/17/2014		0.12	UG/L	
Arsenic, total	MW-35	02/25/2015		0.11	UG/L	
Arsenic, total	MW-35	05/19/2015		0.11	UG/L	
Arsenic, total	MW-35	08/26/2015		0.11	UG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Arsenic, total	MW-35	11/10/2015		0.1	UG/L	
Arsenic, total	MW-35	02/22/2016		0.1	UG/L	
Arsenic, total	MW-35	05/16/2016		0.1	UG/L	
Arsenic, total	MW-35	08/31/2016		0.109	UG/L	
Arsenic, total	MW-35	11/15/2016		0.114	UG/L	
Arsenic, total	MW-35	02/22/2017		0.12	UG/L	
Arsenic, total	MW-35	05/24/2017		0.134	UG/L	
Arsenic, total	MW-35	08/30/2017		0.114	UG/L	
Arsenic, total	MW-35	11/15/2017		0.107	UG/L	
Arsenic, total	MW-35	02/20/2018		0.12	UG/L	
Arsenic, total	MW-35	05/17/2018		0.111	UG/L	
Arsenic, total	MW-35	08/22/2018		0.126	UG/L	
Arsenic, total	MW-35	11/12/2018		0.112	UG/L	
Barium, total	MW-13A	12/03/2013		0.003	MG/L	
Barium, total	MW-13A	03/04/2014		0.0029	MG/L	
Barium, total	MW-13A	06/02/2014		0.0029	MG/L	
Barium, total	MW-13A	09/22/2014		0.0027	MG/L	
Barium, total	MW-13A	11/17/2014		0.0026	MG/L	
Barium, total	MW-13A	02/23/2015		0.0024	MG/L	
Barium, total	MW-13A	05/19/2015		0.0023	MG/L	
Barium, total	MW-13A	08/26/2015		0.0033	MG/L	
Barium, total	MW-13A	11/10/2015		0.003	MG/L	
Barium, total	MW-13A	02/22/2016		0.0023	MG/L	
Barium, total	MW-13A	05/16/2016		0.003	MG/L	
Barium, total	MW-13A	08/31/2016		0.0029	MG/L	
Barium, total	MW-13A	11/14/2016		0.0028	MG/L	
Barium, total	MW-13A	02/22/2017		0.0028	MG/L	
Barium, total	MW-13A	05/24/2017		0.0025	MG/L	
Barium, total	MW-13A	08/30/2017		0.0025	MG/L	
Barium, total	MW-13A	11/13/2017		0.003	MG/L	
Barium, total	MW-13A	02/20/2018		0.0025	MG/L	
Barium, total	MW-13A	05/15/2018		0.0027	MG/L	
Barium, total	MW-13A	08/21/2018		0.0027	MG/L	
Barium, total	MW-13A	11/12/2018		0.0028	MG/L	
Barium, total	MW-13B	12/03/2013		0.0035	MG/L	
Barium, total	MW-13B	03/04/2014		0.0032	MG/L	
Barium, total	MW-13B	06/02/2014		0.0031	MG/L	
Barium, total	MW-13B	09/22/2014		0.0033	MG/L	
Barium, total	MW-13B	11/17/2014		0.0037	MG/L	
Barium, total	MW-13B	02/23/2015		0.0034	MG/L	
Barium, total	MW-13B	05/19/2015		0.0033	MG/L	
Barium, total	MW-13B	08/26/2015		0.0039	MG/L	
Barium, total	MW-13B	11/10/2015		0.0036	MG/L	
Barium, total	MW-13B	02/22/2016		0.0036	MG/L	
Barium, total	MW-13B	05/16/2016		0.0034	MG/L	
Barium, total	MW-13B	08/31/2016		0.0041	MG/L	
Barium, total	MW-13B	11/14/2016		0.0029	MG/L	
Barium, total	MW-13B	02/22/2017		0.0034	MG/L	
Barium, total	MW-13B	05/24/2017		0.0033	MG/L	
Barium, total	MW-13B	08/30/2017		0.0033	MG/L	
Barium, total	MW-13B	11/13/2017		0.0035	MG/L	
Barium, total	MW-13B	02/20/2018		0.0035	MG/L	
Barium, total	MW-13B	05/15/2018		0.0033	MG/L	
Barium, total	MW-13B	08/21/2018		0.0031	MG/L	
Barium, total	MW-13B	11/12/2018		0.0034	MG/L	
Barium, total	MW-16	09/05/2013		0.0041	MG/L	
Barium, total	MW-16	12/16/2013		0.0043	MG/L	
Barium, total	MW-16	03/05/2014		0.0036	MG/L	
Barium, total	MW-16	06/02/2014		0.0025	MG/L	
Barium, total	MW-16	09/22/2014		0.0033	MG/L	
Barium, total	MW-16	11/18/2014		0.0039	MG/L	
Barium, total	MW-16	02/23/2015		0.0036	MG/L	
Barium, total	MW-16	05/20/2015		0.0034	MG/L	
Barium, total	MW-16	08/26/2015		0.0038	MG/L	
Barium, total	MW-16	11/11/2015		0.0043	MG/L	
Barium, total	MW-16	02/24/2016		0.0027	MG/L	
Barium, total	MW-16	05/16/2016		0.0031	MG/L	
Barium, total	MW-16	08/31/2016		0.0042	MG/L	
Barium, total	MW-16	11/14/2016		0.0045	MG/L	
Barium, total	MW-16	02/22/2017		0.0027	MG/L	
Barium, total	MW-16	05/24/2017		0.0026	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Barium, total	MW-16	08/30/2017		0.0031	MG/L	
Barium, total	MW-16	11/13/2017		0.0035	MG/L	
Barium, total	MW-16	02/20/2018		0.0027	MG/L	
Barium, total	MW-16	05/17/2018		0.0032	MG/L	
Barium, total	MW-16	08/22/2018		0.0033	MG/L	
Barium, total	MW-16	11/12/2018		0.0038	MG/L	
Barium, total	MW-35	09/05/2013		0.0034	MG/L	
Barium, total	MW-35	12/16/2013		0.0031	MG/L	
Barium, total	MW-35	03/04/2014		0.003	MG/L	
Barium, total	MW-35	06/02/2014		0.0034	MG/L	
Barium, total	MW-35	09/22/2014		0.0034	MG/L	
Barium, total	MW-35	11/17/2014		0.0034	MG/L	
Barium, total	MW-35	02/25/2015		0.003	MG/L	
Barium, total	MW-35	05/19/2015		0.0031	MG/L	
Barium, total	MW-35	08/26/2015		0.0029	MG/L	
Barium, total	MW-35	11/10/2015		0.003	MG/L	
Barium, total	MW-35	02/22/2016		0.0031	MG/L	
Barium, total	MW-35	05/16/2016		0.0033	MG/L	
Barium, total	MW-35	08/31/2016		0.0029	MG/L	
Barium, total	MW-35	11/15/2016		0.0027	MG/L	
Barium, total	MW-35	02/22/2017		0.0031	MG/L	
Barium, total	MW-35	05/24/2017		0.0027	MG/L	
Barium, total	MW-35	08/30/2017		0.0028	MG/L	
Barium, total	MW-35	11/15/2017		0.0028	MG/L	
Barium, total	MW-35	02/20/2018		0.0026	MG/L	
Barium, total	MW-35	05/17/2018		0.0032	MG/L	
Barium, total	MW-35	08/22/2018		0.0033	MG/L	
Barium, total	MW-35	11/12/2018		0.0032	MG/L	
Beryllium, total	MW-13A	12/03/2013	ND	0.001	MG/L	
Beryllium, total	MW-13A	03/04/2014	ND	0.001	MG/L	
Beryllium, total	MW-13A	06/02/2014	ND	0.001	MG/L	
Beryllium, total	MW-13A	09/22/2014	ND	0.001	MG/L	
Beryllium, total	MW-13A	11/17/2014	ND	0.001	MG/L	
Beryllium, total	MW-13A	02/23/2015	ND	0.001	MG/L	
Beryllium, total	MW-13A	05/19/2015	ND	0.001	MG/L	
Beryllium, total	MW-13A	08/26/2015	ND	0.001	MG/L	
Beryllium, total	MW-13A	11/10/2015	ND	0.001	MG/L	
Beryllium, total	MW-13A	02/22/2016	ND	0.001	MG/L	
Beryllium, total	MW-13A	05/16/2016	ND	0.001	MG/L	
Beryllium, total	MW-13A	08/31/2016	ND	0.001	MG/L	
Beryllium, total	MW-13A	11/14/2016	ND	0.001	MG/L	
Beryllium, total	MW-13A	02/22/2017	ND	0.001	MG/L	
Beryllium, total	MW-13A	05/24/2017	ND	0.001	MG/L	
Beryllium, total	MW-13A	08/30/2017	ND	0.001	MG/L	
Beryllium, total	MW-13A	11/13/2017	ND	0.001	MG/L	
Beryllium, total	MW-13A	02/20/2018	ND	0.001	MG/L	
Beryllium, total	MW-13A	05/15/2018	ND	0.001	MG/L	
Beryllium, total	MW-13A	08/21/2018	ND	0.001	MG/L	
Beryllium, total	MW-13A	11/12/2018	ND	0.001	MG/L	
Beryllium, total	MW-13B	12/03/2013	ND	0.001	MG/L	
Beryllium, total	MW-13B	03/04/2014	ND	0.001	MG/L	
Beryllium, total	MW-13B	06/02/2014	ND	0.001	MG/L	
Beryllium, total	MW-13B	09/22/2014	ND	0.001	MG/L	
Beryllium, total	MW-13B	11/17/2014	ND	0.001	MG/L	
Beryllium, total	MW-13B	02/23/2015	ND	0.001	MG/L	
Beryllium, total	MW-13B	05/19/2015	ND	0.001	MG/L	
Beryllium, total	MW-13B	08/26/2015	ND	0.001	MG/L	
Beryllium, total	MW-13B	11/10/2015	ND	0.001	MG/L	
Beryllium, total	MW-13B	02/22/2016	ND	0.001	MG/L	
Beryllium, total	MW-13B	05/16/2016	ND	0.001	MG/L	
Beryllium, total	MW-13B	08/31/2016	ND	0.001	MG/L	
Beryllium, total	MW-13B	11/14/2016	ND	0.001	MG/L	
Beryllium, total	MW-13B	02/22/2017	ND	0.001	MG/L	
Beryllium, total	MW-13B	05/24/2017	ND	0.001	MG/L	
Beryllium, total	MW-13B	08/30/2017	ND	0.001	MG/L	
Beryllium, total	MW-13B	11/13/2017	ND	0.001	MG/L	
Beryllium, total	MW-13B	02/20/2018	ND	0.001	MG/L	
Beryllium, total	MW-13B	05/15/2018	ND	0.001	MG/L	
Beryllium, total	MW-13B	08/21/2018	ND	0.001	MG/L	
Beryllium, total	MW-13B	11/12/2018	ND	0.001	MG/L	
Beryllium, total	MW-16	09/05/2013	ND	0.001	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Beryllium, total	MW-16	12/16/2013	ND	0.001	MG/L	
Beryllium, total	MW-16	03/05/2014	ND	0.001	MG/L	
Beryllium, total	MW-16	06/02/2014	ND	0.001	MG/L	
Beryllium, total	MW-16	09/22/2014	ND	0.001	MG/L	
Beryllium, total	MW-16	11/18/2014	ND	0.001	MG/L	
Beryllium, total	MW-16	02/23/2015	ND	0.001	MG/L	
Beryllium, total	MW-16	05/20/2015	ND	0.001	MG/L	
Beryllium, total	MW-16	08/26/2015	ND	0.001	MG/L	
Beryllium, total	MW-16	11/11/2015	ND	0.001	MG/L	
Beryllium, total	MW-16	02/24/2016	ND	0.001	MG/L	
Beryllium, total	MW-16	05/16/2016	ND	0.001	MG/L	
Beryllium, total	MW-16	08/31/2016	ND	0.001	MG/L	
Beryllium, total	MW-16	11/14/2016	ND	0.001	MG/L	
Beryllium, total	MW-16	02/22/2017	ND	0.001	MG/L	
Beryllium, total	MW-16	05/24/2017	ND	0.001	MG/L	
Beryllium, total	MW-16	08/30/2017	ND	0.001	MG/L	
Beryllium, total	MW-16	11/13/2017	ND	0.001	MG/L	
Beryllium, total	MW-16	02/20/2018	ND	0.001	MG/L	
Beryllium, total	MW-16	05/17/2018	ND	0.001	MG/L	
Beryllium, total	MW-16	08/22/2018	ND	0.001	MG/L	
Beryllium, total	MW-16	11/12/2018	ND	0.001	MG/L	
Beryllium, total	MW-35	09/05/2013	ND	0.001	MG/L	
Beryllium, total	MW-35	12/16/2013	ND	0.001	MG/L	
Beryllium, total	MW-35	03/04/2014	ND	0.001	MG/L	
Beryllium, total	MW-35	06/02/2014	ND	0.001	MG/L	
Beryllium, total	MW-35	09/22/2014	ND	0.001	MG/L	
Beryllium, total	MW-35	11/17/2014	ND	0.001	MG/L	
Beryllium, total	MW-35	02/25/2015	ND	0.001	MG/L	
Beryllium, total	MW-35	05/19/2015	ND	0.001	MG/L	
Beryllium, total	MW-35	08/26/2015	ND	0.001	MG/L	
Beryllium, total	MW-35	11/10/2015	ND	0.001	MG/L	
Beryllium, total	MW-35	02/22/2016	ND	0.001	MG/L	
Beryllium, total	MW-35	05/16/2016	ND	0.001	MG/L	
Beryllium, total	MW-35	08/31/2016	ND	0.001	MG/L	
Beryllium, total	MW-35	11/15/2016	ND	0.001	MG/L	
Beryllium, total	MW-35	02/22/2017	ND	0.001	MG/L	
Beryllium, total	MW-35	05/24/2017	ND	0.001	MG/L	
Beryllium, total	MW-35	08/30/2017	ND	0.001	MG/L	
Beryllium, total	MW-35	11/15/2017	ND	0.001	MG/L	
Beryllium, total	MW-35	02/20/2018	ND	0.001	MG/L	
Beryllium, total	MW-35	05/17/2018	ND	0.001	MG/L	
Beryllium, total	MW-35	08/22/2018	ND	0.001	MG/L	
Beryllium, total	MW-35	11/12/2018	ND	0.001	MG/L	
Cadmium, total	MW-13A	12/03/2013	ND	0.0002	MG/L	
Cadmium, total	MW-13A	03/04/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13A	06/02/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13A	09/22/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13A	11/17/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13A	02/23/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13A	05/19/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13A	08/26/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13A	11/10/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13A	02/22/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13A	05/16/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13A	08/31/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13A	11/14/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13A	02/22/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13A	05/24/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13A	08/30/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13A	11/13/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13A	02/20/2018	ND	0.0002	MG/L	
Cadmium, total	MW-13A	05/15/2018	ND	0.0002	MG/L	
Cadmium, total	MW-13A	08/21/2018	ND	0.0003	MG/L	
Cadmium, total	MW-13A	11/12/2018	ND	0.0003	MG/L	
Cadmium, total	MW-13B	12/03/2013	ND	0.0002	MG/L	
Cadmium, total	MW-13B	03/04/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13B	06/02/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13B	09/22/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13B	11/17/2014	ND	0.0002	MG/L	
Cadmium, total	MW-13B	02/23/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13B	05/19/2015	ND	0.0002	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Cadmium, total	MW-13B	08/26/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13B	11/10/2015	ND	0.0002	MG/L	
Cadmium, total	MW-13B	02/22/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13B	05/16/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13B	08/31/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13B	11/14/2016	ND	0.0002	MG/L	
Cadmium, total	MW-13B	02/22/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13B	05/24/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13B	08/30/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13B	11/13/2017	ND	0.0002	MG/L	
Cadmium, total	MW-13B	02/20/2018	ND	0.0002	MG/L	
Cadmium, total	MW-13B	05/15/2018	ND	0.0002	MG/L	
Cadmium, total	MW-13B	08/21/2018	ND	0.0003	MG/L	
Cadmium, total	MW-13B	11/12/2018	ND	0.0003	MG/L	
Cadmium, total	MW-16	09/05/2013	ND	0.0002	MG/L	
Cadmium, total	MW-16	12/16/2013	ND	0.0002	MG/L	
Cadmium, total	MW-16	03/05/2014	ND	0.0002	MG/L	
Cadmium, total	MW-16	06/02/2014	ND	0.0002	MG/L	
Cadmium, total	MW-16	09/22/2014	ND	0.0002	MG/L	
Cadmium, total	MW-16	11/18/2014	ND	0.0002	MG/L	
Cadmium, total	MW-16	02/23/2015	ND	0.0002	MG/L	
Cadmium, total	MW-16	05/20/2015	ND	0.0002	MG/L	
Cadmium, total	MW-16	08/26/2015	ND	0.0002	MG/L	
Cadmium, total	MW-16	11/11/2015	ND	0.0002	MG/L	
Cadmium, total	MW-16	02/24/2016	ND	0.0002	MG/L	
Cadmium, total	MW-16	05/16/2016	ND	0.0002	MG/L	
Cadmium, total	MW-16	08/31/2016	ND	0.0002	MG/L	
Cadmium, total	MW-16	11/14/2016	ND	0.0002	MG/L	
Cadmium, total	MW-16	02/22/2017	ND	0.0002	MG/L	
Cadmium, total	MW-16	05/24/2017	ND	0.0002	MG/L	
Cadmium, total	MW-16	08/30/2017	ND	0.0002	MG/L	
Cadmium, total	MW-16	11/13/2017	ND	0.0002	MG/L	
Cadmium, total	MW-16	02/20/2018	ND	0.0002	MG/L	
Cadmium, total	MW-16	05/17/2018	ND	0.0002	MG/L	
Cadmium, total	MW-16	08/22/2018	ND	0.0003	MG/L	
Cadmium, total	MW-16	11/12/2018	ND	0.0003	MG/L	
Cadmium, total	MW-35	09/05/2013	ND	0.0002	MG/L	
Cadmium, total	MW-35	12/16/2013	ND	0.0002	MG/L	
Cadmium, total	MW-35	03/04/2014	ND	0.0002	MG/L	
Cadmium, total	MW-35	06/02/2014	ND	0.0002	MG/L	
Cadmium, total	MW-35	09/22/2014	ND	0.0002	MG/L	
Cadmium, total	MW-35	11/17/2014	ND	0.0002	MG/L	
Cadmium, total	MW-35	02/25/2015	ND	0.0002	MG/L	
Cadmium, total	MW-35	05/19/2015	ND	0.0002	MG/L	
Cadmium, total	MW-35	08/26/2015	ND	0.0002	MG/L	
Cadmium, total	MW-35	11/10/2015	ND	0.0002	MG/L	
Cadmium, total	MW-35	02/22/2016	ND	0.0002	MG/L	
Cadmium, total	MW-35	05/16/2016	ND	0.0002	MG/L	
Cadmium, total	MW-35	08/31/2016	ND	0.0002	MG/L	
Cadmium, total	MW-35	11/15/2016	ND	0.0002	MG/L	
Cadmium, total	MW-35	02/22/2017	ND	0.0002	MG/L	
Cadmium, total	MW-35	05/24/2017	ND	0.0002	MG/L	
Cadmium, total	MW-35	08/30/2017	ND	0.0002	MG/L	
Cadmium, total	MW-35	11/15/2017	ND	0.0002	MG/L	
Cadmium, total	MW-35	02/20/2018	ND	0.0002	MG/L	
Cadmium, total	MW-35	05/17/2018	ND	0.0002	MG/L	
Cadmium, total	MW-35	08/22/2018	ND	0.0003	MG/L	
Cadmium, total	MW-35	11/12/2018	ND	0.0003	MG/L	
Calcium, dissolved	MW-13A	03/22/2005		15.7	MG/L	
Calcium, dissolved	MW-13A	06/15/2005		14.2	MG/L	
Calcium, dissolved	MW-13A	09/27/2005		14.2	MG/L	
Calcium, dissolved	MW-13A	12/15/2005		15.1	MG/L	
Calcium, dissolved	MW-13A	03/28/2006		16	MG/L	
Calcium, dissolved	MW-13A	06/21/2006		16	MG/L	
Calcium, dissolved	MW-13A	09/26/2006		15	MG/L	
Calcium, dissolved	MW-13A	12/13/2006		15	MG/L	
Calcium, dissolved	MW-13A	03/27/2007		15	MG/L	
Calcium, dissolved	MW-13A	06/19/2007		16	MG/L	
Calcium, dissolved	MW-13A	09/19/2007		16	MG/L	
Calcium, dissolved	MW-13A	12/19/2007		15	MG/L	
Calcium, dissolved	MW-13A	03/25/2008		16	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Calcium, dissolved	MW-13A	06/18/2008		16	MG/L	
Calcium, dissolved	MW-13A	09/17/2008		15	MG/L	
Calcium, dissolved	MW-13A	12/17/2008		16	MG/L	
Calcium, dissolved	MW-13A	03/24/2009		15	MG/L	
Calcium, dissolved	MW-13A	06/17/2009		17	MG/L	
Calcium, dissolved	MW-13A	09/10/2009		15	MG/L	
Calcium, dissolved	MW-13A	12/03/2009		15	MG/L	
Calcium, dissolved	MW-13A	03/25/2010		16	MG/L	
Calcium, dissolved	MW-13A	06/23/2010		15	MG/L	
Calcium, dissolved	MW-13A	09/23/2010		15	MG/L	
Calcium, dissolved	MW-13A	12/08/2010		16	MG/L	
Calcium, dissolved	MW-13A	03/30/2011		16	MG/L	
Calcium, dissolved	MW-13A	06/06/2011		16	MG/L	
Calcium, dissolved	MW-13A	09/27/2011		16	MG/L	
Calcium, dissolved	MW-13A	12/14/2011		16	MG/L	
Calcium, dissolved	MW-13A	03/21/2012		16	MG/L	
Calcium, dissolved	MW-13A	06/08/2012		15	MG/L	
Calcium, dissolved	MW-13A	09/26/2012		15	MG/L	
Calcium, dissolved	MW-13A	12/03/2012		16	MG/L	
Calcium, dissolved	MW-13A	03/11/2013		16	MG/L	
Calcium, dissolved	MW-13A	06/05/2013		16	MG/L	
Calcium, dissolved	MW-13A	12/03/2013		16	MG/L	
Calcium, dissolved	MW-13A	03/04/2014		16	MG/L	
Calcium, dissolved	MW-13A	06/02/2014		16	MG/L	
Calcium, dissolved	MW-13A	09/22/2014		15	MG/L	
Calcium, dissolved	MW-13A	11/17/2014		15	MG/L	
Calcium, dissolved	MW-13A	02/23/2015		15	MG/L	
Calcium, dissolved	MW-13A	05/19/2015		16	MG/L	
Calcium, dissolved	MW-13A	08/26/2015		15	MG/L	
Calcium, dissolved	MW-13A	11/10/2015		15	MG/L	
Calcium, dissolved	MW-13A	02/22/2016		16	MG/L	
Calcium, dissolved	MW-13A	05/16/2016		15	MG/L	
Calcium, dissolved	MW-13A	08/31/2016		17	MG/L	
Calcium, dissolved	MW-13A	11/14/2016		16	MG/L	
Calcium, dissolved	MW-13A	02/22/2017		17	MG/L	
Calcium, dissolved	MW-13A	05/24/2017		14	MG/L	
Calcium, dissolved	MW-13A	08/30/2017		15	MG/L	
Calcium, dissolved	MW-13A	11/13/2017		15	MG/L	
Calcium, dissolved	MW-13A	02/20/2018		14	MG/L	
Calcium, dissolved	MW-13A	05/15/2018		15	MG/L	
Calcium, dissolved	MW-13A	08/21/2018		15	MG/L	
Calcium, dissolved	MW-13A	11/12/2018		15	MG/L	
Calcium, dissolved	MW-13B	03/22/2005		16.9	MG/L	
Calcium, dissolved	MW-13B	06/15/2005		16	MG/L	
Calcium, dissolved	MW-13B	09/27/2005		17.1	MG/L	
Calcium, dissolved	MW-13B	12/15/2005		16.1	MG/L	
Calcium, dissolved	MW-13B	03/29/2006		17	MG/L	
Calcium, dissolved	MW-13B	06/21/2006		17	MG/L	
Calcium, dissolved	MW-13B	09/26/2006		16	MG/L	
Calcium, dissolved	MW-13B	12/13/2006		17	MG/L	
Calcium, dissolved	MW-13B	03/27/2007		16	MG/L	
Calcium, dissolved	MW-13B	06/19/2007		16	MG/L	
Calcium, dissolved	MW-13B	09/18/2007		17	MG/L	
Calcium, dissolved	MW-13B	12/19/2007		15	MG/L	
Calcium, dissolved	MW-13B	03/25/2008		16	MG/L	
Calcium, dissolved	MW-13B	06/18/2008		17	MG/L	
Calcium, dissolved	MW-13B	09/17/2008		16	MG/L	
Calcium, dissolved	MW-13B	12/16/2008		16	MG/L	
Calcium, dissolved	MW-13B	03/24/2009		16	MG/L	
Calcium, dissolved	MW-13B	06/17/2009		17	MG/L	
Calcium, dissolved	MW-13B	09/10/2009		16	MG/L	
Calcium, dissolved	MW-13B	12/03/2009		16	MG/L	
Calcium, dissolved	MW-13B	03/25/2010		17	MG/L	
Calcium, dissolved	MW-13B	06/23/2010		16	MG/L	
Calcium, dissolved	MW-13B	09/23/2010		16	MG/L	
Calcium, dissolved	MW-13B	12/08/2010		16	MG/L	
Calcium, dissolved	MW-13B	03/30/2011		16	MG/L	
Calcium, dissolved	MW-13B	06/06/2011		16	MG/L	
Calcium, dissolved	MW-13B	09/27/2011		16	MG/L	
Calcium, dissolved	MW-13B	12/14/2011		16	MG/L	
Calcium, dissolved	MW-13B	03/21/2012		16	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Calcium, dissolved	MW-13B	06/08/2012		16	MG/L	
Calcium, dissolved	MW-13B	09/26/2012		16	MG/L	
Calcium, dissolved	MW-13B	12/03/2012		17	MG/L	
Calcium, dissolved	MW-13B	03/11/2013		17	MG/L	
Calcium, dissolved	MW-13B	06/05/2013		17	MG/L	
Calcium, dissolved	MW-13B	12/03/2013		17	MG/L	
Calcium, dissolved	MW-13B	03/04/2014		17	MG/L	
Calcium, dissolved	MW-13B	06/02/2014		16	MG/L	
Calcium, dissolved	MW-13B	09/22/2014		15	MG/L	
Calcium, dissolved	MW-13B	11/17/2014		16	MG/L	
Calcium, dissolved	MW-13B	02/23/2015		17	MG/L	
Calcium, dissolved	MW-13B	05/19/2015		17	MG/L	
Calcium, dissolved	MW-13B	08/26/2015		16	MG/L	
Calcium, dissolved	MW-13B	11/10/2015		17	MG/L	
Calcium, dissolved	MW-13B	02/22/2016		18	MG/L	
Calcium, dissolved	MW-13B	05/16/2016		16	MG/L	
Calcium, dissolved	MW-13B	08/31/2016		18	MG/L	
Calcium, dissolved	MW-13B	11/14/2016		17	MG/L	
Calcium, dissolved	MW-13B	02/22/2017		18	MG/L	
Calcium, dissolved	MW-13B	05/24/2017		14	MG/L	
Calcium, dissolved	MW-13B	08/30/2017		17	MG/L	
Calcium, dissolved	MW-13B	11/13/2017		17	MG/L	
Calcium, dissolved	MW-13B	02/20/2018		16	MG/L	
Calcium, dissolved	MW-13B	05/15/2018		17	MG/L	
Calcium, dissolved	MW-13B	08/21/2018		18	MG/L	
Calcium, dissolved	MW-13B	11/12/2018		17	MG/L	
Calcium, dissolved	MW-16	03/24/2009		12	MG/L	
Calcium, dissolved	MW-16	06/16/2009		10	MG/L	
Calcium, dissolved	MW-16	09/09/2009		11	MG/L	
Calcium, dissolved	MW-16	12/03/2009		14	MG/L	
Calcium, dissolved	MW-16	03/25/2010		9.6	MG/L	
Calcium, dissolved	MW-16	06/24/2010		12	MG/L	
Calcium, dissolved	MW-16	09/24/2010		13	MG/L	
Calcium, dissolved	MW-16	12/09/2010		13	MG/L	
Calcium, dissolved	MW-16	03/30/2011		9.8	MG/L	
Calcium, dissolved	MW-16	06/07/2011		9.7	MG/L	
Calcium, dissolved	MW-16	09/27/2011		12	MG/L	
Calcium, dissolved	MW-16	12/13/2011		11	MG/L	
Calcium, dissolved	MW-16	03/21/2012		8.9	MG/L	
Calcium, dissolved	MW-16	06/08/2012		9.1	MG/L	
Calcium, dissolved	MW-16	09/27/2012		11	MG/L	
Calcium, dissolved	MW-16	12/04/2012		11	MG/L	
Calcium, dissolved	MW-16	03/12/2013		10	MG/L	
Calcium, dissolved	MW-16	06/04/2013		10	MG/L	
Calcium, dissolved	MW-16	09/05/2013		11	MG/L	
Calcium, dissolved	MW-16	12/16/2013		11	MG/L	
Calcium, dissolved	MW-16	03/05/2014		9.8	MG/L	
Calcium, dissolved	MW-16	06/02/2014		8.8	MG/L	
Calcium, dissolved	MW-16	09/22/2014		9.9	MG/L	
Calcium, dissolved	MW-16	11/18/2014		11	MG/L	
Calcium, dissolved	MW-16	02/23/2015		9.5	MG/L	
Calcium, dissolved	MW-16	05/20/2015		10	MG/L	
Calcium, dissolved	MW-16	08/26/2015		9.8	MG/L	
Calcium, dissolved	MW-16	11/11/2015		12	MG/L	
Calcium, dissolved	MW-16	02/24/2016		7.7	MG/L	
Calcium, dissolved	MW-16	05/16/2016		8.4	MG/L	
Calcium, dissolved	MW-16	08/31/2016		12	MG/L	
Calcium, dissolved	MW-16	11/14/2016		9.6	MG/L	
Calcium, dissolved	MW-16	02/22/2017		8.4	MG/L	
Calcium, dissolved	MW-16	05/24/2017		7.6	MG/L	
Calcium, dissolved	MW-16	08/30/2017		9.2	MG/L	
Calcium, dissolved	MW-16	11/13/2017		8.9	MG/L	
Calcium, dissolved	MW-16	02/20/2018		7.5	MG/L	
Calcium, dissolved	MW-16	05/17/2018		7.9	MG/L	
Calcium, dissolved	MW-16	08/22/2018		8.8	MG/L	
Calcium, dissolved	MW-16	11/12/2018		9.7	MG/L	
Calcium, dissolved	MW-35	03/22/2005		13.9	MG/L	
Calcium, dissolved	MW-35	06/14/2005		12.9	MG/L	
Calcium, dissolved	MW-35	09/27/2005		14.8	MG/L	
Calcium, dissolved	MW-35	12/15/2005		13.2	MG/L	
Calcium, dissolved	MW-35	03/28/2006		14	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Calcium, dissolved	MW-35	06/21/2006		14	MG/L	
Calcium, dissolved	MW-35	09/26/2006		13	MG/L	
Calcium, dissolved	MW-35	12/12/2006		14	MG/L	
Calcium, dissolved	MW-35	03/27/2007		13	MG/L	
Calcium, dissolved	MW-35	06/20/2007		14	MG/L	
Calcium, dissolved	MW-35	09/18/2007		14	MG/L	
Calcium, dissolved	MW-35	12/20/2007		13	MG/L	
Calcium, dissolved	MW-35	03/25/2008		13	MG/L	
Calcium, dissolved	MW-35	06/18/2008		13	MG/L	
Calcium, dissolved	MW-35	09/18/2008		13	MG/L	
Calcium, dissolved	MW-35	12/19/2008		12	MG/L	
Calcium, dissolved	MW-35	03/24/2009		13	MG/L	
Calcium, dissolved	MW-35	06/16/2009		13	MG/L	
Calcium, dissolved	MW-35	09/10/2009		12	MG/L	
Calcium, dissolved	MW-35	12/03/2009		13	MG/L	
Calcium, dissolved	MW-35	03/25/2010		13	MG/L	
Calcium, dissolved	MW-35	06/23/2010		13	MG/L	
Calcium, dissolved	MW-35	09/23/2010		13	MG/L	
Calcium, dissolved	MW-35	12/09/2010		14	MG/L	
Calcium, dissolved	MW-35	03/30/2011		14	MG/L	
Calcium, dissolved	MW-35	06/06/2011		13	MG/L	
Calcium, dissolved	MW-35	09/26/2011		14	MG/L	
Calcium, dissolved	MW-35	12/13/2011		14	MG/L	
Calcium, dissolved	MW-35	03/21/2012		14	MG/L	
Calcium, dissolved	MW-35	06/06/2012		13	MG/L	
Calcium, dissolved	MW-35	09/26/2012		13	MG/L	
Calcium, dissolved	MW-35	12/04/2012		14	MG/L	
Calcium, dissolved	MW-35	03/13/2013		14	MG/L	
Calcium, dissolved	MW-35	06/06/2013		13	MG/L	
Calcium, dissolved	MW-35	09/05/2013		13	MG/L	
Calcium, dissolved	MW-35	12/16/2013		14	MG/L	
Calcium, dissolved	MW-35	03/04/2014		14	MG/L	
Calcium, dissolved	MW-35	06/02/2014		14	MG/L	
Calcium, dissolved	MW-35	09/22/2014		13	MG/L	
Calcium, dissolved	MW-35	11/17/2014		14	MG/L	
Calcium, dissolved	MW-35	02/25/2015		15	MG/L	
Calcium, dissolved	MW-35	05/19/2015		13	MG/L	
Calcium, dissolved	MW-35	08/26/2015		13	MG/L	
Calcium, dissolved	MW-35	11/10/2015		15	MG/L	
Calcium, dissolved	MW-35	02/22/2016		15	MG/L	
Calcium, dissolved	MW-35	05/16/2016		14	MG/L	
Calcium, dissolved	MW-35	08/31/2016		15	MG/L	
Calcium, dissolved	MW-35	11/15/2016		14	MG/L	
Calcium, dissolved	MW-35	02/22/2017		15	MG/L	
Calcium, dissolved	MW-35	05/24/2017		13	MG/L	
Calcium, dissolved	MW-35	08/30/2017		14	MG/L	
Calcium, dissolved	MW-35	11/15/2017		13	MG/L	
Calcium, dissolved	MW-35	02/20/2018		13	MG/L	
Calcium, dissolved	MW-35	05/17/2018		14	MG/L	
Calcium, dissolved	MW-35	08/22/2018		14	MG/L	
Calcium, dissolved	MW-35	11/12/2018		15	MG/L	
Chloride	MW-13A	03/22/2005		2.6	MG/L	
Chloride	MW-13A	06/15/2005		1.9	MG/L	
Chloride	MW-13A	09/27/2005		2.4	MG/L	
Chloride	MW-13A	12/15/2005		2.1	MG/L	
Chloride	MW-13A	03/28/2006		3	MG/L	
Chloride	MW-13A	06/21/2006		2.4	MG/L	
Chloride	MW-13A	09/26/2006		2.6	MG/L	
Chloride	MW-13A	12/13/2006		3	MG/L	
Chloride	MW-13A	03/27/2007		2.8	MG/L	
Chloride	MW-13A	06/19/2007		2.6	MG/L	
Chloride	MW-13A	09/19/2007		2.6	MG/L	
Chloride	MW-13A	12/19/2007		2.6	MG/L	
Chloride	MW-13A	03/25/2008		2.5	MG/L	
Chloride	MW-13A	06/18/2008		2.6	MG/L	
Chloride	MW-13A	09/17/2008		2.5	MG/L	
Chloride	MW-13A	12/17/2008		3.1	MG/L	
Chloride	MW-13A	03/24/2009		2.7	MG/L	
Chloride	MW-13A	06/17/2009		2.4	MG/L	
Chloride	MW-13A	09/10/2009		2.1	MG/L	
Chloride	MW-13A	12/03/2009		3.4	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Chloride	MW-13A	03/25/2010		2.2	MG/L	
Chloride	MW-13A	06/23/2010		2.6	MG/L	
Chloride	MW-13A	09/23/2010		2.8	MG/L	
Chloride	MW-13A	12/08/2010		2.9	MG/L	
Chloride	MW-13A	03/30/2011		2.9	MG/L	
Chloride	MW-13A	06/06/2011		3	MG/L	
Chloride	MW-13A	09/27/2011		3.8	MG/L	
Chloride	MW-13A	12/14/2011		4.4	MG/L	
Chloride	MW-13A	03/21/2012		2.7	MG/L	
Chloride	MW-13A	06/08/2012		3	MG/L	
Chloride	MW-13A	09/26/2012		2.6	MG/L	
Chloride	MW-13A	12/03/2012		1.8	MG/L	
Chloride	MW-13A	03/11/2013		3	MG/L	
Chloride	MW-13A	06/05/2013		1.7	MG/L	
Chloride	MW-13A	12/03/2013		1.7	MG/L	
Chloride	MW-13A	03/04/2014		1.7	MG/L	
Chloride	MW-13A	06/02/2014		2	MG/L	
Chloride	MW-13A	09/22/2014		1.7	MG/L	
Chloride	MW-13A	11/17/2014		1.9	MG/L	
Chloride	MW-13A	02/23/2015		1.8	MG/L	
Chloride	MW-13A	05/19/2015		1.9	MG/L	
Chloride	MW-13A	08/26/2015		2.1	MG/L	
Chloride	MW-13A	11/10/2015		1.9	MG/L	
Chloride	MW-13A	02/22/2016		1.9	MG/L	
Chloride	MW-13A	05/16/2016		1.9	MG/L	
Chloride	MW-13A	08/31/2016		1.9	MG/L	
Chloride	MW-13A	11/14/2016		1.8	MG/L	
Chloride	MW-13A	02/22/2017		2	MG/L	
Chloride	MW-13A	05/24/2017		1.9	MG/L	
Chloride	MW-13A	08/30/2017		2.4	MG/L	
Chloride	MW-13A	11/13/2017		1.7	MG/L	
Chloride	MW-13A	02/20/2018		2.1	MG/L	
Chloride	MW-13A	05/15/2018		1.8	MG/L	
Chloride	MW-13A	08/21/2018		1.8	MG/L	
Chloride	MW-13A	11/12/2018		1.9	MG/L	
Chloride	MW-13B	03/22/2005		3	MG/L	
Chloride	MW-13B	06/15/2005		2.3	MG/L	
Chloride	MW-13B	09/27/2005		2.8	MG/L	
Chloride	MW-13B	12/15/2005		2.4	MG/L	
Chloride	MW-13B	03/29/2006		3.2	MG/L	
Chloride	MW-13B	06/21/2006		2.9	MG/L	
Chloride	MW-13B	09/26/2006		2.7	MG/L	
Chloride	MW-13B	12/13/2006		3.3	MG/L	
Chloride	MW-13B	03/27/2007		3	MG/L	
Chloride	MW-13B	06/19/2007		2.8	MG/L	
Chloride	MW-13B	09/18/2007		2.8	MG/L	
Chloride	MW-13B	12/19/2007		2.8	MG/L	
Chloride	MW-13B	03/25/2008		2.7	MG/L	
Chloride	MW-13B	06/18/2008		2.8	MG/L	
Chloride	MW-13B	09/17/2008		2.7	MG/L	
Chloride	MW-13B	12/16/2008		3.2	MG/L	
Chloride	MW-13B	03/24/2009		2.6	MG/L	
Chloride	MW-13B	06/17/2009		3	MG/L	
Chloride	MW-13B	09/10/2009		2.3	MG/L	
Chloride	MW-13B	12/03/2009		2.9	MG/L	
Chloride	MW-13B	03/25/2010		2.5	MG/L	
Chloride	MW-13B	06/23/2010		2.8	MG/L	
Chloride	MW-13B	09/23/2010		3	MG/L	
Chloride	MW-13B	12/08/2010		2.5	MG/L	
Chloride	MW-13B	03/30/2011		3.1	MG/L	
Chloride	MW-13B	06/06/2011		3.2	MG/L	
Chloride	MW-13B	09/27/2011		3.7	MG/L	
Chloride	MW-13B	12/14/2011		3.4	MG/L	
Chloride	MW-13B	03/21/2012		2.8	MG/L	
Chloride	MW-13B	06/08/2012		3.4	MG/L	
Chloride	MW-13B	09/26/2012		2.9	MG/L	
Chloride	MW-13B	12/03/2012		2.1	MG/L	
Chloride	MW-13B	03/11/2013		2.1	MG/L	
Chloride	MW-13B	06/05/2013		2	MG/L	
Chloride	MW-13B	12/03/2013		1.9	MG/L	
Chloride	MW-13B	03/04/2014		1.9	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Chloride	MW-13B	06/02/2014		2.1	MG/L	
Chloride	MW-13B	09/22/2014		1.9	MG/L	
Chloride	MW-13B	11/17/2014		2.1	MG/L	
Chloride	MW-13B	02/23/2015		2	MG/L	
Chloride	MW-13B	05/19/2015		2	MG/L	
Chloride	MW-13B	08/26/2015		2.1	MG/L	
Chloride	MW-13B	11/10/2015		2	MG/L	
Chloride	MW-13B	02/22/2016		2	MG/L	
Chloride	MW-13B	05/16/2016		2	MG/L	
Chloride	MW-13B	08/31/2016		2	MG/L	
Chloride	MW-13B	11/14/2016		1.9	MG/L	
Chloride	MW-13B	02/22/2017		2	MG/L	
Chloride	MW-13B	05/24/2017		2	MG/L	
Chloride	MW-13B	08/30/2017		2.2	MG/L	
Chloride	MW-13B	11/13/2017		1.9	MG/L	
Chloride	MW-13B	02/20/2018		2.2	MG/L	
Chloride	MW-13B	05/15/2018		1.9	MG/L	
Chloride	MW-13B	08/21/2018		1.9	MG/L	
Chloride	MW-13B	11/12/2018		2	MG/L	
Chloride	MW-16	03/24/2009		2.1	MG/L	
Chloride	MW-16	06/16/2009		2.2	MG/L	
Chloride	MW-16	09/09/2009		1.3	MG/L	
Chloride	MW-16	12/03/2009		1.9	MG/L	
Chloride	MW-16	03/25/2010		1.7	MG/L	
Chloride	MW-16	06/24/2010		1.6	MG/L	
Chloride	MW-16	09/24/2010		1.7	MG/L	
Chloride	MW-16	12/09/2010		2.3	MG/L	
Chloride	MW-16	03/30/2011		3.6	MG/L	
Chloride	MW-16	06/07/2011		2.4	MG/L	
Chloride	MW-16	09/27/2011		3.9	MG/L	
Chloride	MW-16	12/13/2011		2.1	MG/L	
Chloride	MW-16	03/21/2012		2.2	MG/L	
Chloride	MW-16	06/08/2012		2.8	MG/L	
Chloride	MW-16	09/27/2012		1	MG/L	
Chloride	MW-16	12/04/2012		1.3	MG/L	
Chloride	MW-16	03/12/2013		1.3	MG/L	
Chloride	MW-16	06/04/2013		1.3	MG/L	
Chloride	MW-16	09/05/2013		1.3	MG/L	
Chloride	MW-16	12/16/2013	ND	1	MG/L	
Chloride	MW-16	03/05/2014		1	MG/L	
Chloride	MW-16	06/02/2014		1.4	MG/L	
Chloride	MW-16	09/22/2014		1.1	MG/L	
Chloride	MW-16	11/18/2014		1.5	MG/L	
Chloride	MW-16	02/23/2015		1.2	MG/L	
Chloride	MW-16	05/20/2015		1.4	MG/L	
Chloride	MW-16	08/26/2015		1.1	MG/L	
Chloride	MW-16	11/11/2015	ND	1	MG/L	
Chloride	MW-16	02/24/2016		1.2	MG/L	
Chloride	MW-16	05/16/2016		1.2	MG/L	
Chloride	MW-16	08/31/2016		1.1	MG/L	
Chloride	MW-16	11/14/2016		1	MG/L	
Chloride	MW-16	02/22/2017		1.3	MG/L	
Chloride	MW-16	05/24/2017		1.2	MG/L	
Chloride	MW-16	08/30/2017	ND	1	MG/L	
Chloride	MW-16	11/13/2017	ND	1	MG/L	
Chloride	MW-16	02/20/2018		1.6	MG/L	
Chloride	MW-16	05/17/2018		1.1	MG/L	
Chloride	MW-16	08/22/2018		1.7	MG/L	
Chloride	MW-16	11/12/2018		1.4	MG/L	
Chloride	MW-35	03/22/2005		2.2	MG/L	
Chloride	MW-35	06/14/2005		2.2	MG/L	
Chloride	MW-35	09/27/2005		2.6	MG/L	
Chloride	MW-35	12/15/2005		1.9	MG/L	
Chloride	MW-35	03/28/2006		2.9	MG/L	
Chloride	MW-35	06/21/2006		2.8	MG/L	
Chloride	MW-35	09/26/2006		2.5	MG/L	
Chloride	MW-35	12/12/2006		3	MG/L	
Chloride	MW-35	03/27/2007		2.8	MG/L	
Chloride	MW-35	06/20/2007		2.6	MG/L	
Chloride	MW-35	09/18/2007		2.4	MG/L	
Chloride	MW-35	12/20/2007		2.3	MG/L	

* = outlier for that consistituent/well
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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Chloride	MW-35	03/25/2008		2.4	MG/L	
Chloride	MW-35	06/18/2008		2.6	MG/L	
Chloride	MW-35	09/18/2008		2.4	MG/L	
Chloride	MW-35	12/19/2008		2.9	MG/L	
Chloride	MW-35	03/24/2009		2.3	MG/L	
Chloride	MW-35	06/16/2009		2.4	MG/L	
Chloride	MW-35	09/10/2009		2.5	MG/L	
Chloride	MW-35	12/03/2009		2.8	MG/L	
Chloride	MW-35	03/25/2010		2	MG/L	
Chloride	MW-35	06/23/2010		2.1	MG/L	
Chloride	MW-35	09/23/2010		2.6	MG/L	
Chloride	MW-35	12/09/2010		2.7	MG/L	
Chloride	MW-35	03/30/2011		3.2	MG/L	
Chloride	MW-35	06/06/2011		2.3	MG/L	
Chloride	MW-35	09/26/2011		3	MG/L	
Chloride	MW-35	12/13/2011		3.2	MG/L	
Chloride	MW-35	03/21/2012		2.9	MG/L	
Chloride	MW-35	06/06/2012		1.3	MG/L	
Chloride	MW-35	09/26/2012		2.4	MG/L	
Chloride	MW-35	12/04/2012		1.9	MG/L	
Chloride	MW-35	03/13/2013		1.8	MG/L	
Chloride	MW-35	06/06/2013		1.7	MG/L	
Chloride	MW-35	09/05/2013		1.8	MG/L	
Chloride	MW-35	12/16/2013		1.7	MG/L	
Chloride	MW-35	03/04/2014		1.8	MG/L	
Chloride	MW-35	06/02/2014		2	MG/L	
Chloride	MW-35	09/22/2014		1.7	MG/L	
Chloride	MW-35	11/17/2014		1.8	MG/L	
Chloride	MW-35	02/25/2015		1.8	MG/L	
Chloride	MW-35	05/19/2015		1.9	MG/L	
Chloride	MW-35	08/26/2015		1.9	MG/L	
Chloride	MW-35	11/10/2015		1.8	MG/L	
Chloride	MW-35	02/22/2016		2.1	MG/L	
Chloride	MW-35	05/16/2016		1.9	MG/L	
Chloride	MW-35	08/31/2016		1.9	MG/L	
Chloride	MW-35	11/15/2016		1.8	MG/L	
Chloride	MW-35	02/22/2017		1.9	MG/L	
Chloride	MW-35	05/24/2017		1.9	MG/L	
Chloride	MW-35	08/30/2017		1.6	MG/L	
Chloride	MW-35	11/15/2017		1.7	MG/L	
Chloride	MW-35	02/20/2018		2.1	MG/L	
Chloride	MW-35	05/17/2018		1.9	MG/L	
Chloride	MW-35	08/22/2018		2.1	MG/L	
Chloride	MW-35	11/12/2018		1.9	MG/L	
Chromium, total	MW-13A	12/03/2013	ND	0.003	MG/L	
Chromium, total	MW-13A	03/04/2014	ND	0.003	MG/L	
Chromium, total	MW-13A	06/02/2014	ND	0.003	MG/L	
Chromium, total	MW-13A	09/22/2014	ND	0.003	MG/L	
Chromium, total	MW-13A	11/17/2014	ND	0.003	MG/L	
Chromium, total	MW-13A	02/23/2015	ND	0.003	MG/L	
Chromium, total	MW-13A	05/19/2015	ND	0.003	MG/L	
Chromium, total	MW-13A	08/26/2015	ND	0.003	MG/L	
Chromium, total	MW-13A	11/10/2015	ND	0.003	MG/L	
Chromium, total	MW-13A	02/22/2016	ND	0.003	MG/L	
Chromium, total	MW-13A	05/16/2016	ND	0.003	MG/L	
Chromium, total	MW-13A	08/31/2016	ND	0.003	MG/L	
Chromium, total	MW-13A	11/14/2016	ND	0.003	MG/L	
Chromium, total	MW-13A	02/22/2017	ND	0.003	MG/L	
Chromium, total	MW-13A	05/24/2017	ND	0.003	MG/L	
Chromium, total	MW-13A	08/30/2017	ND	0.003	MG/L	
Chromium, total	MW-13A	11/13/2017	ND	0.003	MG/L	
Chromium, total	MW-13A	02/20/2018	ND	0.003	MG/L	
Chromium, total	MW-13A	05/15/2018	ND	0.003	MG/L	
Chromium, total	MW-13A	08/21/2018	ND	0.003	MG/L	
Chromium, total	MW-13A	11/12/2018	ND	0.003	MG/L	
Chromium, total	MW-13B	12/03/2013		0.003	MG/L	
Chromium, total	MW-13B	03/04/2014		0.0032	MG/L	
Chromium, total	MW-13B	06/02/2014		0.0033	MG/L	
Chromium, total	MW-13B	09/22/2014	ND	0.003	MG/L	
Chromium, total	MW-13B	11/17/2014		0.0032	MG/L	
Chromium, total	MW-13B	02/23/2015	ND	0.003	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Chromium, total	MW-13B	05/19/2015		0.003	MG/L	
Chromium, total	MW-13B	08/26/2015	ND	0.003	MG/L	
Chromium, total	MW-13B	11/10/2015		0.0033	MG/L	
Chromium, total	MW-13B	02/22/2016		0.0033	MG/L	
Chromium, total	MW-13B	05/16/2016		0.0032	MG/L	
Chromium, total	MW-13B	08/31/2016		0.0031	MG/L	
Chromium, total	MW-13B	11/14/2016		0.0036	MG/L	
Chromium, total	MW-13B	02/22/2017		0.0033	MG/L	
Chromium, total	MW-13B	05/24/2017	ND	0.003	MG/L	
Chromium, total	MW-13B	08/30/2017		0.0031	MG/L	
Chromium, total	MW-13B	11/13/2017		0.0034	MG/L	
Chromium, total	MW-13B	02/20/2018		0.0031	MG/L	
Chromium, total	MW-13B	05/15/2018	ND	0.003	MG/L	
Chromium, total	MW-13B	08/21/2018		0.0031	MG/L	
Chromium, total	MW-13B	11/12/2018		0.003	MG/L	
Chromium, total	MW-16	09/05/2013		0.0063	MG/L	
Chromium, total	MW-16	12/16/2013		0.008	MG/L	
Chromium, total	MW-16	03/05/2014		0.0085	MG/L	
Chromium, total	MW-16	06/02/2014		0.0087	MG/L	
Chromium, total	MW-16	09/22/2014		0.0073	MG/L	
Chromium, total	MW-16	11/18/2014		0.0077	MG/L	
Chromium, total	MW-16	02/23/2015		0.009	MG/L	
Chromium, total	MW-16	05/20/2015		0.007	MG/L	
Chromium, total	MW-16	08/26/2015		0.0064	MG/L	
Chromium, total	MW-16	11/11/2015		0.0071	MG/L	
Chromium, total	MW-16	02/24/2016		0.0077	MG/L	
Chromium, total	MW-16	05/16/2016		0.0066	MG/L	
Chromium, total	MW-16	08/31/2016		0.0092	MG/L	
Chromium, total	MW-16	11/14/2016		0.0085	MG/L	
Chromium, total	MW-16	02/22/2017		0.0088	MG/L	
Chromium, total	MW-16	05/24/2017		0.0079	MG/L	
Chromium, total	MW-16	08/30/2017		0.0075	MG/L	
Chromium, total	MW-16	11/13/2017		0.0073	MG/L	
Chromium, total	MW-16	02/20/2018		0.0072	MG/L	
Chromium, total	MW-16	05/17/2018		0.0091	MG/L	
Chromium, total	MW-16	08/22/2018		0.007	MG/L	
Chromium, total	MW-16	11/12/2018		0.0092	MG/L	
Chromium, total	MW-35	09/05/2013	ND	0.003	MG/L	
Chromium, total	MW-35	12/16/2013	ND	0.003	MG/L	
Chromium, total	MW-35	03/04/2014	ND	0.003	MG/L	
Chromium, total	MW-35	06/02/2014	ND	0.003	MG/L	
Chromium, total	MW-35	09/22/2014	ND	0.003	MG/L	
Chromium, total	MW-35	11/17/2014	ND	0.003	MG/L	
Chromium, total	MW-35	02/25/2015	ND	0.003	MG/L	
Chromium, total	MW-35	05/19/2015	ND	0.003	MG/L	
Chromium, total	MW-35	08/26/2015	ND	0.003	MG/L	
Chromium, total	MW-35	11/10/2015	ND	0.003	MG/L	
Chromium, total	MW-35	02/22/2016	ND	0.003	MG/L	
Chromium, total	MW-35	05/16/2016	ND	0.003	MG/L	
Chromium, total	MW-35	08/31/2016	ND	0.003	MG/L	
Chromium, total	MW-35	11/15/2016	ND	0.003	MG/L	
Chromium, total	MW-35	02/22/2017	ND	0.003	MG/L	
Chromium, total	MW-35	05/24/2017	ND	0.003	MG/L	
Chromium, total	MW-35	08/30/2017	ND	0.003	MG/L	
Chromium, total	MW-35	11/15/2017	ND	0.003	MG/L	
Chromium, total	MW-35	02/20/2018	ND	0.003	MG/L	
Chromium, total	MW-35	05/17/2018	ND	0.003	MG/L	
Chromium, total	MW-35	08/22/2018		0.0047	MG/L	
Chromium, total	MW-35	11/12/2018	ND	0.003	MG/L	
Cobalt, total	MW-13A	12/03/2013	ND	0.003	MG/L	
Cobalt, total	MW-13A	03/04/2014	ND	0.003	MG/L	
Cobalt, total	MW-13A	06/02/2014	ND	0.003	MG/L	
Cobalt, total	MW-13A	09/22/2014	ND	0.003	MG/L	
Cobalt, total	MW-13A	11/17/2014	ND	0.003	MG/L	
Cobalt, total	MW-13A	02/23/2015	ND	0.003	MG/L	
Cobalt, total	MW-13A	05/19/2015	ND	0.003	MG/L	
Cobalt, total	MW-13A	08/26/2015	ND	0.003	MG/L	
Cobalt, total	MW-13A	11/10/2015	ND	0.003	MG/L	
Cobalt, total	MW-13A	02/22/2016	ND	0.003	MG/L	
Cobalt, total	MW-13A	05/16/2016	ND	0.003	MG/L	
Cobalt, total	MW-13A	08/31/2016	ND	0.003	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Cobalt, total	MW-13A	11/14/2016	ND	0.003	MG/L	
Cobalt, total	MW-13A	02/22/2017	ND	0.003	MG/L	
Cobalt, total	MW-13A	05/24/2017	ND	0.003	MG/L	
Cobalt, total	MW-13A	08/30/2017	ND	0.003	MG/L	
Cobalt, total	MW-13A	11/13/2017	ND	0.003	MG/L	
Cobalt, total	MW-13A	02/20/2018	ND	0.003	MG/L	
Cobalt, total	MW-13A	05/15/2018	ND	0.003	MG/L	
Cobalt, total	MW-13A	08/21/2018	ND	0.003	MG/L	
Cobalt, total	MW-13A	11/12/2018	ND	0.003	MG/L	
Cobalt, total	MW-13B	12/03/2013	ND	0.003	MG/L	
Cobalt, total	MW-13B	03/04/2014	ND	0.003	MG/L	
Cobalt, total	MW-13B	06/02/2014	ND	0.003	MG/L	
Cobalt, total	MW-13B	09/22/2014	ND	0.003	MG/L	
Cobalt, total	MW-13B	11/17/2014	ND	0.003	MG/L	
Cobalt, total	MW-13B	02/23/2015	ND	0.003	MG/L	
Cobalt, total	MW-13B	05/19/2015	ND	0.003	MG/L	
Cobalt, total	MW-13B	08/26/2015	ND	0.003	MG/L	
Cobalt, total	MW-13B	11/10/2015	ND	0.003	MG/L	
Cobalt, total	MW-13B	02/22/2016	ND	0.003	MG/L	
Cobalt, total	MW-13B	05/16/2016	ND	0.003	MG/L	
Cobalt, total	MW-13B	08/31/2016	ND	0.003	MG/L	
Cobalt, total	MW-13B	11/14/2016	ND	0.003	MG/L	
Cobalt, total	MW-13B	02/22/2017	ND	0.003	MG/L	
Cobalt, total	MW-13B	05/24/2017	ND	0.003	MG/L	
Cobalt, total	MW-13B	08/30/2017	ND	0.003	MG/L	
Cobalt, total	MW-13B	11/13/2017	ND	0.003	MG/L	
Cobalt, total	MW-13B	02/20/2018	ND	0.003	MG/L	
Cobalt, total	MW-13B	05/15/2018	ND	0.003	MG/L	
Cobalt, total	MW-13B	08/21/2018	ND	0.003	MG/L	
Cobalt, total	MW-13B	11/12/2018	ND	0.003	MG/L	
Cobalt, total	MW-16	09/05/2013	ND	0.003	MG/L	
Cobalt, total	MW-16	12/16/2013	ND	0.003	MG/L	
Cobalt, total	MW-16	03/05/2014	ND	0.003	MG/L	
Cobalt, total	MW-16	06/02/2014	ND	0.003	MG/L	
Cobalt, total	MW-16	09/22/2014	ND	0.003	MG/L	
Cobalt, total	MW-16	11/18/2014	ND	0.003	MG/L	
Cobalt, total	MW-16	02/23/2015	ND	0.003	MG/L	
Cobalt, total	MW-16	05/20/2015	ND	0.003	MG/L	
Cobalt, total	MW-16	08/26/2015	ND	0.003	MG/L	
Cobalt, total	MW-16	11/11/2015	ND	0.003	MG/L	
Cobalt, total	MW-16	02/24/2016	ND	0.003	MG/L	
Cobalt, total	MW-16	05/16/2016	ND	0.003	MG/L	
Cobalt, total	MW-16	08/31/2016	ND	0.003	MG/L	
Cobalt, total	MW-16	11/14/2016	ND	0.003	MG/L	
Cobalt, total	MW-16	02/22/2017	ND	0.003	MG/L	
Cobalt, total	MW-16	05/24/2017	ND	0.003	MG/L	
Cobalt, total	MW-16	08/30/2017	ND	0.003	MG/L	
Cobalt, total	MW-16	11/13/2017	ND	0.003	MG/L	
Cobalt, total	MW-16	02/20/2018	ND	0.003	MG/L	
Cobalt, total	MW-16	05/17/2018	ND	0.003	MG/L	
Cobalt, total	MW-16	08/22/2018	ND	0.003	MG/L	
Cobalt, total	MW-16	11/12/2018	ND	0.003	MG/L	
Cobalt, total	MW-35	09/05/2013	ND	0.003	MG/L	
Cobalt, total	MW-35	12/16/2013	ND	0.003	MG/L	
Cobalt, total	MW-35	03/04/2014	ND	0.003	MG/L	
Cobalt, total	MW-35	06/02/2014	ND	0.003	MG/L	
Cobalt, total	MW-35	09/22/2014	ND	0.003	MG/L	
Cobalt, total	MW-35	11/17/2014	ND	0.003	MG/L	
Cobalt, total	MW-35	02/25/2015	ND	0.003	MG/L	
Cobalt, total	MW-35	05/19/2015	ND	0.003	MG/L	
Cobalt, total	MW-35	08/26/2015	ND	0.003	MG/L	
Cobalt, total	MW-35	11/10/2015	ND	0.003	MG/L	
Cobalt, total	MW-35	02/22/2016	ND	0.003	MG/L	
Cobalt, total	MW-35	05/16/2016	ND	0.003	MG/L	
Cobalt, total	MW-35	08/31/2016	ND	0.003	MG/L	
Cobalt, total	MW-35	11/15/2016	ND	0.003	MG/L	
Cobalt, total	MW-35	02/22/2017	ND	0.003	MG/L	
Cobalt, total	MW-35	05/24/2017	ND	0.003	MG/L	
Cobalt, total	MW-35	08/30/2017	ND	0.003	MG/L	
Cobalt, total	MW-35	11/15/2017	ND	0.003	MG/L	
Cobalt, total	MW-35	02/20/2018	ND	0.003	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Cobalt, total	MW-35	05/17/2018	ND	0.003	MG/L	
Cobalt, total	MW-35	08/22/2018	ND	0.003	MG/L	
Cobalt, total	MW-35	11/12/2018	ND	0.003	MG/L	
Copper, total	MW-13A	12/03/2013	ND	0.002	MG/L	
Copper, total	MW-13A	03/04/2014	ND	0.002	MG/L	
Copper, total	MW-13A	06/02/2014	ND	0.002	MG/L	
Copper, total	MW-13A	09/22/2014	ND	0.002	MG/L	
Copper, total	MW-13A	11/17/2014	ND	0.002	MG/L	
Copper, total	MW-13A	02/23/2015	ND	0.002	MG/L	
Copper, total	MW-13A	05/19/2015	ND	0.002	MG/L	
Copper, total	MW-13A	08/26/2015	ND	0.002	MG/L	
Copper, total	MW-13A	11/10/2015	ND	0.002	MG/L	
Copper, total	MW-13A	02/22/2016	ND	0.002	MG/L	
Copper, total	MW-13A	05/16/2016	ND	0.002	MG/L	
Copper, total	MW-13A	08/31/2016	ND	0.002	MG/L	
Copper, total	MW-13A	11/14/2016		0.0021	MG/L	
Copper, total	MW-13A	02/22/2017	ND	0.002	MG/L	
Copper, total	MW-13A	05/24/2017	ND	0.002	MG/L	
Copper, total	MW-13A	08/30/2017	ND	0.002	MG/L	
Copper, total	MW-13A	11/13/2017	ND	0.002	MG/L	
Copper, total	MW-13A	02/20/2018	ND	0.002	MG/L	
Copper, total	MW-13A	05/15/2018	ND	0.002	MG/L	
Copper, total	MW-13A	08/21/2018	ND	0.002	MG/L	
Copper, total	MW-13A	11/12/2018	ND	0.002	MG/L	
Copper, total	MW-13B	12/03/2013	ND	0.002	MG/L	
Copper, total	MW-13B	03/04/2014	ND	0.002	MG/L	
Copper, total	MW-13B	06/02/2014	ND	0.002	MG/L	
Copper, total	MW-13B	09/22/2014	ND	0.002	MG/L	
Copper, total	MW-13B	11/17/2014	ND	0.002	MG/L	
Copper, total	MW-13B	02/23/2015	ND	0.002	MG/L	
Copper, total	MW-13B	05/19/2015	ND	0.002	MG/L	
Copper, total	MW-13B	08/26/2015	ND	0.002	MG/L	
Copper, total	MW-13B	11/10/2015	ND	0.002	MG/L	
Copper, total	MW-13B	02/22/2016	ND	0.002	MG/L	
Copper, total	MW-13B	05/16/2016	ND	0.002	MG/L	
Copper, total	MW-13B	08/31/2016	ND	0.002	MG/L	
Copper, total	MW-13B	11/14/2016	ND	0.002	MG/L	
Copper, total	MW-13B	02/22/2017	ND	0.002	MG/L	
Copper, total	MW-13B	05/24/2017	ND	0.002	MG/L	
Copper, total	MW-13B	08/30/2017	ND	0.002	MG/L	
Copper, total	MW-13B	11/13/2017	ND	0.002	MG/L	
Copper, total	MW-13B	02/20/2018	ND	0.002	MG/L	
Copper, total	MW-13B	05/15/2018	ND	0.002	MG/L	
Copper, total	MW-13B	08/21/2018	ND	0.002	MG/L	
Copper, total	MW-13B	11/12/2018	ND	0.002	MG/L	
Copper, total	MW-16	09/05/2013	ND	0.002	MG/L	
Copper, total	MW-16	12/16/2013	ND	0.002	MG/L	
Copper, total	MW-16	03/05/2014	ND	0.002	MG/L	
Copper, total	MW-16	06/02/2014	ND	0.002	MG/L	
Copper, total	MW-16	09/22/2014	ND	0.002	MG/L	
Copper, total	MW-16	11/18/2014	ND	0.002	MG/L	
Copper, total	MW-16	02/23/2015	ND	0.002	MG/L	
Copper, total	MW-16	05/20/2015	ND	0.002	MG/L	
Copper, total	MW-16	08/26/2015	ND	0.002	MG/L	
Copper, total	MW-16	11/11/2015	ND	0.002	MG/L	
Copper, total	MW-16	02/24/2016	ND	0.002	MG/L	
Copper, total	MW-16	05/16/2016	ND	0.002	MG/L	
Copper, total	MW-16	08/31/2016	ND	0.002	MG/L	
Copper, total	MW-16	11/14/2016	ND	0.002	MG/L	
Copper, total	MW-16	02/22/2017	ND	0.002	MG/L	
Copper, total	MW-16	05/24/2017	ND	0.002	MG/L	
Copper, total	MW-16	08/30/2017	ND	0.002	MG/L	
Copper, total	MW-16	11/13/2017	ND	0.002	MG/L	
Copper, total	MW-16	02/20/2018	ND	0.002	MG/L	
Copper, total	MW-16	05/17/2018	ND	0.002	MG/L	
Copper, total	MW-16	08/22/2018	ND	0.002	MG/L	
Copper, total	MW-16	11/12/2018	ND	0.002	MG/L	
Copper, total	MW-35	09/05/2013	ND	0.002	MG/L	
Copper, total	MW-35	12/16/2013	ND	0.002	MG/L	
Copper, total	MW-35	03/04/2014	ND	0.002	MG/L	
Copper, total	MW-35	06/02/2014	ND	0.002	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Copper, total	MW-35	09/22/2014	ND	0.002	MG/L	
Copper, total	MW-35	11/17/2014	ND	0.002	MG/L	
Copper, total	MW-35	02/25/2015	ND	0.002	MG/L	
Copper, total	MW-35	05/19/2015	ND	0.002	MG/L	
Copper, total	MW-35	08/26/2015	ND	0.002	MG/L	
Copper, total	MW-35	11/10/2015	ND	0.002	MG/L	
Copper, total	MW-35	02/22/2016	ND	0.002	MG/L	
Copper, total	MW-35	05/16/2016	ND	0.002	MG/L	
Copper, total	MW-35	08/31/2016	ND	0.002	MG/L	
Copper, total	MW-35	11/15/2016	ND	0.002	MG/L	
Copper, total	MW-35	02/22/2017	ND	0.002	MG/L	
Copper, total	MW-35	05/24/2017	ND	0.002	MG/L	
Copper, total	MW-35	08/30/2017	ND	0.002	MG/L	
Copper, total	MW-35	11/15/2017	ND	0.002	MG/L	
Copper, total	MW-35	02/20/2018	ND	0.002	MG/L	
Copper, total	MW-35	05/17/2018	ND	0.002	MG/L	
Copper, total	MW-35	08/22/2018	ND	0.002	MG/L	
Copper, total	MW-35	11/12/2018	ND	0.002	MG/L	
Iron, total	MW-13A	12/03/2013	ND	0.06	MG/L	
Iron, total	MW-13A	03/04/2014	ND	0.06	MG/L	
Iron, total	MW-13A	06/02/2014	ND	0.06	MG/L	
Iron, total	MW-13A	09/22/2014	ND	0.06	MG/L	
Iron, total	MW-13A	11/17/2014	ND	0.06	MG/L	
Iron, total	MW-13A	02/23/2015	ND	0.06	MG/L	
Iron, total	MW-13A	05/19/2015	ND	0.06	MG/L	
Iron, total	MW-13A	08/26/2015	ND	0.06	MG/L	
Iron, total	MW-13A	11/10/2015	ND	0.06	MG/L	
Iron, total	MW-13A	02/22/2016	ND	0.06	MG/L	
Iron, total	MW-13A	05/16/2016	ND	0.06	MG/L	
Iron, total	MW-13A	08/31/2016	ND	0.06	MG/L	
Iron, total	MW-13A	11/14/2016		0.073	MG/L	
Iron, total	MW-13A	02/22/2017	ND	0.06	MG/L	
Iron, total	MW-13A	05/24/2017		0.087	MG/L	
Iron, total	MW-13A	08/30/2017	ND	0.06	MG/L	
Iron, total	MW-13A	11/13/2017	ND	0.06	MG/L	
Iron, total	MW-13A	02/20/2018	ND	0.06	MG/L	
Iron, total	MW-13A	05/15/2018	ND	0.06	MG/L	
Iron, total	MW-13A	08/21/2018	ND	0.06	MG/L	
Iron, total	MW-13A	11/12/2018	ND	0.06	MG/L	
Iron, total	MW-13B	12/03/2013	ND	0.06	MG/L	
Iron, total	MW-13B	03/04/2014	ND	0.06	MG/L	
Iron, total	MW-13B	06/02/2014	ND	0.06	MG/L	
Iron, total	MW-13B	09/22/2014	ND	0.06	MG/L	
Iron, total	MW-13B	11/17/2014	ND	0.06	MG/L	
Iron, total	MW-13B	02/23/2015	ND	0.06	MG/L	
Iron, total	MW-13B	05/19/2015	ND	0.06	MG/L	
Iron, total	MW-13B	08/26/2015	ND	0.06	MG/L	
Iron, total	MW-13B	11/10/2015	ND	0.06	MG/L	
Iron, total	MW-13B	02/22/2016	ND	0.06	MG/L	
Iron, total	MW-13B	05/16/2016	ND	0.06	MG/L	
Iron, total	MW-13B	08/31/2016	ND	0.06	MG/L	
Iron, total	MW-13B	11/14/2016	ND	0.06	MG/L	
Iron, total	MW-13B	02/22/2017	ND	0.06	MG/L	
Iron, total	MW-13B	05/24/2017	ND	0.06	MG/L	
Iron, total	MW-13B	08/30/2017	ND	0.06	MG/L	
Iron, total	MW-13B	11/13/2017	ND	0.06	MG/L	
Iron, total	MW-13B	02/20/2018	ND	0.06	MG/L	
Iron, total	MW-13B	05/15/2018	ND	0.06	MG/L	
Iron, total	MW-13B	08/21/2018	ND	0.06	MG/L	
Iron, total	MW-13B	11/12/2018	ND	0.06	MG/L	
Iron, total	MW-16	09/05/2013		0.12	MG/L	
Iron, total	MW-16	12/16/2013		0.068	MG/L	
Iron, total	MW-16	03/05/2014		0.2	MG/L	
Iron, total	MW-16	06/02/2014	ND	0.06	MG/L	
Iron, total	MW-16	09/22/2014	ND	0.06	MG/L	
Iron, total	MW-16	11/18/2014		0.18	MG/L	
Iron, total	MW-16	02/23/2015		0.31	MG/L	
Iron, total	MW-16	05/20/2015	ND	0.06	MG/L	
Iron, total	MW-16	08/26/2015	ND	0.06	MG/L	
Iron, total	MW-16	11/11/2015	ND	0.06	MG/L	
Iron, total	MW-16	02/24/2016	ND	0.06	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Iron, total	MW-16	05/16/2016	ND	0.06	MG/L	
Iron, total	MW-16	08/31/2016	ND	0.06	MG/L	
Iron, total	MW-16	11/14/2016		0.12	MG/L	
Iron, total	MW-16	02/22/2017	ND	0.06	MG/L	
Iron, total	MW-16	05/24/2017		0.068	MG/L	
Iron, total	MW-16	08/30/2017	ND	0.06	MG/L	
Iron, total	MW-16	11/13/2017	ND	0.06	MG/L	
Iron, total	MW-16	02/20/2018		0.067	MG/L	
Iron, total	MW-16	05/17/2018	ND	0.06	MG/L	
Iron, total	MW-16	08/22/2018	ND	0.06	MG/L	
Iron, total	MW-16	11/12/2018		0.22	MG/L	
Iron, total	MW-35	09/05/2013	ND	0.06	MG/L	
Iron, total	MW-35	12/16/2013	ND	0.06	MG/L	
Iron, total	MW-35	03/04/2014	ND	0.06	MG/L	
Iron, total	MW-35	06/02/2014	ND	0.06	MG/L	
Iron, total	MW-35	09/22/2014	ND	0.06	MG/L	
Iron, total	MW-35	11/17/2014	ND	0.06	MG/L	
Iron, total	MW-35	02/25/2015	ND	0.06	MG/L	
Iron, total	MW-35	05/19/2015	ND	0.06	MG/L	
Iron, total	MW-35	08/26/2015	ND	0.06	MG/L	
Iron, total	MW-35	11/10/2015	ND	0.06	MG/L	
Iron, total	MW-35	02/22/2016	ND	0.06	MG/L	
Iron, total	MW-35	05/16/2016	ND	0.06	MG/L	
Iron, total	MW-35	08/31/2016	ND	0.06	MG/L	
Iron, total	MW-35	11/15/2016	ND	0.06	MG/L	
Iron, total	MW-35	02/22/2017	ND	0.06	MG/L	
Iron, total	MW-35	05/24/2017	ND	0.06	MG/L	
Iron, total	MW-35	08/30/2017	ND	0.06	MG/L	
Iron, total	MW-35	11/15/2017	ND	0.06	MG/L	
Iron, total	MW-35	02/20/2018	ND	0.06	MG/L	
Iron, total	MW-35	05/17/2018	ND	0.06	MG/L	
Iron, total	MW-35	08/22/2018	ND	0.06	MG/L	
Iron, total	MW-35	11/12/2018	ND	0.06	MG/L	
Lead, total	MW-13A	12/03/2013	ND	0.001	MG/L	
Lead, total	MW-13A	03/04/2014	ND	0.001	MG/L	
Lead, total	MW-13A	06/02/2014	ND	0.001	MG/L	
Lead, total	MW-13A	09/22/2014	ND	0.001	MG/L	
Lead, total	MW-13A	11/17/2014	ND	0.001	MG/L	
Lead, total	MW-13A	02/23/2015	ND	0.001	MG/L	
Lead, total	MW-13A	05/19/2015	ND	0.001	MG/L	
Lead, total	MW-13A	08/26/2015	ND	0.001	MG/L	
Lead, total	MW-13A	11/10/2015	ND	0.001	MG/L	
Lead, total	MW-13A	02/22/2016	ND	0.001	MG/L	
Lead, total	MW-13A	05/16/2016	ND	0.001	MG/L	
Lead, total	MW-13A	08/31/2016	ND	0.001	MG/L	
Lead, total	MW-13A	11/14/2016	ND	0.001	MG/L	
Lead, total	MW-13A	02/22/2017	ND	0.001	MG/L	
Lead, total	MW-13A	05/24/2017	ND	0.001	MG/L	
Lead, total	MW-13A	08/30/2017	ND	0.001	MG/L	
Lead, total	MW-13A	11/13/2017	ND	0.001	MG/L	
Lead, total	MW-13A	02/20/2018	ND	0.001	MG/L	
Lead, total	MW-13A	05/15/2018	ND	0.001	MG/L	
Lead, total	MW-13A	08/21/2018	ND	0.001	MG/L	
Lead, total	MW-13A	11/12/2018	ND	0.001	MG/L	
Lead, total	MW-13B	12/03/2013	ND	0.001	MG/L	
Lead, total	MW-13B	03/04/2014	ND	0.001	MG/L	
Lead, total	MW-13B	06/02/2014	ND	0.001	MG/L	
Lead, total	MW-13B	09/22/2014	ND	0.001	MG/L	
Lead, total	MW-13B	11/17/2014	ND	0.001	MG/L	
Lead, total	MW-13B	02/23/2015	ND	0.001	MG/L	
Lead, total	MW-13B	05/19/2015	ND	0.001	MG/L	
Lead, total	MW-13B	08/26/2015	ND	0.001	MG/L	
Lead, total	MW-13B	11/10/2015	ND	0.001	MG/L	
Lead, total	MW-13B	02/22/2016	ND	0.001	MG/L	
Lead, total	MW-13B	05/16/2016	ND	0.001	MG/L	
Lead, total	MW-13B	08/31/2016	ND	0.001	MG/L	
Lead, total	MW-13B	11/14/2016	ND	0.001	MG/L	
Lead, total	MW-13B	02/22/2017	ND	0.001	MG/L	
Lead, total	MW-13B	05/24/2017	ND	0.001	MG/L	
Lead, total	MW-13B	08/30/2017	ND	0.001	MG/L	
Lead, total	MW-13B	11/13/2017	ND	0.001	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Lead, total	MW-13B	02/20/2018	ND	0.001	MG/L	
Lead, total	MW-13B	05/15/2018	ND	0.001	MG/L	
Lead, total	MW-13B	08/21/2018	ND	0.001	MG/L	
Lead, total	MW-13B	11/12/2018	ND	0.001	MG/L	
Lead, total	MW-16	09/05/2013	ND	0.001	MG/L	
Lead, total	MW-16	12/16/2013	ND	0.001	MG/L	
Lead, total	MW-16	03/05/2014	ND	0.001	MG/L	
Lead, total	MW-16	06/02/2014	ND	0.001	MG/L	
Lead, total	MW-16	09/22/2014		0.0014	MG/L	
Lead, total	MW-16	11/18/2014	ND	0.001	MG/L	
Lead, total	MW-16	02/23/2015	ND	0.001	MG/L	
Lead, total	MW-16	05/20/2015	ND	0.001	MG/L	
Lead, total	MW-16	08/26/2015	ND	0.001	MG/L	
Lead, total	MW-16	11/11/2015	ND	0.001	MG/L	
Lead, total	MW-16	02/24/2016	ND	0.001	MG/L	
Lead, total	MW-16	05/16/2016	ND	0.001	MG/L	
Lead, total	MW-16	08/31/2016	ND	0.001	MG/L	
Lead, total	MW-16	11/14/2016	ND	0.001	MG/L	
Lead, total	MW-16	02/22/2017	ND	0.001	MG/L	
Lead, total	MW-16	05/24/2017	ND	0.001	MG/L	
Lead, total	MW-16	08/30/2017	ND	0.001	MG/L	
Lead, total	MW-16	11/13/2017	ND	0.001	MG/L	
Lead, total	MW-16	02/20/2018	ND	0.001	MG/L	
Lead, total	MW-16	05/17/2018	ND	0.001	MG/L	
Lead, total	MW-16	08/22/2018	ND	0.001	MG/L	
Lead, total	MW-16	11/12/2018	ND	0.001	MG/L	
Lead, total	MW-35	09/05/2013	ND	0.001	MG/L	
Lead, total	MW-35	12/16/2013	ND	0.001	MG/L	
Lead, total	MW-35	03/04/2014	ND	0.001	MG/L	
Lead, total	MW-35	06/02/2014	ND	0.001	MG/L	
Lead, total	MW-35	09/22/2014	ND	0.001	MG/L	
Lead, total	MW-35	11/17/2014	ND	0.001	MG/L	
Lead, total	MW-35	02/25/2015	ND	0.001	MG/L	
Lead, total	MW-35	05/19/2015	ND	0.001	MG/L	
Lead, total	MW-35	08/26/2015	ND	0.001	MG/L	
Lead, total	MW-35	11/10/2015	ND	0.001	MG/L	
Lead, total	MW-35	02/22/2016	ND	0.001	MG/L	
Lead, total	MW-35	05/16/2016	ND	0.001	MG/L	
Lead, total	MW-35	08/31/2016	ND	0.001	MG/L	
Lead, total	MW-35	11/15/2016	ND	0.001	MG/L	
Lead, total	MW-35	02/22/2017	ND	0.001	MG/L	
Lead, total	MW-35	05/24/2017	ND	0.001	MG/L	
Lead, total	MW-35	08/30/2017	ND	0.001	MG/L	
Lead, total	MW-35	11/15/2017	ND	0.001	MG/L	
Lead, total	MW-35	02/20/2018	ND	0.001	MG/L	
Lead, total	MW-35	05/17/2018	ND	0.001	MG/L	
Lead, total	MW-35	08/22/2018	ND	0.001	MG/L	
Lead, total	MW-35	11/12/2018	ND	0.001	MG/L	
Magnesium, dissolved	MW-13A	03/22/2005		9.2	MG/L	
Magnesium, dissolved	MW-13A	06/15/2005		8.2	MG/L	
Magnesium, dissolved	MW-13A	09/27/2005		8.4	MG/L	
Magnesium, dissolved	MW-13A	12/15/2005		8.6	MG/L	
Magnesium, dissolved	MW-13A	03/28/2006		9.2	MG/L	
Magnesium, dissolved	MW-13A	06/21/2006		9.1	MG/L	
Magnesium, dissolved	MW-13A	09/26/2006		9.2	MG/L	
Magnesium, dissolved	MW-13A	12/13/2006		9.3	MG/L	
Magnesium, dissolved	MW-13A	03/27/2007		9.3	MG/L	
Magnesium, dissolved	MW-13A	06/19/2007		9	MG/L	
Magnesium, dissolved	MW-13A	09/19/2007		9.4	MG/L	
Magnesium, dissolved	MW-13A	12/19/2007		8.6	MG/L	
Magnesium, dissolved	MW-13A	03/25/2008		9.1	MG/L	
Magnesium, dissolved	MW-13A	06/18/2008		9.3	MG/L	
Magnesium, dissolved	MW-13A	09/17/2008		9.2	MG/L	
Magnesium, dissolved	MW-13A	12/17/2008		9.3	MG/L	
Magnesium, dissolved	MW-13A	03/24/2009		9.6	MG/L	
Magnesium, dissolved	MW-13A	06/17/2009		9.6	MG/L	
Magnesium, dissolved	MW-13A	09/10/2009		9.3	MG/L	
Magnesium, dissolved	MW-13A	12/03/2009		9.1	MG/L	
Magnesium, dissolved	MW-13A	03/25/2010		8.7	MG/L	
Magnesium, dissolved	MW-13A	06/23/2010		9.7	MG/L	
Magnesium, dissolved	MW-13A	09/23/2010		9.4	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Magnesium, dissolved	MW-13A	12/08/2010		8.1	MG/L	
Magnesium, dissolved	MW-13A	03/30/2011		9.6	MG/L	
Magnesium, dissolved	MW-13A	06/06/2011		10	MG/L	
Magnesium, dissolved	MW-13A	09/27/2011		9.7	MG/L	
Magnesium, dissolved	MW-13A	12/14/2011		9.3	MG/L	
Magnesium, dissolved	MW-13A	03/21/2012		9.9	MG/L	
Magnesium, dissolved	MW-13A	06/08/2012		8.9	MG/L	
Magnesium, dissolved	MW-13A	09/26/2012		9.6	MG/L	
Magnesium, dissolved	MW-13A	12/03/2012		9.2	MG/L	
Magnesium, dissolved	MW-13A	03/11/2013		9.4	MG/L	
Magnesium, dissolved	MW-13A	06/05/2013		9.8	MG/L	
Magnesium, dissolved	MW-13A	12/03/2013		9.4	MG/L	
Magnesium, dissolved	MW-13A	03/04/2014		9.8	MG/L	
Magnesium, dissolved	MW-13A	06/02/2014		9.2	MG/L	
Magnesium, dissolved	MW-13A	09/22/2014		8.7	MG/L	
Magnesium, dissolved	MW-13A	11/17/2014		9.3	MG/L	
Magnesium, dissolved	MW-13A	02/23/2015		9.2	MG/L	
Magnesium, dissolved	MW-13A	05/19/2015		9.5	MG/L	
Magnesium, dissolved	MW-13A	08/26/2015		9.3	MG/L	
Magnesium, dissolved	MW-13A	11/10/2015		9.1	MG/L	
Magnesium, dissolved	MW-13A	02/22/2016		9.7	MG/L	
Magnesium, dissolved	MW-13A	05/16/2016		9.5	MG/L	
Magnesium, dissolved	MW-13A	08/31/2016		8.6	MG/L	
Magnesium, dissolved	MW-13A	11/14/2016		10	MG/L	
Magnesium, dissolved	MW-13A	02/22/2017		10	MG/L	
Magnesium, dissolved	MW-13A	05/24/2017		8.9	MG/L	
Magnesium, dissolved	MW-13A	08/30/2017		8.8	MG/L	
Magnesium, dissolved	MW-13A	11/13/2017		8.6	MG/L	
Magnesium, dissolved	MW-13A	02/20/2018		8.2	MG/L	
Magnesium, dissolved	MW-13A	05/15/2018		8.5	MG/L	
Magnesium, dissolved	MW-13A	08/21/2018		8.3	MG/L	
Magnesium, dissolved	MW-13A	11/12/2018		8.3	MG/L	
Magnesium, dissolved	MW-13B	03/22/2005		8.6	MG/L	
Magnesium, dissolved	MW-13B	06/15/2005		8	MG/L	
Magnesium, dissolved	MW-13B	09/27/2005		8.7	MG/L	
Magnesium, dissolved	MW-13B	12/15/2005		8	MG/L	
Magnesium, dissolved	MW-13B	03/29/2006		8.1	MG/L	
Magnesium, dissolved	MW-13B	06/21/2006		8.3	MG/L	
Magnesium, dissolved	MW-13B	09/26/2006		8.5	MG/L	
Magnesium, dissolved	MW-13B	12/13/2006		8.7	MG/L	
Magnesium, dissolved	MW-13B	03/27/2007		8.4	MG/L	
Magnesium, dissolved	MW-13B	06/19/2007		7.9	MG/L	
Magnesium, dissolved	MW-13B	09/18/2007		8.7	MG/L	
Magnesium, dissolved	MW-13B	12/19/2007		7.6	MG/L	
Magnesium, dissolved	MW-13B	03/25/2008		8	MG/L	
Magnesium, dissolved	MW-13B	06/18/2008		8.2	MG/L	
Magnesium, dissolved	MW-13B	09/17/2008		8.3	MG/L	
Magnesium, dissolved	MW-13B	12/16/2008		8.3	MG/L	
Magnesium, dissolved	MW-13B	03/24/2009		8.5	MG/L	
Magnesium, dissolved	MW-13B	06/17/2009		8.5	MG/L	
Magnesium, dissolved	MW-13B	09/10/2009		8.3	MG/L	
Magnesium, dissolved	MW-13B	12/03/2009		8	MG/L	
Magnesium, dissolved	MW-13B	03/25/2010		8.1	MG/L	
Magnesium, dissolved	MW-13B	06/23/2010		8.7	MG/L	
Magnesium, dissolved	MW-13B	09/23/2010		8.3	MG/L	
Magnesium, dissolved	MW-13B	12/08/2010		9.3	MG/L	
Magnesium, dissolved	MW-13B	03/30/2011		8.2	MG/L	
Magnesium, dissolved	MW-13B	06/06/2011		9	MG/L	
Magnesium, dissolved	MW-13B	09/27/2011		8.4	MG/L	
Magnesium, dissolved	MW-13B	12/14/2011		8.1	MG/L	
Magnesium, dissolved	MW-13B	03/21/2012		8.5	MG/L	
Magnesium, dissolved	MW-13B	06/08/2012		8.1	MG/L	
Magnesium, dissolved	MW-13B	09/26/2012		8.6	MG/L	
Magnesium, dissolved	MW-13B	12/03/2012		8.2	MG/L	
Magnesium, dissolved	MW-13B	03/11/2013		8.6	MG/L	
Magnesium, dissolved	MW-13B	06/05/2013		8.9	MG/L	
Magnesium, dissolved	MW-13B	12/03/2013		8.9	MG/L	
Magnesium, dissolved	MW-13B	03/04/2014		8.7	MG/L	
Magnesium, dissolved	MW-13B	06/02/2014		8.3	MG/L	
Magnesium, dissolved	MW-13B	09/22/2014		7.7	MG/L	
Magnesium, dissolved	MW-13B	11/17/2014		8.7	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Magnesium, dissolved	MW-13B	02/23/2015		8.6	MG/L	
Magnesium, dissolved	MW-13B	05/19/2015		8.9	MG/L	
Magnesium, dissolved	MW-13B	08/26/2015		8.8	MG/L	
Magnesium, dissolved	MW-13B	11/10/2015		8.6	MG/L	
Magnesium, dissolved	MW-13B	02/22/2016		9.1	MG/L	
Magnesium, dissolved	MW-13B	05/16/2016		8.6	MG/L	
Magnesium, dissolved	MW-13B	08/31/2016		8.1	MG/L	
Magnesium, dissolved	MW-13B	11/14/2016		9.3	MG/L	
Magnesium, dissolved	MW-13B	02/22/2017		9.3	MG/L	
Magnesium, dissolved	MW-13B	05/24/2017		8.6	MG/L	
Magnesium, dissolved	MW-13B	08/30/2017		8.5	MG/L	
Magnesium, dissolved	MW-13B	11/13/2017		8.3	MG/L	
Magnesium, dissolved	MW-13B	02/20/2018		8.2	MG/L	
Magnesium, dissolved	MW-13B	05/15/2018		7.8	MG/L	
Magnesium, dissolved	MW-13B	08/21/2018		8.6	MG/L	
Magnesium, dissolved	MW-13B	11/12/2018		8.2	MG/L	
Magnesium, dissolved	MW-16	03/24/2009		7.2	MG/L	
Magnesium, dissolved	MW-16	06/16/2009		5.9	MG/L	
Magnesium, dissolved	MW-16	09/09/2009		6.9	MG/L	
Magnesium, dissolved	MW-16	12/03/2009		8	MG/L	
Magnesium, dissolved	MW-16	03/25/2010		5.1	MG/L	
Magnesium, dissolved	MW-16	06/24/2010		6.9	MG/L	
Magnesium, dissolved	MW-16	09/24/2010		7.4	MG/L	
Magnesium, dissolved	MW-16	12/09/2010		8.3	MG/L	
Magnesium, dissolved	MW-16	03/30/2011		5.8	MG/L	
Magnesium, dissolved	MW-16	06/07/2011		5.6	MG/L	
Magnesium, dissolved	MW-16	09/27/2011		6.6	MG/L	
Magnesium, dissolved	MW-16	12/13/2011		6.2	MG/L	
Magnesium, dissolved	MW-16	03/21/2012		5.5	MG/L	
Magnesium, dissolved	MW-16	06/08/2012		5	MG/L	
Magnesium, dissolved	MW-16	09/27/2012		6.4	MG/L	
Magnesium, dissolved	MW-16	12/04/2012		6.6	MG/L	
Magnesium, dissolved	MW-16	03/12/2013		5.6	MG/L	
Magnesium, dissolved	MW-16	06/04/2013		5.8	MG/L	
Magnesium, dissolved	MW-16	09/05/2013		6	MG/L	
Magnesium, dissolved	MW-16	12/16/2013		5.9	MG/L	
Magnesium, dissolved	MW-16	03/05/2014		6.6	MG/L	
Magnesium, dissolved	MW-16	06/02/2014		5	MG/L	
Magnesium, dissolved	MW-16	09/22/2014		5.5	MG/L	
Magnesium, dissolved	MW-16	11/18/2014		6.4	MG/L	
Magnesium, dissolved	MW-16	02/23/2015		5.7	MG/L	
Magnesium, dissolved	MW-16	05/20/2015		5.7	MG/L	
Magnesium, dissolved	MW-16	08/26/2015		5.9	MG/L	
Magnesium, dissolved	MW-16	11/11/2015		6.7	MG/L	
Magnesium, dissolved	MW-16	02/24/2016		4.5	MG/L	
Magnesium, dissolved	MW-16	05/16/2016		5	MG/L	
Magnesium, dissolved	MW-16	08/31/2016		5.4	MG/L	
Magnesium, dissolved	MW-16	11/14/2016		5.9	MG/L	
Magnesium, dissolved	MW-16	02/22/2017		5	MG/L	
Magnesium, dissolved	MW-16	05/24/2017		4.2	MG/L	
Magnesium, dissolved	MW-16	08/30/2017		4.9	MG/L	
Magnesium, dissolved	MW-16	11/13/2017		4.8	MG/L	
Magnesium, dissolved	MW-16	02/20/2018		4.3	MG/L	
Magnesium, dissolved	MW-16	05/17/2018		4.3	MG/L	
Magnesium, dissolved	MW-16	08/22/2018		4.6	MG/L	
Magnesium, dissolved	MW-16	11/12/2018		5.2	MG/L	
Magnesium, dissolved	MW-35	03/22/2005		8.6	MG/L	
Magnesium, dissolved	MW-35	06/14/2005		8.1	MG/L	
Magnesium, dissolved	MW-35	09/27/2005		9.2	MG/L	
Magnesium, dissolved	MW-35	12/15/2005		8	MG/L	
Magnesium, dissolved	MW-35	03/28/2006		8.3	MG/L	
Magnesium, dissolved	MW-35	06/21/2006		8.4	MG/L	
Magnesium, dissolved	MW-35	09/26/2006		8.2	MG/L	
Magnesium, dissolved	MW-35	12/12/2006		8.8	MG/L	
Magnesium, dissolved	MW-35	03/27/2007		8.6	MG/L	
Magnesium, dissolved	MW-35	06/20/2007		8.4	MG/L	
Magnesium, dissolved	MW-35	09/18/2007		9.1	MG/L	
Magnesium, dissolved	MW-35	12/20/2007		8.1	MG/L	
Magnesium, dissolved	MW-35	03/25/2008		8.2	MG/L	
Magnesium, dissolved	MW-35	06/18/2008		8.1	MG/L	
Magnesium, dissolved	MW-35	09/18/2008		8.1	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Magnesium, dissolved	MW-35	12/19/2008		8.1	MG/L	
Magnesium, dissolved	MW-35	03/24/2009		8.7	MG/L	
Magnesium, dissolved	MW-35	06/16/2009		8.1	MG/L	
Magnesium, dissolved	MW-35	09/10/2009		8.1	MG/L	
Magnesium, dissolved	MW-35	12/03/2009		8.3	MG/L	
Magnesium, dissolved	MW-35	03/25/2010		7.9	MG/L	
Magnesium, dissolved	MW-35	06/23/2010		8.8	MG/L	
Magnesium, dissolved	MW-35	09/23/2010		8.7	MG/L	
Magnesium, dissolved	MW-35	12/09/2010		9.3	MG/L	
Magnesium, dissolved	MW-35	03/30/2011		8.8	MG/L	
Magnesium, dissolved	MW-35	06/06/2011		9	MG/L	
Magnesium, dissolved	MW-35	09/26/2011		8.7	MG/L	
Magnesium, dissolved	MW-35	12/13/2011		8.8	MG/L	
Magnesium, dissolved	MW-35	03/21/2012		9	MG/L	
Magnesium, dissolved	MW-35	06/06/2012		8.3	MG/L	
Magnesium, dissolved	MW-35	09/26/2012		8.9	MG/L	
Magnesium, dissolved	MW-35	12/04/2012		8.6	MG/L	
Magnesium, dissolved	MW-35	03/13/2013		9.2	MG/L	
Magnesium, dissolved	MW-35	06/06/2013		8.5	MG/L	
Magnesium, dissolved	MW-35	09/05/2013		8.1	MG/L	
Magnesium, dissolved	MW-35	12/16/2013		8.4	MG/L	
Magnesium, dissolved	MW-35	03/04/2014		9.2	MG/L	
Magnesium, dissolved	MW-35	06/02/2014		8.6	MG/L	
Magnesium, dissolved	MW-35	09/22/2014		8.2	MG/L	
Magnesium, dissolved	MW-35	11/17/2014		8.7	MG/L	
Magnesium, dissolved	MW-35	02/25/2015		9.3	MG/L	
Magnesium, dissolved	MW-35	05/19/2015		8.5	MG/L	
Magnesium, dissolved	MW-35	08/26/2015		9	MG/L	
Magnesium, dissolved	MW-35	11/10/2015		9.3	MG/L	
Magnesium, dissolved	MW-35	02/22/2016		9.3	MG/L	
Magnesium, dissolved	MW-35	05/16/2016		9	MG/L	
Magnesium, dissolved	MW-35	08/31/2016		8.1	MG/L	
Magnesium, dissolved	MW-35	11/15/2016		10	MG/L	
Magnesium, dissolved	MW-35	02/22/2017		9.9	MG/L	
Magnesium, dissolved	MW-35	05/24/2017		8.6	MG/L	
Magnesium, dissolved	MW-35	08/30/2017		8.9	MG/L	
Magnesium, dissolved	MW-35	11/15/2017		8.5	MG/L	
Magnesium, dissolved	MW-35	02/20/2018		8.2	MG/L	
Magnesium, dissolved	MW-35	05/17/2018		8.4	MG/L	
Magnesium, dissolved	MW-35	08/22/2018		8.6	MG/L	
Magnesium, dissolved	MW-35	11/12/2018		8.6	MG/L	
Manganese, total	MW-13A	12/03/2013	ND	0.001	MG/L	
Manganese, total	MW-13A	03/04/2014	ND	0.001	MG/L	
Manganese, total	MW-13A	06/02/2014	ND	0.001	MG/L	
Manganese, total	MW-13A	09/22/2014	ND	0.001	MG/L	
Manganese, total	MW-13A	11/17/2014	ND	0.001	MG/L	
Manganese, total	MW-13A	02/23/2015	ND	0.001	MG/L	
Manganese, total	MW-13A	05/19/2015	ND	0.001	MG/L	
Manganese, total	MW-13A	08/26/2015	ND	0.001	MG/L	
Manganese, total	MW-13A	11/10/2015	ND	0.001	MG/L	
Manganese, total	MW-13A	02/22/2016	ND	0.001	MG/L	
Manganese, total	MW-13A	05/16/2016	ND	0.001	MG/L	
Manganese, total	MW-13A	08/31/2016	ND	0.001	MG/L	
Manganese, total	MW-13A	11/14/2016	ND	0.001	MG/L	
Manganese, total	MW-13A	02/22/2017	ND	0.001	MG/L	
Manganese, total	MW-13A	05/24/2017	ND	0.001	MG/L	
Manganese, total	MW-13A	08/30/2017	ND	0.001	MG/L	
Manganese, total	MW-13A	11/13/2017	ND	0.001	MG/L	
Manganese, total	MW-13A	02/20/2018	ND	0.001	MG/L	
Manganese, total	MW-13A	05/15/2018	ND	0.001	MG/L	
Manganese, total	MW-13A	08/21/2018	ND	0.001	MG/L	
Manganese, total	MW-13A	11/12/2018	ND	0.001	MG/L	
Manganese, total	MW-13B	12/03/2013	ND	0.001	MG/L	
Manganese, total	MW-13B	03/04/2014	ND	0.001	MG/L	
Manganese, total	MW-13B	06/02/2014		0.002	MG/L	
Manganese, total	MW-13B	09/22/2014	ND	0.001	MG/L	
Manganese, total	MW-13B	11/17/2014	ND	0.001	MG/L	
Manganese, total	MW-13B	02/23/2015	ND	0.001	MG/L	
Manganese, total	MW-13B	05/19/2015	ND	0.001	MG/L	
Manganese, total	MW-13B	08/26/2015	ND	0.001	MG/L	
Manganese, total	MW-13B	11/10/2015	ND	0.001	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Manganese, total	MW-13B	02/22/2016	ND	0.001	MG/L	
Manganese, total	MW-13B	05/16/2016	ND	0.001	MG/L	
Manganese, total	MW-13B	08/31/2016	ND	0.001	MG/L	
Manganese, total	MW-13B	11/14/2016	ND	0.001	MG/L	
Manganese, total	MW-13B	02/22/2017	ND	0.001	MG/L	
Manganese, total	MW-13B	05/24/2017	ND	0.001	MG/L	
Manganese, total	MW-13B	08/30/2017	ND	0.001	MG/L	
Manganese, total	MW-13B	11/13/2017	ND	0.001	MG/L	
Manganese, total	MW-13B	02/20/2018		0.0018	MG/L	
Manganese, total	MW-13B	05/15/2018	ND	0.001	MG/L	
Manganese, total	MW-13B	08/21/2018	ND	0.001	MG/L	
Manganese, total	MW-13B	11/12/2018	ND	0.001	MG/L	
Manganese, total	MW-16	09/05/2013		0.016	MG/L	
Manganese, total	MW-16	12/16/2013		0.013	MG/L	
Manganese, total	MW-16	03/05/2014		0.02	MG/L	
Manganese, total	MW-16	06/02/2014		0.0049	MG/L	
Manganese, total	MW-16	09/22/2014		0.014	MG/L	
Manganese, total	MW-16	11/18/2014		0.032	MG/L	
Manganese, total	MW-16	02/23/2015		0.062	MG/L	*
Manganese, total	MW-16	05/20/2015		0.0035	MG/L	
Manganese, total	MW-16	08/26/2015		0.0012	MG/L	
Manganese, total	MW-16	11/11/2015		0.0014	MG/L	
Manganese, total	MW-16	02/24/2016		0.0019	MG/L	
Manganese, total	MW-16	05/16/2016	ND	0.001	MG/L	
Manganese, total	MW-16	08/31/2016		0.0024	MG/L	
Manganese, total	MW-16	11/14/2016		0.017	MG/L	
Manganese, total	MW-16	02/22/2017		0.0045	MG/L	
Manganese, total	MW-16	05/24/2017		0.01	MG/L	
Manganese, total	MW-16	08/30/2017		0.0016	MG/L	
Manganese, total	MW-16	11/13/2017		0.0011	MG/L	
Manganese, total	MW-16	02/20/2018		0.013	MG/L	
Manganese, total	MW-16	05/17/2018		0.0033	MG/L	
Manganese, total	MW-16	08/22/2018		0.002	MG/L	
Manganese, total	MW-16	11/12/2018		0.025	MG/L	
Manganese, total	MW-35	09/05/2013	ND	0.001	MG/L	
Manganese, total	MW-35	12/16/2013	ND	0.001	MG/L	
Manganese, total	MW-35	03/04/2014	ND	0.001	MG/L	
Manganese, total	MW-35	06/02/2014	ND	0.001	MG/L	
Manganese, total	MW-35	09/22/2014	ND	0.001	MG/L	
Manganese, total	MW-35	11/17/2014	ND	0.001	MG/L	
Manganese, total	MW-35	02/25/2015	ND	0.001	MG/L	
Manganese, total	MW-35	05/19/2015		0.0014	MG/L	
Manganese, total	MW-35	08/26/2015	ND	0.001	MG/L	
Manganese, total	MW-35	11/10/2015	ND	0.001	MG/L	
Manganese, total	MW-35	02/22/2016	ND	0.001	MG/L	
Manganese, total	MW-35	05/16/2016	ND	0.001	MG/L	
Manganese, total	MW-35	08/31/2016	ND	0.001	MG/L	
Manganese, total	MW-35	11/15/2016	ND	0.001	MG/L	
Manganese, total	MW-35	02/22/2017	ND	0.001	MG/L	
Manganese, total	MW-35	05/24/2017	ND	0.001	MG/L	
Manganese, total	MW-35	08/30/2017	ND	0.001	MG/L	
Manganese, total	MW-35	11/15/2017	ND	0.001	MG/L	
Manganese, total	MW-35	02/20/2018	ND	0.001	MG/L	
Manganese, total	MW-35	05/17/2018	ND	0.001	MG/L	
Manganese, total	MW-35	08/22/2018	ND	0.001	MG/L	
Manganese, total	MW-35	11/12/2018	ND	0.001	MG/L	
Nickel, total	MW-13A	12/03/2013	ND	0.004	MG/L	
Nickel, total	MW-13A	03/04/2014	ND	0.004	MG/L	
Nickel, total	MW-13A	06/02/2014	ND	0.004	MG/L	
Nickel, total	MW-13A	09/22/2014	ND	0.004	MG/L	
Nickel, total	MW-13A	11/17/2014	ND	0.004	MG/L	
Nickel, total	MW-13A	02/23/2015	ND	0.004	MG/L	
Nickel, total	MW-13A	05/19/2015	ND	0.004	MG/L	
Nickel, total	MW-13A	08/26/2015	ND	0.004	MG/L	
Nickel, total	MW-13A	11/10/2015	ND	0.004	MG/L	
Nickel, total	MW-13A	02/22/2016	ND	0.004	MG/L	
Nickel, total	MW-13A	05/16/2016	ND	0.004	MG/L	
Nickel, total	MW-13A	08/31/2016	ND	0.004	MG/L	
Nickel, total	MW-13A	11/14/2016	ND	0.004	MG/L	
Nickel, total	MW-13A	02/22/2017	ND	0.004	MG/L	
Nickel, total	MW-13A	05/24/2017	ND	0.004	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Nickel, total	MW-13A	08/30/2017	ND	0.004	MG/L	
Nickel, total	MW-13A	11/13/2017	ND	0.004	MG/L	
Nickel, total	MW-13A	02/20/2018	ND	0.004	MG/L	
Nickel, total	MW-13A	05/15/2018	ND	0.004	MG/L	
Nickel, total	MW-13A	08/21/2018	ND	0.004	MG/L	
Nickel, total	MW-13A	11/12/2018	ND	0.004	MG/L	
Nickel, total	MW-13B	12/03/2013	ND	0.004	MG/L	
Nickel, total	MW-13B	03/04/2014	ND	0.004	MG/L	
Nickel, total	MW-13B	06/02/2014	ND	0.004	MG/L	
Nickel, total	MW-13B	09/22/2014	ND	0.004	MG/L	
Nickel, total	MW-13B	11/17/2014	ND	0.004	MG/L	
Nickel, total	MW-13B	02/23/2015	ND	0.004	MG/L	
Nickel, total	MW-13B	05/19/2015	ND	0.004	MG/L	
Nickel, total	MW-13B	08/26/2015	ND	0.004	MG/L	
Nickel, total	MW-13B	11/10/2015	ND	0.004	MG/L	
Nickel, total	MW-13B	02/22/2016	ND	0.004	MG/L	
Nickel, total	MW-13B	05/16/2016	ND	0.004	MG/L	
Nickel, total	MW-13B	08/31/2016	ND	0.004	MG/L	
Nickel, total	MW-13B	11/14/2016	ND	0.004	MG/L	
Nickel, total	MW-13B	02/22/2017	ND	0.004	MG/L	
Nickel, total	MW-13B	05/24/2017	ND	0.004	MG/L	
Nickel, total	MW-13B	08/30/2017	ND	0.004	MG/L	
Nickel, total	MW-13B	11/13/2017	ND	0.004	MG/L	
Nickel, total	MW-13B	02/20/2018	ND	0.004	MG/L	
Nickel, total	MW-13B	05/15/2018	ND	0.004	MG/L	
Nickel, total	MW-13B	08/21/2018	ND	0.004	MG/L	
Nickel, total	MW-13B	11/12/2018	ND	0.004	MG/L	
Nickel, total	MW-16	09/05/2013	ND	0.004	MG/L	
Nickel, total	MW-16	12/16/2013	ND	0.004	MG/L	
Nickel, total	MW-16	03/05/2014	ND	0.004	MG/L	
Nickel, total	MW-16	06/02/2014	ND	0.004	MG/L	
Nickel, total	MW-16	09/22/2014	ND	0.004	MG/L	
Nickel, total	MW-16	11/18/2014	ND	0.004	MG/L	
Nickel, total	MW-16	02/23/2015		0.0041	MG/L	
Nickel, total	MW-16	05/20/2015	ND	0.004	MG/L	
Nickel, total	MW-16	08/26/2015	ND	0.004	MG/L	
Nickel, total	MW-16	11/11/2015	ND	0.004	MG/L	
Nickel, total	MW-16	02/24/2016	ND	0.004	MG/L	
Nickel, total	MW-16	05/16/2016	ND	0.004	MG/L	
Nickel, total	MW-16	08/31/2016	ND	0.004	MG/L	
Nickel, total	MW-16	11/14/2016	ND	0.004	MG/L	
Nickel, total	MW-16	02/22/2017	ND	0.004	MG/L	
Nickel, total	MW-16	05/24/2017	ND	0.004	MG/L	
Nickel, total	MW-16	08/30/2017	ND	0.004	MG/L	
Nickel, total	MW-16	11/13/2017	ND	0.004	MG/L	
Nickel, total	MW-16	02/20/2018	ND	0.004	MG/L	
Nickel, total	MW-16	05/17/2018	ND	0.004	MG/L	
Nickel, total	MW-16	08/22/2018	ND	0.004	MG/L	
Nickel, total	MW-16	11/12/2018	ND	0.004	MG/L	
Nickel, total	MW-35	09/05/2013	ND	0.004	MG/L	
Nickel, total	MW-35	12/16/2013	ND	0.004	MG/L	
Nickel, total	MW-35	03/04/2014	ND	0.004	MG/L	
Nickel, total	MW-35	06/02/2014	ND	0.004	MG/L	
Nickel, total	MW-35	09/22/2014	ND	0.004	MG/L	
Nickel, total	MW-35	11/17/2014	ND	0.004	MG/L	
Nickel, total	MW-35	02/25/2015	ND	0.004	MG/L	
Nickel, total	MW-35	05/19/2015	ND	0.004	MG/L	
Nickel, total	MW-35	08/26/2015	ND	0.004	MG/L	
Nickel, total	MW-35	11/10/2015	ND	0.004	MG/L	
Nickel, total	MW-35	02/22/2016	ND	0.004	MG/L	
Nickel, total	MW-35	05/16/2016	ND	0.004	MG/L	
Nickel, total	MW-35	08/31/2016	ND	0.004	MG/L	
Nickel, total	MW-35	11/15/2016	ND	0.004	MG/L	
Nickel, total	MW-35	02/22/2017	ND	0.004	MG/L	
Nickel, total	MW-35	05/24/2017	ND	0.004	MG/L	
Nickel, total	MW-35	08/30/2017	ND	0.004	MG/L	
Nickel, total	MW-35	11/15/2017	ND	0.004	MG/L	
Nickel, total	MW-35	02/20/2018	ND	0.004	MG/L	
Nickel, total	MW-35	05/17/2018	ND	0.004	MG/L	
Nickel, total	MW-35	08/22/2018	ND	0.004	MG/L	
Nickel, total	MW-35	11/12/2018	ND	0.004	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Nitrate (as n)	MW-13A	03/22/2005		0.51	MG/L	
Nitrate (as n)	MW-13A	06/15/2005		0.44	MG/L	
Nitrate (as n)	MW-13A	09/27/2005		1.8	MG/L	
Nitrate (as n)	MW-13A	12/15/2005		0.47	MG/L	
Nitrate (as n)	MW-13A	03/28/2006		0.44	MG/L	
Nitrate (as n)	MW-13A	06/21/2006		0.54	MG/L	
Nitrate (as n)	MW-13A	09/26/2006		0.44	MG/L	
Nitrate (as n)	MW-13A	12/13/2006		0.46	MG/L	
Nitrate (as n)	MW-13A	03/27/2007		0.42	MG/L	
Nitrate (as n)	MW-13A	06/19/2007		0.46	MG/L	
Nitrate (as n)	MW-13A	09/19/2007		0.46	MG/L	
Nitrate (as n)	MW-13A	12/19/2007		0.41	MG/L	
Nitrate (as n)	MW-13A	03/25/2008		0.49	MG/L	
Nitrate (as n)	MW-13A	06/18/2008		0.51	MG/L	
Nitrate (as n)	MW-13A	09/17/2008		0.44	MG/L	
Nitrate (as n)	MW-13A	12/17/2008		0.48	MG/L	
Nitrate (as n)	MW-13A	03/24/2009		0.47	MG/L	
Nitrate (as n)	MW-13A	06/17/2009		0.49	MG/L	
Nitrate (as n)	MW-13A	09/10/2009		0.45	MG/L	
Nitrate (as n)	MW-13A	12/03/2009		0.41	MG/L	
Nitrate (as n)	MW-13A	03/25/2010		0.48	MG/L	
Nitrate (as n)	MW-13A	06/23/2010		0.47	MG/L	
Nitrate (as n)	MW-13A	09/23/2010		0.51	MG/L	
Nitrate (as n)	MW-13A	12/08/2010		0.49	MG/L	
Nitrate (as n)	MW-13A	03/30/2011		0.53	MG/L	
Nitrate (as n)	MW-13A	06/06/2011		0.46	MG/L	
Nitrate (as n)	MW-13A	09/27/2011		0.48	MG/L	
Nitrate (as n)	MW-13A	12/14/2011		0.48	MG/L	
Nitrate (as n)	MW-13A	03/21/2012		9.4	MG/L	*
Nitrate (as n)	MW-13A	06/08/2012		0.45	MG/L	
Nitrate (as n)	MW-13A	09/26/2012		0.42	MG/L	
Nitrate (as n)	MW-13A	12/03/2012		0.54	MG/L	
Nitrate (as n)	MW-13A	03/11/2013		0.46	MG/L	
Nitrate (as n)	MW-13A	06/05/2013		0.49	MG/L	
Nitrate (as n)	MW-13A	12/03/2013		0.47	MG/L	
Nitrate (as n)	MW-13A	03/04/2014		0.48	MG/L	
Nitrate (as n)	MW-13A	06/02/2014		0.48	MG/L	
Nitrate (as n)	MW-13A	09/22/2014		0.44	MG/L	
Nitrate (as n)	MW-13A	11/17/2014		0.46	MG/L	
Nitrate (as n)	MW-13A	02/23/2015		0.47	MG/L	
Nitrate (as n)	MW-13A	05/19/2015		0.45	MG/L	
Nitrate (as n)	MW-13A	08/26/2015		0.41	MG/L	
Nitrate (as n)	MW-13A	11/10/2015		0.44	MG/L	
Nitrate (as n)	MW-13A	02/22/2016		0.42	MG/L	
Nitrate (as n)	MW-13A	05/16/2016		0.45	MG/L	
Nitrate (as n)	MW-13A	08/31/2016		0.45	MG/L	
Nitrate (as n)	MW-13A	11/14/2016		0.48	MG/L	
Nitrate (as n)	MW-13A	05/24/2017		0.45	MG/L	
Nitrate (as n)	MW-13A	11/13/2017		0.42	MG/L	
Nitrate (as n)	MW-13A	02/20/2018		0.41	MG/L	
Nitrate (as n)	MW-13A	05/15/2018		0.48	MG/L	
Nitrate (as n)	MW-13A	08/21/2018		0.39	MG/L	
Nitrate (as n)	MW-13A	11/12/2018		0.38	MG/L	
Nitrate (as n)	MW-13B	03/22/2005		0.5	MG/L	
Nitrate (as n)	MW-13B	06/15/2005		0.74	MG/L	
Nitrate (as n)	MW-13B	09/27/2005		0.46	MG/L	
Nitrate (as n)	MW-13B	12/15/2005		0.49	MG/L	
Nitrate (as n)	MW-13B	03/29/2006		0.44	MG/L	
Nitrate (as n)	MW-13B	06/21/2006		0.56	MG/L	
Nitrate (as n)	MW-13B	09/26/2006		0.44	MG/L	
Nitrate (as n)	MW-13B	12/13/2006		0.4	MG/L	
Nitrate (as n)	MW-13B	03/27/2007		0.43	MG/L	
Nitrate (as n)	MW-13B	06/19/2007		0.48	MG/L	
Nitrate (as n)	MW-13B	09/18/2007		0.48	MG/L	
Nitrate (as n)	MW-13B	12/19/2007		0.89	MG/L	
Nitrate (as n)	MW-13B	03/25/2008		0.48	MG/L	
Nitrate (as n)	MW-13B	06/18/2008		0.95	MG/L	
Nitrate (as n)	MW-13B	09/17/2008		0.46	MG/L	
Nitrate (as n)	MW-13B	12/16/2008		0.53	MG/L	
Nitrate (as n)	MW-13B	03/24/2009		0.46	MG/L	
Nitrate (as n)	MW-13B	06/17/2009		0.49	MG/L	

* = outlier for that consistituent/well
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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Nitrate (as n)	MW-13B	09/10/2009		0.46	MG/L	
Nitrate (as n)	MW-13B	12/03/2009		0.4	MG/L	
Nitrate (as n)	MW-13B	03/25/2010		0.46	MG/L	
Nitrate (as n)	MW-13B	06/23/2010		0.45	MG/L	
Nitrate (as n)	MW-13B	09/23/2010		0.48	MG/L	
Nitrate (as n)	MW-13B	12/08/2010		0.5	MG/L	
Nitrate (as n)	MW-13B	03/30/2011		0.51	MG/L	
Nitrate (as n)	MW-13B	06/06/2011		0.43	MG/L	
Nitrate (as n)	MW-13B	09/27/2011		0.46	MG/L	
Nitrate (as n)	MW-13B	12/14/2011		0.47	MG/L	
Nitrate (as n)	MW-13B	03/21/2012		9.7	MG/L	*
Nitrate (as n)	MW-13B	06/08/2012		0.45	MG/L	
Nitrate (as n)	MW-13B	09/26/2012		0.4	MG/L	
Nitrate (as n)	MW-13B	12/03/2012		0.42	MG/L	
Nitrate (as n)	MW-13B	03/11/2013		0.43	MG/L	
Nitrate (as n)	MW-13B	06/05/2013		0.49	MG/L	
Nitrate (as n)	MW-13B	12/03/2013		0.51	MG/L	
Nitrate (as n)	MW-13B	03/04/2014		0.45	MG/L	
Nitrate (as n)	MW-13B	06/02/2014		0.53	MG/L	
Nitrate (as n)	MW-13B	09/22/2014		0.45	MG/L	
Nitrate (as n)	MW-13B	11/17/2014		0.47	MG/L	
Nitrate (as n)	MW-13B	02/23/2015		0.45	MG/L	
Nitrate (as n)	MW-13B	05/19/2015		0.45	MG/L	
Nitrate (as n)	MW-13B	08/26/2015		0.44	MG/L	
Nitrate (as n)	MW-13B	11/10/2015		0.45	MG/L	
Nitrate (as n)	MW-13B	02/22/2016		0.43	MG/L	
Nitrate (as n)	MW-13B	05/16/2016		0.46	MG/L	
Nitrate (as n)	MW-13B	08/31/2016		0.45	MG/L	
Nitrate (as n)	MW-13B	11/14/2016		0.64	MG/L	
Nitrate (as n)	MW-13B	05/24/2017		0.48	MG/L	
Nitrate (as n)	MW-13B	11/13/2017		0.44	MG/L	
Nitrate (as n)	MW-13B	02/20/2018		0.43	MG/L	
Nitrate (as n)	MW-13B	05/15/2018		0.43	MG/L	
Nitrate (as n)	MW-13B	08/21/2018		0.45	MG/L	
Nitrate (as n)	MW-13B	11/12/2018		0.4	MG/L	
Nitrate (as n)	MW-16	03/24/2009		0.28	MG/L	
Nitrate (as n)	MW-16	06/16/2009		0.33	MG/L	
Nitrate (as n)	MW-16	09/09/2009		0.31	MG/L	
Nitrate (as n)	MW-16	12/03/2009		0.4	MG/L	
Nitrate (as n)	MW-16	03/25/2010		0.29	MG/L	
Nitrate (as n)	MW-16	06/24/2010		0.16	MG/L	
Nitrate (as n)	MW-16	09/24/2010		0.51	MG/L	
Nitrate (as n)	MW-16	12/09/2010		0.9	MG/L	
Nitrate (as n)	MW-16	03/30/2011		0.52	MG/L	
Nitrate (as n)	MW-16	06/07/2011		0.46	MG/L	
Nitrate (as n)	MW-16	09/27/2011		0.73	MG/L	
Nitrate (as n)	MW-16	12/13/2011		1.1	MG/L	
Nitrate (as n)	MW-16	03/21/2012		0.89	MG/L	*
Nitrate (as n)	MW-16	06/08/2012		1.4	MG/L	
Nitrate (as n)	MW-16	09/27/2012		0.96	MG/L	
Nitrate (as n)	MW-16	12/04/2012		0.86	MG/L	
Nitrate (as n)	MW-16	03/12/2013		1.6	MG/L	
Nitrate (as n)	MW-16	06/04/2013		1.5	MG/L	
Nitrate (as n)	MW-16	09/05/2013		0.72	MG/L	
Nitrate (as n)	MW-16	12/16/2013		0.75	MG/L	
Nitrate (as n)	MW-16	03/05/2014		0.55	MG/L	
Nitrate (as n)	MW-16	06/02/2014		1.2	MG/L	
Nitrate (as n)	MW-16	09/22/2014		0.36	MG/L	
Nitrate (as n)	MW-16	11/18/2014		0.28	MG/L	
Nitrate (as n)	MW-16	02/23/2015		0.26	MG/L	
Nitrate (as n)	MW-16	05/20/2015		0.55	MG/L	
Nitrate (as n)	MW-16	08/26/2015		0.38	MG/L	
Nitrate (as n)	MW-16	11/11/2015		0.19	MG/L	
Nitrate (as n)	MW-16	02/24/2016		0.5	MG/L	
Nitrate (as n)	MW-16	05/16/2016		0.69	MG/L	
Nitrate (as n)	MW-16	08/31/2016		0.27	MG/L	
Nitrate (as n)	MW-16	11/14/2016		0.24	MG/L	
Nitrate (as n)	MW-16	05/24/2017		0.55	MG/L	
Nitrate (as n)	MW-16	11/13/2017		0.28	MG/L	
Nitrate (as n)	MW-16	02/20/2018		0.32	MG/L	
Nitrate (as n)	MW-16	05/17/2018		0.62	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Nitrate (as n)	MW-16	08/22/2018		0.17	MG/L	
Nitrate (as n)	MW-16	11/12/2018		0.28	MG/L	
Nitrate (as n)	MW-35	03/22/2005		0.37	MG/L	
Nitrate (as n)	MW-35	06/14/2005		0.33	MG/L	
Nitrate (as n)	MW-35	09/27/2005		0.96	MG/L	
Nitrate (as n)	MW-35	12/15/2005		0.29	MG/L	
Nitrate (as n)	MW-35	03/28/2006		0.34	MG/L	
Nitrate (as n)	MW-35	06/21/2006		0.4	MG/L	
Nitrate (as n)	MW-35	09/26/2006		0.31	MG/L	
Nitrate (as n)	MW-35	12/12/2006		0.35	MG/L	
Nitrate (as n)	MW-35	03/27/2007		0.3	MG/L	
Nitrate (as n)	MW-35	06/20/2007		0.34	MG/L	
Nitrate (as n)	MW-35	09/18/2007		0.32	MG/L	
Nitrate (as n)	MW-35	12/20/2007		0.32	MG/L	
Nitrate (as n)	MW-35	03/25/2008		0.3	MG/L	
Nitrate (as n)	MW-35	06/18/2008		1	MG/L	
Nitrate (as n)	MW-35	09/18/2008		0.35	MG/L	
Nitrate (as n)	MW-35	12/19/2008		0.37	MG/L	
Nitrate (as n)	MW-35	03/24/2009		0.35	MG/L	
Nitrate (as n)	MW-35	06/16/2009		0.37	MG/L	
Nitrate (as n)	MW-35	09/10/2009		0.35	MG/L	
Nitrate (as n)	MW-35	12/03/2009		0.52	MG/L	
Nitrate (as n)	MW-35	03/25/2010		0.36	MG/L	
Nitrate (as n)	MW-35	06/23/2010		0.32	MG/L	
Nitrate (as n)	MW-35	09/23/2010		0.4	MG/L	
Nitrate (as n)	MW-35	12/09/2010		0.39	MG/L	
Nitrate (as n)	MW-35	03/30/2011		0.39	MG/L	
Nitrate (as n)	MW-35	06/06/2011		0.39	MG/L	
Nitrate (as n)	MW-35	09/26/2011		0.4	MG/L	
Nitrate (as n)	MW-35	12/13/2011		0.39	MG/L	
Nitrate (as n)	MW-35	03/21/2012		0.45	MG/L	*
Nitrate (as n)	MW-35	06/06/2012		0.43	MG/L	
Nitrate (as n)	MW-35	09/26/2012		0.37	MG/L	
Nitrate (as n)	MW-35	12/04/2012		0.42	MG/L	
Nitrate (as n)	MW-35	03/13/2013		0.47	MG/L	
Nitrate (as n)	MW-35	06/06/2013		0.45	MG/L	
Nitrate (as n)	MW-35	09/05/2013		0.42	MG/L	
Nitrate (as n)	MW-35	12/16/2013		0.4	MG/L	
Nitrate (as n)	MW-35	03/04/2014		0.42	MG/L	
Nitrate (as n)	MW-35	06/02/2014		0.42	MG/L	
Nitrate (as n)	MW-35	09/22/2014		0.42	MG/L	
Nitrate (as n)	MW-35	11/17/2014		0.42	MG/L	
Nitrate (as n)	MW-35	02/25/2015		0.41	MG/L	
Nitrate (as n)	MW-35	05/19/2015		0.4	MG/L	
Nitrate (as n)	MW-35	08/26/2015		0.4	MG/L	
Nitrate (as n)	MW-35	11/10/2015		0.41	MG/L	
Nitrate (as n)	MW-35	02/22/2016		0.41	MG/L	
Nitrate (as n)	MW-35	05/16/2016		0.44	MG/L	
Nitrate (as n)	MW-35	08/31/2016		0.43	MG/L	
Nitrate (as n)	MW-35	11/15/2016		0.47	MG/L	
Nitrate (as n)	MW-35	05/24/2017		0.49	MG/L	
Nitrate (as n)	MW-35	11/15/2017		0.51	MG/L	
Nitrate (as n)	MW-35	02/20/2018		0.44	MG/L	
Nitrate (as n)	MW-35	05/17/2018		0.44	MG/L	
Nitrate (as n)	MW-35	08/22/2018		0.42	MG/L	
Nitrate (as n)	MW-35	11/12/2018		0.41	MG/L	
pH	MW-13A	03/22/2005		7.01	pH Units	
pH	MW-13A	06/15/2005		7.21	pH Units	
pH	MW-13A	09/27/2005		7.1	pH Units	
pH	MW-13A	12/15/2005		6.34	pH Units	
pH	MW-13A	03/28/2006		6.9	pH Units	
pH	MW-13A	06/21/2006		7.25	pH Units	
pH	MW-13A	09/26/2006		7.25	pH Units	
pH	MW-13A	12/13/2006		6.87	pH Units	
pH	MW-13A	03/27/2007		7.32	pH Units	
pH	MW-13A	09/19/2007		6.68	pH Units	
pH	MW-13A	12/19/2007		7.29	pH Units	
pH	MW-13A	03/25/2008		7.12	pH Units	
pH	MW-13A	06/18/2008		7.19	pH Units	
pH	MW-13A	09/17/2008		7	pH Units	
pH	MW-13A	12/17/2008		6.51	pH Units	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
pH	MW-13A	03/24/2009		6.85	pH Units	
pH	MW-13A	06/17/2009		7.07	pH Units	
pH	MW-13A	12/03/2009		7.03	pH Units	
pH	MW-13A	03/25/2010		6.96	pH Units	
pH	MW-13A	06/23/2010		6.99	pH Units	
pH	MW-13A	09/23/2010		6.78	pH Units	
pH	MW-13A	12/08/2010		7.48	pH Units	
pH	MW-13A	03/30/2011		6.95	pH Units	
pH	MW-13A	06/06/2011		7.45	pH Units	
pH	MW-13A	09/27/2011		6.91	pH Units	
pH	MW-13A	12/14/2011		7.13	pH Units	
pH	MW-13A	03/21/2012		6.78	pH Units	
pH	MW-13A	06/08/2012		6.72	pH Units	
pH	MW-13A	09/26/2012		7.35	pH Units	
pH	MW-13A	12/03/2012		6.95	pH Units	
pH	MW-13A	03/11/2013		7.18	pH Units	
pH	MW-13A	06/05/2013		7.33	pH Units	
pH	MW-13A	12/03/2013		7.16	pH Units	
pH	MW-13A	03/04/2014		7.48	pH Units	
pH	MW-13A	06/02/2014		7.26	pH Units	
pH	MW-13A	09/22/2014		7.26	pH Units	
pH	MW-13A	11/17/2014		6.99	pH Units	
pH	MW-13A	05/19/2015		7.03	pH Units	
pH	MW-13A	08/26/2015		7.07	pH Units	
pH	MW-13A	11/10/2015		6.68	pH Units	
pH	MW-13A	02/22/2016		6.69	pH Units	
pH	MW-13A	05/16/2016		6.87	pH Units	
pH	MW-13A	08/31/2016		6.65	pH Units	
pH	MW-13A	11/14/2016		6.5	pH Units	
pH	MW-13A	02/22/2017		6.97	pH Units	
pH	MW-13A	05/24/2017		7.17	pH Units	
pH	MW-13A	08/30/2017		7	pH Units	
pH	MW-13A	11/13/2017		6.79	pH Units	
pH	MW-13A	02/20/2018		6.87	pH Units	
pH	MW-13A	05/15/2018		6.91	pH Units	
pH	MW-13A	08/21/2018		6.88	pH Units	
pH	MW-13A	11/12/2018		7.02	pH Units	
pH	MW-13B	03/22/2005		7.49	pH Units	
pH	MW-13B	06/15/2005		7.81	pH Units	
pH	MW-13B	09/27/2005		7.73	pH Units	
pH	MW-13B	12/15/2005		6.93	pH Units	
pH	MW-13B	03/29/2006		7.45	pH Units	
pH	MW-13B	06/21/2006		7.76	pH Units	
pH	MW-13B	09/26/2006		7.78	pH Units	
pH	MW-13B	12/13/2006		7.32	pH Units	
pH	MW-13B	03/27/2007		7.76	pH Units	
pH	MW-13B	09/18/2007		7.48	pH Units	
pH	MW-13B	12/19/2007		7.85	pH Units	
pH	MW-13B	03/25/2008		7.78	pH Units	
pH	MW-13B	06/18/2008		7.74	pH Units	
pH	MW-13B	09/17/2008		7.57	pH Units	
pH	MW-13B	12/16/2008		7.23	pH Units	
pH	MW-13B	03/24/2009		7.37	pH Units	
pH	MW-13B	06/17/2009		7.56	pH Units	
pH	MW-13B	12/03/2009		6.93	pH Units	
pH	MW-13B	03/25/2010		7.49	pH Units	
pH	MW-13B	06/23/2010		7.27	pH Units	
pH	MW-13B	09/23/2010		7.11	pH Units	
pH	MW-13B	12/08/2010		7.05	pH Units	
pH	MW-13B	03/30/2011		7.51	pH Units	
pH	MW-13B	06/06/2011		7.58	pH Units	
pH	MW-13B	09/27/2011		7.08	pH Units	
pH	MW-13B	12/14/2011		7.53	pH Units	
pH	MW-13B	03/21/2012		7.09	pH Units	
pH	MW-13B	06/08/2012		7.15	pH Units	
pH	MW-13B	09/26/2012		7.32	pH Units	
pH	MW-13B	12/03/2012		7.32	pH Units	
pH	MW-13B	03/11/2013		7.42	pH Units	
pH	MW-13B	06/05/2013		7.27	pH Units	
pH	MW-13B	12/03/2013		7.34	pH Units	
pH	MW-13B	03/04/2014		7.4	pH Units	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
pH	MW-13B	06/02/2014		7.35	pH Units	
pH	MW-13B	09/22/2014		7.68	pH Units	
pH	MW-13B	11/17/2014		7.08	pH Units	
pH	MW-13B	05/19/2015		7.65	pH Units	
pH	MW-13B	08/26/2015		7.59	pH Units	
pH	MW-13B	11/10/2015		7.28	pH Units	
pH	MW-13B	02/22/2016		7.01	pH Units	
pH	MW-13B	05/16/2016		7.31	pH Units	
pH	MW-13B	08/31/2016		7.23	pH Units	
pH	MW-13B	11/14/2016		7.17	pH Units	
pH	MW-13B	02/22/2017		7.65	pH Units	
pH	MW-13B	05/24/2017		7.76	pH Units	
pH	MW-13B	08/30/2017		7.41	pH Units	
pH	MW-13B	11/13/2017		7.49	pH Units	
pH	MW-13B	02/20/2018		7.35	pH Units	
pH	MW-13B	05/15/2018		7.35	pH Units	
pH	MW-13B	08/21/2018		7.31	pH Units	
pH	MW-13B	11/12/2018		7.65	pH Units	
pH	MW-16	03/24/2009		6.27	pH Units	
pH	MW-16	06/16/2009		6.33	pH Units	
pH	MW-16	12/03/2009		6.27	pH Units	
pH	MW-16	03/25/2010		6.26	pH Units	
pH	MW-16	06/24/2010		6.04	pH Units	
pH	MW-16	09/24/2010		5.9	pH Units	
pH	MW-16	12/09/2010		6.17	pH Units	
pH	MW-16	03/30/2011		6.31	pH Units	
pH	MW-16	06/07/2011		6.15	pH Units	
pH	MW-16	09/27/2011		6.44	pH Units	
pH	MW-16	12/13/2011		6.3	pH Units	
pH	MW-16	03/21/2012		6.32	pH Units	
pH	MW-16	06/08/2012		6.25	pH Units	
pH	MW-16	09/27/2012		6.26	pH Units	
pH	MW-16	12/04/2012		6.22	pH Units	
pH	MW-16	03/12/2013		6.35	pH Units	
pH	MW-16	06/04/2013		6.45	pH Units	
pH	MW-16	09/05/2013		6.62	pH Units	
pH	MW-16	12/16/2013		6.32	pH Units	
pH	MW-16	03/05/2014		6.5	pH Units	
pH	MW-16	06/02/2014		6.61	pH Units	
pH	MW-16	09/22/2014		6.4	pH Units	
pH	MW-16	11/18/2014		6.38	pH Units	
pH	MW-16	02/23/2015		6.48	pH Units	
pH	MW-16	05/20/2015		6.51	pH Units	
pH	MW-16	08/26/2015		6.35	pH Units	
pH	MW-16	11/11/2015		6.13	pH Units	
pH	MW-16	02/24/2016		6.49	pH Units	
pH	MW-16	05/16/2016		6.11	pH Units	
pH	MW-16	08/31/2016		5.93	pH Units	
pH	MW-16	11/14/2016		5.89	pH Units	
pH	MW-16	02/22/2017		6.42	pH Units	
pH	MW-16	05/24/2017		6.35	pH Units	
pH	MW-16	08/30/2017		6.17	pH Units	
pH	MW-16	11/13/2017		6.35	pH Units	
pH	MW-16	02/20/2018		6.11	pH Units	
pH	MW-16	05/17/2018		6.27	pH Units	
pH	MW-16	08/22/2018		6.1	pH Units	
pH	MW-16	11/12/2018		6.34	pH Units	
pH	MW-35	03/22/2005		7.06	pH Units	
pH	MW-35	06/14/2005		7.43	pH Units	
pH	MW-35	09/27/2005		7.39	pH Units	
pH	MW-35	12/15/2005		6.41	pH Units	
pH	MW-35	03/28/2006		7.1	pH Units	
pH	MW-35	06/21/2006		7.46	pH Units	
pH	MW-35	09/26/2006		7.5	pH Units	
pH	MW-35	12/12/2006		6.99	pH Units	
pH	MW-35	03/27/2007		7.51	pH Units	
pH	MW-35	09/18/2007		6.97	pH Units	
pH	MW-35	12/20/2007		7.25	pH Units	
pH	MW-35	03/25/2008		7.4	pH Units	
pH	MW-35	06/18/2008		7.44	pH Units	
pH	MW-35	09/18/2008		7.42	pH Units	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
pH	MW-35	12/19/2008		7.19	pH Units	
pH	MW-35	03/24/2009		7.21	pH Units	
pH	MW-35	06/16/2009		7.15	pH Units	
pH	MW-35	12/03/2009		7.22	pH Units	
pH	MW-35	03/25/2010		7.24	pH Units	
pH	MW-35	06/23/2010		7.37	pH Units	
pH	MW-35	09/23/2010		6.85	pH Units	
pH	MW-35	12/09/2010		7.39	pH Units	
pH	MW-35	03/30/2011		7.37	pH Units	
pH	MW-35	06/06/2011		7.23	pH Units	
pH	MW-35	09/26/2011		6.86	pH Units	
pH	MW-35	12/13/2011		7	pH Units	
pH	MW-35	03/21/2012		7.02	pH Units	
pH	MW-35	06/06/2012		6.98	pH Units	
pH	MW-35	09/26/2012		7.11	pH Units	
pH	MW-35	12/04/2012		7.16	pH Units	
pH	MW-35	03/13/2013		7.06	pH Units	
pH	MW-35	06/06/2013		7.37	pH Units	
pH	MW-35	09/05/2013		7.1	pH Units	
pH	MW-35	12/16/2013		7.15	pH Units	
pH	MW-35	03/04/2014		7.53	pH Units	
pH	MW-35	06/02/2014		7.17	pH Units	
pH	MW-35	09/22/2014		6.62	pH Units	
pH	MW-35	11/17/2014		7.48	pH Units	
pH	MW-35	02/25/2015		7.77	pH Units	
pH	MW-35	05/19/2015		6.72	pH Units	
pH	MW-35	08/26/2015		7.25	pH Units	
pH	MW-35	11/10/2015		6.92	pH Units	
pH	MW-35	02/22/2016		6.58	pH Units	
pH	MW-35	05/16/2016		6.95	pH Units	
pH	MW-35	08/31/2016		7.09	pH Units	
pH	MW-35	11/15/2016		6.61	pH Units	
pH	MW-35	02/22/2017		7.38	pH Units	
pH	MW-35	05/24/2017		7.23	pH Units	
pH	MW-35	08/30/2017		7.29	pH Units	
pH	MW-35	11/15/2017		6.98	pH Units	
pH	MW-35	02/20/2018		6.93	pH Units	
pH	MW-35	05/17/2018		6.95	pH Units	
pH	MW-35	08/22/2018		7.06	pH Units	
pH	MW-35	11/12/2018		7.4	pH Units	
Potassium, dissolved	MW-13A	03/22/2005		0.57	MG/L	
Potassium, dissolved	MW-13A	06/15/2005		0.52	MG/L	
Potassium, dissolved	MW-13A	09/27/2005		0.48	MG/L	
Potassium, dissolved	MW-13A	12/15/2005		0.5	MG/L	
Potassium, dissolved	MW-13A	03/28/2006	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/21/2006	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/26/2006	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/13/2006	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/27/2007	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/19/2007	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/19/2007	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/19/2007	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/25/2008	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/18/2008	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/17/2008	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/17/2008	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/24/2009	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/17/2009	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/10/2009	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/03/2009	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/25/2010	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/23/2010	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/23/2010	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/08/2010	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/30/2011	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/06/2011	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/27/2011	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/14/2011	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/21/2012	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/08/2012	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/26/2012	ND	1	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Potassium, dissolved	MW-13A	12/03/2012	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/11/2013	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/05/2013	ND	1	MG/L	
Potassium, dissolved	MW-13A	12/03/2013	ND	1	MG/L	
Potassium, dissolved	MW-13A	03/04/2014	ND	1	MG/L	
Potassium, dissolved	MW-13A	06/02/2014	ND	1	MG/L	
Potassium, dissolved	MW-13A	09/22/2014	ND	1	MG/L	
Potassium, dissolved	MW-13A	11/17/2014	ND	1	MG/L	
Potassium, dissolved	MW-13A	02/23/2015	ND	1	MG/L	
Potassium, dissolved	MW-13A	05/19/2015	ND	1	MG/L	
Potassium, dissolved	MW-13A	08/26/2015	ND	1	MG/L	
Potassium, dissolved	MW-13A	11/10/2015	ND	1	MG/L	
Potassium, dissolved	MW-13A	02/22/2016	ND	1	MG/L	
Potassium, dissolved	MW-13A	05/16/2016	ND	1	MG/L	
Potassium, dissolved	MW-13A	08/31/2016	ND	1	MG/L	
Potassium, dissolved	MW-13A	11/14/2016	ND	1	MG/L	
Potassium, dissolved	MW-13A	02/22/2017	ND	1	MG/L	
Potassium, dissolved	MW-13A	05/24/2017		1.4	MG/L	
Potassium, dissolved	MW-13A	08/30/2017	ND	1	MG/L	
Potassium, dissolved	MW-13A	11/13/2017	ND	1	MG/L	
Potassium, dissolved	MW-13A	02/20/2018	ND	1	MG/L	
Potassium, dissolved	MW-13A	05/15/2018	ND	1	MG/L	
Potassium, dissolved	MW-13A	08/21/2018	ND	1	MG/L	
Potassium, dissolved	MW-13A	11/12/2018	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/22/2005		0.6	MG/L	
Potassium, dissolved	MW-13B	06/15/2005		0.55	MG/L	
Potassium, dissolved	MW-13B	09/27/2005		0.55	MG/L	
Potassium, dissolved	MW-13B	12/15/2005		0.52	MG/L	
Potassium, dissolved	MW-13B	03/29/2006	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/21/2006	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/26/2006	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/13/2006	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/27/2007	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/19/2007	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/18/2007	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/19/2007	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/25/2008	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/18/2008	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/17/2008	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/16/2008	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/24/2009	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/17/2009	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/10/2009	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/03/2009	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/25/2010	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/23/2010	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/23/2010	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/08/2010	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/30/2011	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/06/2011	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/27/2011	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/14/2011	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/21/2012	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/08/2012	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/26/2012	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/03/2012	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/11/2013	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/05/2013	ND	1	MG/L	
Potassium, dissolved	MW-13B	12/03/2013	ND	1	MG/L	
Potassium, dissolved	MW-13B	03/04/2014	ND	1	MG/L	
Potassium, dissolved	MW-13B	06/02/2014	ND	1	MG/L	
Potassium, dissolved	MW-13B	09/22/2014	ND	1	MG/L	
Potassium, dissolved	MW-13B	11/17/2014	ND	1	MG/L	
Potassium, dissolved	MW-13B	02/23/2015	ND	1	MG/L	
Potassium, dissolved	MW-13B	05/19/2015	ND	1	MG/L	
Potassium, dissolved	MW-13B	08/26/2015	ND	1	MG/L	
Potassium, dissolved	MW-13B	11/10/2015	ND	1	MG/L	
Potassium, dissolved	MW-13B	02/22/2016	ND	1	MG/L	
Potassium, dissolved	MW-13B	05/16/2016	ND	1	MG/L	
Potassium, dissolved	MW-13B	08/31/2016	ND	1	MG/L	
Potassium, dissolved	MW-13B	11/14/2016	ND	1	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Potassium, dissolved	MW-13B	02/22/2017	ND	1	MG/L	
Potassium, dissolved	MW-13B	05/24/2017	ND	1	MG/L	
Potassium, dissolved	MW-13B	08/30/2017	ND	1	MG/L	
Potassium, dissolved	MW-13B	11/13/2017	ND	1	MG/L	
Potassium, dissolved	MW-13B	02/20/2018	ND	1	MG/L	
Potassium, dissolved	MW-13B	05/15/2018	ND	1	MG/L	
Potassium, dissolved	MW-13B	08/21/2018	ND	1	MG/L	
Potassium, dissolved	MW-13B	11/12/2018	ND	1	MG/L	
Potassium, dissolved	MW-16	03/24/2009	ND	1	MG/L	
Potassium, dissolved	MW-16	06/16/2009	ND	1	MG/L	
Potassium, dissolved	MW-16	09/09/2009	ND	1	MG/L	
Potassium, dissolved	MW-16	12/03/2009	ND	1	MG/L	
Potassium, dissolved	MW-16	03/25/2010	ND	1	MG/L	
Potassium, dissolved	MW-16	06/24/2010	ND	1	MG/L	
Potassium, dissolved	MW-16	09/24/2010	ND	1	MG/L	
Potassium, dissolved	MW-16	12/09/2010	ND	1	MG/L	
Potassium, dissolved	MW-16	03/30/2011	ND	1	MG/L	
Potassium, dissolved	MW-16	06/07/2011	ND	1	MG/L	
Potassium, dissolved	MW-16	09/27/2011	ND	1	MG/L	
Potassium, dissolved	MW-16	12/13/2011	ND	1	MG/L	
Potassium, dissolved	MW-16	03/21/2012	ND	1	MG/L	
Potassium, dissolved	MW-16	06/08/2012	ND	1	MG/L	
Potassium, dissolved	MW-16	09/27/2012	ND	1	MG/L	
Potassium, dissolved	MW-16	12/04/2012	ND	1	MG/L	
Potassium, dissolved	MW-16	03/12/2013	ND	1	MG/L	
Potassium, dissolved	MW-16	06/04/2013	ND	1	MG/L	
Potassium, dissolved	MW-16	09/05/2013	ND	1	MG/L	
Potassium, dissolved	MW-16	12/16/2013	ND	1	MG/L	
Potassium, dissolved	MW-16	03/05/2014	ND	1	MG/L	
Potassium, dissolved	MW-16	06/02/2014		1.2	MG/L	
Potassium, dissolved	MW-16	09/22/2014	ND	1	MG/L	
Potassium, dissolved	MW-16	11/18/2014	ND	1	MG/L	
Potassium, dissolved	MW-16	02/23/2015	ND	1	MG/L	
Potassium, dissolved	MW-16	05/20/2015	ND	1	MG/L	
Potassium, dissolved	MW-16	08/26/2015	ND	1	MG/L	
Potassium, dissolved	MW-16	11/11/2015	ND	1	MG/L	
Potassium, dissolved	MW-16	02/24/2016	ND	1	MG/L	
Potassium, dissolved	MW-16	05/16/2016	ND	1	MG/L	
Potassium, dissolved	MW-16	08/31/2016	ND	1	MG/L	
Potassium, dissolved	MW-16	11/14/2016	ND	1	MG/L	
Potassium, dissolved	MW-16	02/22/2017	ND	1	MG/L	
Potassium, dissolved	MW-16	05/24/2017	ND	1	MG/L	
Potassium, dissolved	MW-16	08/30/2017	ND	1	MG/L	
Potassium, dissolved	MW-16	11/13/2017	ND	1	MG/L	
Potassium, dissolved	MW-16	02/20/2018	ND	1	MG/L	
Potassium, dissolved	MW-16	05/17/2018	ND	1	MG/L	
Potassium, dissolved	MW-16	08/22/2018	ND	1	MG/L	
Potassium, dissolved	MW-16	11/12/2018	ND	1	MG/L	
Potassium, dissolved	MW-35	03/22/2005		0.52	MG/L	
Potassium, dissolved	MW-35	06/14/2005		0.48	MG/L	
Potassium, dissolved	MW-35	09/27/2005		0.52	MG/L	
Potassium, dissolved	MW-35	12/15/2005		0.46	MG/L	
Potassium, dissolved	MW-35	03/28/2006	ND	1	MG/L	
Potassium, dissolved	MW-35	06/21/2006	ND	1	MG/L	
Potassium, dissolved	MW-35	09/26/2006	ND	1	MG/L	
Potassium, dissolved	MW-35	12/12/2006	ND	1	MG/L	
Potassium, dissolved	MW-35	03/27/2007	ND	1	MG/L	
Potassium, dissolved	MW-35	06/20/2007	ND	1	MG/L	
Potassium, dissolved	MW-35	09/18/2007	ND	1	MG/L	
Potassium, dissolved	MW-35	12/20/2007	ND	1	MG/L	
Potassium, dissolved	MW-35	03/25/2008	ND	1	MG/L	
Potassium, dissolved	MW-35	06/18/2008	ND	1	MG/L	
Potassium, dissolved	MW-35	09/18/2008	ND	1	MG/L	
Potassium, dissolved	MW-35	12/19/2008	ND	1	MG/L	
Potassium, dissolved	MW-35	03/24/2009	ND	1	MG/L	
Potassium, dissolved	MW-35	06/16/2009	ND	1	MG/L	
Potassium, dissolved	MW-35	09/10/2009	ND	1	MG/L	
Potassium, dissolved	MW-35	12/03/2009	ND	1	MG/L	
Potassium, dissolved	MW-35	03/25/2010	ND	1	MG/L	
Potassium, dissolved	MW-35	06/23/2010	ND	1	MG/L	
Potassium, dissolved	MW-35	09/23/2010	ND	1	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Potassium, dissolved	MW-35	12/09/2010	ND	1	MG/L	
Potassium, dissolved	MW-35	03/30/2011	ND	1	MG/L	
Potassium, dissolved	MW-35	06/06/2011	ND	1	MG/L	
Potassium, dissolved	MW-35	09/26/2011	ND	1	MG/L	
Potassium, dissolved	MW-35	12/13/2011	ND	1	MG/L	
Potassium, dissolved	MW-35	03/21/2012	ND	1	MG/L	
Potassium, dissolved	MW-35	06/06/2012	ND	1	MG/L	
Potassium, dissolved	MW-35	09/26/2012	ND	1	MG/L	
Potassium, dissolved	MW-35	12/04/2012	ND	1	MG/L	
Potassium, dissolved	MW-35	03/13/2013	ND	1	MG/L	
Potassium, dissolved	MW-35	06/06/2013	ND	1	MG/L	
Potassium, dissolved	MW-35	09/05/2013	ND	1	MG/L	
Potassium, dissolved	MW-35	12/16/2013	ND	1	MG/L	
Potassium, dissolved	MW-35	03/04/2014	ND	1	MG/L	
Potassium, dissolved	MW-35	06/02/2014	ND	1	MG/L	
Potassium, dissolved	MW-35	09/22/2014	ND	1	MG/L	
Potassium, dissolved	MW-35	11/17/2014	ND	1	MG/L	
Potassium, dissolved	MW-35	02/25/2015	ND	1	MG/L	
Potassium, dissolved	MW-35	05/19/2015	ND	1	MG/L	
Potassium, dissolved	MW-35	08/26/2015	ND	1	MG/L	
Potassium, dissolved	MW-35	11/10/2015	ND	1	MG/L	
Potassium, dissolved	MW-35	02/22/2016	ND	1	MG/L	
Potassium, dissolved	MW-35	05/16/2016	ND	1	MG/L	
Potassium, dissolved	MW-35	08/31/2016	ND	1	MG/L	
Potassium, dissolved	MW-35	11/15/2016	ND	1	MG/L	
Potassium, dissolved	MW-35	02/22/2017	ND	1	MG/L	
Potassium, dissolved	MW-35	05/24/2017	ND	1	MG/L	
Potassium, dissolved	MW-35	08/30/2017	ND	1	MG/L	
Potassium, dissolved	MW-35	11/15/2017	ND	1	MG/L	
Potassium, dissolved	MW-35	02/20/2018	ND	1	MG/L	
Potassium, dissolved	MW-35	05/17/2018	ND	1	MG/L	
Potassium, dissolved	MW-35	08/22/2018	ND	1	MG/L	
Potassium, dissolved	MW-35	11/12/2018	ND	1	MG/L	
Selenium, total	MW-13A	12/03/2013	ND	0.001	MG/L	
Selenium, total	MW-13A	03/04/2014	ND	0.001	MG/L	
Selenium, total	MW-13A	06/02/2014	ND	0.001	MG/L	
Selenium, total	MW-13A	09/22/2014	ND	0.001	MG/L	
Selenium, total	MW-13A	11/17/2014	ND	0.001	MG/L	
Selenium, total	MW-13A	02/23/2015	ND	0.001	MG/L	
Selenium, total	MW-13A	05/19/2015	ND	0.001	MG/L	
Selenium, total	MW-13A	08/26/2015	ND	0.001	MG/L	
Selenium, total	MW-13A	11/10/2015	ND	0.001	MG/L	
Selenium, total	MW-13A	02/22/2016	ND	0.001	MG/L	
Selenium, total	MW-13A	05/16/2016	ND	0.001	MG/L	
Selenium, total	MW-13A	08/31/2016	ND	0.001	MG/L	
Selenium, total	MW-13A	11/14/2016	ND	0.001	MG/L	
Selenium, total	MW-13A	02/22/2017	ND	0.001	MG/L	
Selenium, total	MW-13A	05/24/2017	ND	0.001	MG/L	
Selenium, total	MW-13A	08/30/2017	ND	0.001	MG/L	
Selenium, total	MW-13A	11/13/2017	ND	0.001	MG/L	
Selenium, total	MW-13A	02/20/2018	ND	0.001	MG/L	
Selenium, total	MW-13A	05/15/2018	ND	0.001	MG/L	
Selenium, total	MW-13A	08/21/2018	ND	0.001	MG/L	
Selenium, total	MW-13A	11/12/2018	ND	0.001	MG/L	
Selenium, total	MW-13B	12/03/2013	ND	0.001	MG/L	
Selenium, total	MW-13B	03/04/2014	ND	0.001	MG/L	
Selenium, total	MW-13B	06/02/2014	ND	0.001	MG/L	
Selenium, total	MW-13B	09/22/2014	ND	0.001	MG/L	
Selenium, total	MW-13B	11/17/2014	ND	0.001	MG/L	
Selenium, total	MW-13B	02/23/2015	ND	0.001	MG/L	
Selenium, total	MW-13B	05/19/2015	ND	0.001	MG/L	
Selenium, total	MW-13B	08/26/2015	ND	0.001	MG/L	
Selenium, total	MW-13B	11/10/2015	ND	0.001	MG/L	
Selenium, total	MW-13B	02/22/2016	ND	0.001	MG/L	
Selenium, total	MW-13B	05/16/2016	ND	0.001	MG/L	
Selenium, total	MW-13B	08/31/2016	ND	0.001	MG/L	
Selenium, total	MW-13B	11/14/2016	ND	0.001	MG/L	
Selenium, total	MW-13B	02/22/2017	ND	0.001	MG/L	
Selenium, total	MW-13B	05/24/2017	ND	0.001	MG/L	
Selenium, total	MW-13B	08/30/2017	ND	0.001	MG/L	
Selenium, total	MW-13B	11/13/2017	ND	0.001	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Selenium, total	MW-13B	02/20/2018	ND	0.001	MG/L	
Selenium, total	MW-13B	05/15/2018	ND	0.001	MG/L	
Selenium, total	MW-13B	08/21/2018	ND	0.001	MG/L	
Selenium, total	MW-13B	11/12/2018	ND	0.001	MG/L	
Selenium, total	MW-16	09/05/2013	ND	0.001	MG/L	
Selenium, total	MW-16	12/16/2013	ND	0.001	MG/L	
Selenium, total	MW-16	03/05/2014	ND	0.001	MG/L	
Selenium, total	MW-16	06/02/2014	ND	0.001	MG/L	
Selenium, total	MW-16	09/22/2014	ND	0.001	MG/L	
Selenium, total	MW-16	11/18/2014	ND	0.001	MG/L	
Selenium, total	MW-16	02/23/2015	ND	0.001	MG/L	
Selenium, total	MW-16	05/20/2015	ND	0.001	MG/L	
Selenium, total	MW-16	08/26/2015	ND	0.001	MG/L	
Selenium, total	MW-16	11/11/2015	ND	0.001	MG/L	
Selenium, total	MW-16	02/24/2016	ND	0.001	MG/L	
Selenium, total	MW-16	05/16/2016	ND	0.001	MG/L	
Selenium, total	MW-16	08/31/2016	ND	0.001	MG/L	
Selenium, total	MW-16	11/14/2016	ND	0.001	MG/L	
Selenium, total	MW-16	02/22/2017	ND	0.001	MG/L	
Selenium, total	MW-16	05/24/2017	ND	0.001	MG/L	
Selenium, total	MW-16	08/30/2017	ND	0.001	MG/L	
Selenium, total	MW-16	11/13/2017	ND	0.001	MG/L	
Selenium, total	MW-16	02/20/2018	ND	0.001	MG/L	
Selenium, total	MW-16	05/17/2018	ND	0.001	MG/L	
Selenium, total	MW-16	08/22/2018	ND	0.001	MG/L	
Selenium, total	MW-16	11/12/2018	ND	0.001	MG/L	
Selenium, total	MW-35	09/05/2013	ND	0.001	MG/L	
Selenium, total	MW-35	12/16/2013	ND	0.001	MG/L	
Selenium, total	MW-35	03/04/2014	ND	0.001	MG/L	
Selenium, total	MW-35	06/02/2014	ND	0.001	MG/L	
Selenium, total	MW-35	09/22/2014	ND	0.001	MG/L	
Selenium, total	MW-35	11/17/2014	ND	0.001	MG/L	
Selenium, total	MW-35	02/25/2015	ND	0.001	MG/L	
Selenium, total	MW-35	05/19/2015	ND	0.001	MG/L	
Selenium, total	MW-35	08/26/2015	ND	0.001	MG/L	
Selenium, total	MW-35	11/10/2015	ND	0.001	MG/L	
Selenium, total	MW-35	02/22/2016	ND	0.001	MG/L	
Selenium, total	MW-35	05/16/2016	ND	0.001	MG/L	
Selenium, total	MW-35	08/31/2016	ND	0.001	MG/L	
Selenium, total	MW-35	11/15/2016	ND	0.001	MG/L	
Selenium, total	MW-35	02/22/2017	ND	0.001	MG/L	
Selenium, total	MW-35	05/24/2017	ND	0.001	MG/L	
Selenium, total	MW-35	08/30/2017	ND	0.001	MG/L	
Selenium, total	MW-35	11/15/2017	ND	0.001	MG/L	
Selenium, total	MW-35	02/20/2018	ND	0.001	MG/L	
Selenium, total	MW-35	05/17/2018	ND	0.001	MG/L	
Selenium, total	MW-35	08/22/2018	ND	0.001	MG/L	
Selenium, total	MW-35	11/12/2018	ND	0.001	MG/L	
Silver, total	MW-13A	12/03/2013	ND	0.002	MG/L	
Silver, total	MW-13A	03/04/2014	ND	0.002	MG/L	
Silver, total	MW-13A	06/02/2014	ND	0.002	MG/L	
Silver, total	MW-13A	09/22/2014	ND	0.002	MG/L	
Silver, total	MW-13A	11/17/2014	ND	0.002	MG/L	
Silver, total	MW-13A	02/23/2015	ND	0.002	MG/L	
Silver, total	MW-13A	05/19/2015	ND	0.002	MG/L	
Silver, total	MW-13A	08/26/2015	ND	0.002	MG/L	
Silver, total	MW-13A	11/10/2015	ND	0.002	MG/L	
Silver, total	MW-13A	02/22/2016	ND	0.002	MG/L	
Silver, total	MW-13A	05/16/2016	ND	0.002	MG/L	
Silver, total	MW-13A	08/31/2016	ND	0.002	MG/L	
Silver, total	MW-13A	11/14/2016	ND	0.002	MG/L	
Silver, total	MW-13A	02/22/2017	ND	0.002	MG/L	
Silver, total	MW-13A	05/24/2017	ND	0.002	MG/L	
Silver, total	MW-13A	08/30/2017	ND	0.002	MG/L	
Silver, total	MW-13A	11/13/2017	ND	0.002	MG/L	
Silver, total	MW-13A	02/20/2018	ND	0.002	MG/L	
Silver, total	MW-13A	05/15/2018	ND	0.002	MG/L	
Silver, total	MW-13A	08/21/2018	ND	0.002	MG/L	
Silver, total	MW-13A	11/12/2018	ND	0.002	MG/L	
Silver, total	MW-13B	12/03/2013	ND	0.002	MG/L	
Silver, total	MW-13B	03/04/2014	ND	0.002	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Silver, total	MW-13B	06/02/2014	ND	0.002	MG/L	
Silver, total	MW-13B	09/22/2014	ND	0.002	MG/L	
Silver, total	MW-13B	11/17/2014	ND	0.002	MG/L	
Silver, total	MW-13B	02/23/2015	ND	0.002	MG/L	
Silver, total	MW-13B	05/19/2015	ND	0.002	MG/L	
Silver, total	MW-13B	08/26/2015	ND	0.002	MG/L	
Silver, total	MW-13B	11/10/2015	ND	0.002	MG/L	
Silver, total	MW-13B	02/22/2016	ND	0.002	MG/L	
Silver, total	MW-13B	05/16/2016	ND	0.002	MG/L	
Silver, total	MW-13B	08/31/2016	ND	0.002	MG/L	
Silver, total	MW-13B	11/14/2016	ND	0.002	MG/L	
Silver, total	MW-13B	02/22/2017	ND	0.002	MG/L	
Silver, total	MW-13B	05/24/2017	ND	0.002	MG/L	
Silver, total	MW-13B	08/30/2017	ND	0.002	MG/L	
Silver, total	MW-13B	11/13/2017	ND	0.002	MG/L	
Silver, total	MW-13B	02/20/2018	ND	0.002	MG/L	
Silver, total	MW-13B	05/15/2018	ND	0.002	MG/L	
Silver, total	MW-13B	08/21/2018	ND	0.002	MG/L	
Silver, total	MW-13B	11/12/2018	ND	0.002	MG/L	
Silver, total	MW-16	09/05/2013	ND	0.002	MG/L	
Silver, total	MW-16	12/16/2013	ND	0.002	MG/L	
Silver, total	MW-16	03/05/2014	ND	0.002	MG/L	
Silver, total	MW-16	06/02/2014	ND	0.002	MG/L	
Silver, total	MW-16	09/22/2014	ND	0.002	MG/L	
Silver, total	MW-16	11/18/2014	ND	0.002	MG/L	
Silver, total	MW-16	02/23/2015	ND	0.002	MG/L	
Silver, total	MW-16	05/20/2015	ND	0.002	MG/L	
Silver, total	MW-16	08/26/2015	ND	0.002	MG/L	
Silver, total	MW-16	11/11/2015	ND	0.002	MG/L	
Silver, total	MW-16	02/24/2016	ND	0.002	MG/L	
Silver, total	MW-16	05/16/2016	ND	0.002	MG/L	
Silver, total	MW-16	08/31/2016	ND	0.002	MG/L	
Silver, total	MW-16	11/14/2016	ND	0.002	MG/L	
Silver, total	MW-16	02/22/2017	ND	0.002	MG/L	
Silver, total	MW-16	05/24/2017	ND	0.002	MG/L	
Silver, total	MW-16	08/30/2017	ND	0.002	MG/L	
Silver, total	MW-16	11/13/2017	ND	0.002	MG/L	
Silver, total	MW-16	02/20/2018	ND	0.002	MG/L	
Silver, total	MW-16	05/17/2018	ND	0.002	MG/L	
Silver, total	MW-16	08/22/2018	ND	0.002	MG/L	
Silver, total	MW-16	11/12/2018	ND	0.002	MG/L	
Silver, total	MW-35	09/05/2013	ND	0.002	MG/L	
Silver, total	MW-35	12/16/2013	ND	0.002	MG/L	
Silver, total	MW-35	03/04/2014	ND	0.002	MG/L	
Silver, total	MW-35	06/02/2014	ND	0.002	MG/L	
Silver, total	MW-35	09/22/2014	ND	0.002	MG/L	
Silver, total	MW-35	11/17/2014	ND	0.002	MG/L	
Silver, total	MW-35	02/25/2015	ND	0.002	MG/L	
Silver, total	MW-35	05/19/2015	ND	0.002	MG/L	
Silver, total	MW-35	08/26/2015	ND	0.002	MG/L	
Silver, total	MW-35	11/10/2015	ND	0.002	MG/L	
Silver, total	MW-35	02/22/2016	ND	0.002	MG/L	
Silver, total	MW-35	05/16/2016	ND	0.002	MG/L	
Silver, total	MW-35	08/31/2016	ND	0.002	MG/L	
Silver, total	MW-35	11/15/2016	ND	0.002	MG/L	
Silver, total	MW-35	02/22/2017	ND	0.002	MG/L	
Silver, total	MW-35	05/24/2017	ND	0.002	MG/L	
Silver, total	MW-35	08/30/2017	ND	0.002	MG/L	
Silver, total	MW-35	11/15/2017	ND	0.002	MG/L	
Silver, total	MW-35	02/20/2018	ND	0.002	MG/L	
Silver, total	MW-35	05/17/2018	ND	0.002	MG/L	
Silver, total	MW-35	08/22/2018	ND	0.002	MG/L	
Silver, total	MW-35	11/12/2018	ND	0.002	MG/L	
Sodium, dissolved	MW-13A	03/22/2005		5.4	MG/L	
Sodium, dissolved	MW-13A	06/15/2005		4.4	MG/L	
Sodium, dissolved	MW-13A	09/27/2005		4.5	MG/L	
Sodium, dissolved	MW-13A	12/15/2005		4.8	MG/L	
Sodium, dissolved	MW-13A	03/28/2006		5.4	MG/L	
Sodium, dissolved	MW-13A	06/21/2006		5.2	MG/L	
Sodium, dissolved	MW-13A	09/26/2006		5.5	MG/L	
Sodium, dissolved	MW-13A	12/13/2006		4.8	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Sodium, dissolved	MW-13A	03/27/2007		5.4	MG/L	
Sodium, dissolved	MW-13A	06/19/2007		5.5	MG/L	
Sodium, dissolved	MW-13A	09/19/2007		5.4	MG/L	
Sodium, dissolved	MW-13A	12/19/2007		4.9	MG/L	
Sodium, dissolved	MW-13A	03/25/2008		5.5	MG/L	
Sodium, dissolved	MW-13A	06/18/2008		5.5	MG/L	
Sodium, dissolved	MW-13A	09/17/2008		5.2	MG/L	
Sodium, dissolved	MW-13A	12/17/2008		5.5	MG/L	
Sodium, dissolved	MW-13A	03/24/2009		5.3	MG/L	
Sodium, dissolved	MW-13A	06/17/2009		5.4	MG/L	
Sodium, dissolved	MW-13A	09/10/2009		5.2	MG/L	
Sodium, dissolved	MW-13A	12/03/2009		5.6	MG/L	
Sodium, dissolved	MW-13A	03/25/2010		6.1	MG/L	
Sodium, dissolved	MW-13A	06/23/2010		5.7	MG/L	
Sodium, dissolved	MW-13A	09/23/2010		5	MG/L	
Sodium, dissolved	MW-13A	12/08/2010		5.2	MG/L	
Sodium, dissolved	MW-13A	03/30/2011		5.4	MG/L	
Sodium, dissolved	MW-13A	06/06/2011		5.4	MG/L	
Sodium, dissolved	MW-13A	09/27/2011		5.6	MG/L	
Sodium, dissolved	MW-13A	12/14/2011		5.5	MG/L	
Sodium, dissolved	MW-13A	03/21/2012		5.3	MG/L	
Sodium, dissolved	MW-13A	06/08/2012		5.2	MG/L	
Sodium, dissolved	MW-13A	09/26/2012		5.2	MG/L	
Sodium, dissolved	MW-13A	12/03/2012		5.5	MG/L	
Sodium, dissolved	MW-13A	03/11/2013		5.7	MG/L	
Sodium, dissolved	MW-13A	06/05/2013		5.6	MG/L	
Sodium, dissolved	MW-13A	12/03/2013		5.5	MG/L	
Sodium, dissolved	MW-13A	03/04/2014		5.4	MG/L	
Sodium, dissolved	MW-13A	06/02/2014		5.2	MG/L	
Sodium, dissolved	MW-13A	09/22/2014		5.2	MG/L	
Sodium, dissolved	MW-13A	11/17/2014		5.4	MG/L	
Sodium, dissolved	MW-13A	02/23/2015		5.2	MG/L	
Sodium, dissolved	MW-13A	05/19/2015		5.5	MG/L	
Sodium, dissolved	MW-13A	08/26/2015		5.3	MG/L	
Sodium, dissolved	MW-13A	11/10/2015		5.4	MG/L	
Sodium, dissolved	MW-13A	02/22/2016		5.9	MG/L	
Sodium, dissolved	MW-13A	05/16/2016		5.5	MG/L	
Sodium, dissolved	MW-13A	08/31/2016		5.4	MG/L	
Sodium, dissolved	MW-13A	11/14/2016		5.4	MG/L	
Sodium, dissolved	MW-13A	02/22/2017		5.4	MG/L	
Sodium, dissolved	MW-13A	05/24/2017		7.7	MG/L	
Sodium, dissolved	MW-13A	08/30/2017		5.4	MG/L	
Sodium, dissolved	MW-13A	11/13/2017		5.1	MG/L	
Sodium, dissolved	MW-13A	02/20/2018		4.6	MG/L	
Sodium, dissolved	MW-13A	05/15/2018		4.8	MG/L	
Sodium, dissolved	MW-13A	08/21/2018		4.9	MG/L	
Sodium, dissolved	MW-13A	11/12/2018		5.2	MG/L	
Sodium, dissolved	MW-13B	03/22/2005		5.3	MG/L	
Sodium, dissolved	MW-13B	06/15/2005		4.8	MG/L	
Sodium, dissolved	MW-13B	09/27/2005		5	MG/L	
Sodium, dissolved	MW-13B	12/15/2005		4.8	MG/L	
Sodium, dissolved	MW-13B	03/29/2006		4.9	MG/L	
Sodium, dissolved	MW-13B	06/21/2006		5	MG/L	
Sodium, dissolved	MW-13B	09/26/2006		5.5	MG/L	
Sodium, dissolved	MW-13B	12/13/2006		4.8	MG/L	
Sodium, dissolved	MW-13B	03/27/2007		5.2	MG/L	
Sodium, dissolved	MW-13B	06/19/2007		5.2	MG/L	
Sodium, dissolved	MW-13B	09/18/2007		5.2	MG/L	
Sodium, dissolved	MW-13B	12/19/2007		4.9	MG/L	
Sodium, dissolved	MW-13B	03/25/2008		5.3	MG/L	
Sodium, dissolved	MW-13B	06/18/2008		5.3	MG/L	
Sodium, dissolved	MW-13B	09/17/2008		5	MG/L	
Sodium, dissolved	MW-13B	12/16/2008		5.1	MG/L	
Sodium, dissolved	MW-13B	03/24/2009		5.1	MG/L	
Sodium, dissolved	MW-13B	06/17/2009		5.3	MG/L	
Sodium, dissolved	MW-13B	09/10/2009		5.1	MG/L	
Sodium, dissolved	MW-13B	12/03/2009		5.3	MG/L	
Sodium, dissolved	MW-13B	03/25/2010		5.3	MG/L	
Sodium, dissolved	MW-13B	06/23/2010		5.3	MG/L	
Sodium, dissolved	MW-13B	09/23/2010		4.8	MG/L	
Sodium, dissolved	MW-13B	12/08/2010		5.6	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Sodium, dissolved	MW-13B	03/30/2011		5.1	MG/L	
Sodium, dissolved	MW-13B	06/06/2011		5.2	MG/L	
Sodium, dissolved	MW-13B	09/27/2011		5.2	MG/L	
Sodium, dissolved	MW-13B	12/14/2011		5.1	MG/L	
Sodium, dissolved	MW-13B	03/21/2012		4.9	MG/L	
Sodium, dissolved	MW-13B	06/08/2012		5.1	MG/L	
Sodium, dissolved	MW-13B	09/26/2012		5	MG/L	
Sodium, dissolved	MW-13B	12/03/2012		5.7	MG/L	
Sodium, dissolved	MW-13B	03/11/2013		5.3	MG/L	
Sodium, dissolved	MW-13B	06/05/2013		5.4	MG/L	
Sodium, dissolved	MW-13B	12/03/2013		5.4	MG/L	
Sodium, dissolved	MW-13B	03/04/2014		5.1	MG/L	
Sodium, dissolved	MW-13B	06/02/2014		4.9	MG/L	
Sodium, dissolved	MW-13B	09/22/2014		5	MG/L	
Sodium, dissolved	MW-13B	11/17/2014		5.3	MG/L	
Sodium, dissolved	MW-13B	02/23/2015		5	MG/L	
Sodium, dissolved	MW-13B	05/19/2015		5.5	MG/L	
Sodium, dissolved	MW-13B	08/26/2015		5.2	MG/L	
Sodium, dissolved	MW-13B	11/10/2015		5.2	MG/L	
Sodium, dissolved	MW-13B	02/22/2016		5.8	MG/L	
Sodium, dissolved	MW-13B	05/16/2016		5.2	MG/L	
Sodium, dissolved	MW-13B	08/31/2016		5.8	MG/L	
Sodium, dissolved	MW-13B	11/14/2016		5.1	MG/L	
Sodium, dissolved	MW-13B	02/22/2017		4.9	MG/L	
Sodium, dissolved	MW-13B	05/24/2017		5.4	MG/L	
Sodium, dissolved	MW-13B	08/30/2017		5.4	MG/L	
Sodium, dissolved	MW-13B	11/13/2017		5.1	MG/L	
Sodium, dissolved	MW-13B	02/20/2018		5	MG/L	
Sodium, dissolved	MW-13B	05/15/2018		4.6	MG/L	
Sodium, dissolved	MW-13B	08/21/2018		5.1	MG/L	
Sodium, dissolved	MW-13B	11/12/2018		5.3	MG/L	
Sodium, dissolved	MW-16	03/24/2009		5.4	MG/L	
Sodium, dissolved	MW-16	06/16/2009		5.3	MG/L	
Sodium, dissolved	MW-16	09/09/2009		5.4	MG/L	
Sodium, dissolved	MW-16	12/03/2009		6.2	MG/L	
Sodium, dissolved	MW-16	03/25/2010		4.9	MG/L	
Sodium, dissolved	MW-16	06/24/2010		5.7	MG/L	
Sodium, dissolved	MW-16	09/24/2010		5.7	MG/L	
Sodium, dissolved	MW-16	12/09/2010		5.2	MG/L	
Sodium, dissolved	MW-16	03/30/2011		4.7	MG/L	
Sodium, dissolved	MW-16	06/07/2011		5	MG/L	
Sodium, dissolved	MW-16	09/27/2011		5.8	MG/L	
Sodium, dissolved	MW-16	12/13/2011		5.3	MG/L	
Sodium, dissolved	MW-16	03/21/2012		4.7	MG/L	
Sodium, dissolved	MW-16	06/08/2012		4.8	MG/L	
Sodium, dissolved	MW-16	09/27/2012		5.4	MG/L	
Sodium, dissolved	MW-16	12/04/2012		4.7	MG/L	
Sodium, dissolved	MW-16	03/12/2013		5.1	MG/L	
Sodium, dissolved	MW-16	06/04/2013		5.3	MG/L	
Sodium, dissolved	MW-16	09/05/2013		6.2	MG/L	
Sodium, dissolved	MW-16	12/16/2013		5.7	MG/L	
Sodium, dissolved	MW-16	03/05/2014		4.9	MG/L	
Sodium, dissolved	MW-16	06/02/2014		4.5	MG/L	
Sodium, dissolved	MW-16	09/22/2014		4.9	MG/L	
Sodium, dissolved	MW-16	11/18/2014		4.8	MG/L	
Sodium, dissolved	MW-16	02/23/2015		4.7	MG/L	
Sodium, dissolved	MW-16	05/20/2015		4.6	MG/L	
Sodium, dissolved	MW-16	08/26/2015		4.9	MG/L	
Sodium, dissolved	MW-16	11/11/2015		5.7	MG/L	
Sodium, dissolved	MW-16	02/24/2016		4.4	MG/L	
Sodium, dissolved	MW-16	05/16/2016		4.8	MG/L	
Sodium, dissolved	MW-16	08/31/2016		5.4	MG/L	
Sodium, dissolved	MW-16	11/14/2016		5	MG/L	
Sodium, dissolved	MW-16	02/22/2017		4.2	MG/L	
Sodium, dissolved	MW-16	05/24/2017		4.4	MG/L	
Sodium, dissolved	MW-16	08/30/2017		4.9	MG/L	
Sodium, dissolved	MW-16	11/13/2017		4.9	MG/L	
Sodium, dissolved	MW-16	02/20/2018		4.2	MG/L	
Sodium, dissolved	MW-16	05/17/2018		4.2	MG/L	
Sodium, dissolved	MW-16	08/22/2018		4.4	MG/L	
Sodium, dissolved	MW-16	11/12/2018		5.1	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Sodium, dissolved	MW-35	03/22/2005		5.1	MG/L	
Sodium, dissolved	MW-35	06/14/2005		4.5	MG/L	
Sodium, dissolved	MW-35	09/27/2005		5.1	MG/L	
Sodium, dissolved	MW-35	12/15/2005		4.6	MG/L	
Sodium, dissolved	MW-35	03/28/2006		5	MG/L	
Sodium, dissolved	MW-35	06/21/2006		4.9	MG/L	
Sodium, dissolved	MW-35	09/26/2006		5.1	MG/L	
Sodium, dissolved	MW-35	12/12/2006		4.7	MG/L	
Sodium, dissolved	MW-35	03/27/2007		5.1	MG/L	
Sodium, dissolved	MW-35	06/20/2007		5.2	MG/L	
Sodium, dissolved	MW-35	09/18/2007		5.2	MG/L	
Sodium, dissolved	MW-35	12/20/2007		4.8	MG/L	
Sodium, dissolved	MW-35	03/25/2008		5.1	MG/L	
Sodium, dissolved	MW-35	06/18/2008		4.9	MG/L	
Sodium, dissolved	MW-35	09/18/2008		4.8	MG/L	
Sodium, dissolved	MW-35	12/19/2008		4.7	MG/L	
Sodium, dissolved	MW-35	03/24/2009		5	MG/L	
Sodium, dissolved	MW-35	06/16/2009		5.1	MG/L	
Sodium, dissolved	MW-35	09/10/2009		4.9	MG/L	
Sodium, dissolved	MW-35	12/03/2009		5.3	MG/L	
Sodium, dissolved	MW-35	03/25/2010		5	MG/L	
Sodium, dissolved	MW-35	06/23/2010		5.1	MG/L	
Sodium, dissolved	MW-35	09/23/2010		4.7	MG/L	
Sodium, dissolved	MW-35	12/09/2010		4.8	MG/L	
Sodium, dissolved	MW-35	03/30/2011		4.9	MG/L	
Sodium, dissolved	MW-35	06/06/2011		5.1	MG/L	
Sodium, dissolved	MW-35	09/26/2011		5.2	MG/L	
Sodium, dissolved	MW-35	12/13/2011		5.1	MG/L	
Sodium, dissolved	MW-35	03/21/2012		5	MG/L	
Sodium, dissolved	MW-35	06/06/2012		4.8	MG/L	
Sodium, dissolved	MW-35	09/26/2012		4.9	MG/L	
Sodium, dissolved	MW-35	12/04/2012		4.5	MG/L	
Sodium, dissolved	MW-35	03/13/2013		4.9	MG/L	
Sodium, dissolved	MW-35	06/06/2013		4.9	MG/L	
Sodium, dissolved	MW-35	09/05/2013		4.9	MG/L	
Sodium, dissolved	MW-35	12/16/2013		5.9	MG/L	
Sodium, dissolved	MW-35	03/04/2014		5.1	MG/L	
Sodium, dissolved	MW-35	06/02/2014		4.9	MG/L	
Sodium, dissolved	MW-35	09/22/2014		5.1	MG/L	
Sodium, dissolved	MW-35	11/17/2014		5.2	MG/L	
Sodium, dissolved	MW-35	02/25/2015		5.2	MG/L	
Sodium, dissolved	MW-35	05/19/2015		4.8	MG/L	
Sodium, dissolved	MW-35	08/26/2015		5.1	MG/L	
Sodium, dissolved	MW-35	11/10/2015		5.5	MG/L	
Sodium, dissolved	MW-35	02/22/2016		5.6	MG/L	
Sodium, dissolved	MW-35	05/16/2016		5.2	MG/L	
Sodium, dissolved	MW-35	08/31/2016		5.1	MG/L	
Sodium, dissolved	MW-35	11/15/2016		6.3	MG/L	
Sodium, dissolved	MW-35	02/22/2017		4.9	MG/L	
Sodium, dissolved	MW-35	05/24/2017		5	MG/L	
Sodium, dissolved	MW-35	08/30/2017		5.4	MG/L	
Sodium, dissolved	MW-35	11/15/2017		5	MG/L	
Sodium, dissolved	MW-35	02/20/2018		4.8	MG/L	
Sodium, dissolved	MW-35	05/17/2018		4.8	MG/L	
Sodium, dissolved	MW-35	08/22/2018		4.8	MG/L	
Sodium, dissolved	MW-35	11/12/2018		5.2	MG/L	
Specific conductivity	MW-13A	03/22/2005		0.158	mS/cm	
Specific conductivity	MW-13A	06/15/2005		0.167	mS/cm	
Specific conductivity	MW-13A	09/27/2005		0.161	mS/cm	
Specific conductivity	MW-13A	12/15/2005		0.159	mS/cm	
Specific conductivity	MW-13A	03/28/2006		0.152	mS/cm	
Specific conductivity	MW-13A	06/21/2006		0.169	mS/cm	
Specific conductivity	MW-13A	09/26/2006		0.171	mS/cm	
Specific conductivity	MW-13A	12/13/2006		0.17	mS/cm	
Specific conductivity	MW-13A	03/27/2007		0.167	mS/cm	
Specific conductivity	MW-13A	09/19/2007		0.167	mS/cm	
Specific conductivity	MW-13A	12/19/2007		0.169	mS/cm	
Specific conductivity	MW-13A	03/25/2008		0.166	mS/cm	
Specific conductivity	MW-13A	06/18/2008		0.17	mS/cm	
Specific conductivity	MW-13A	09/17/2008		0.168	mS/cm	
Specific conductivity	MW-13A	12/17/2008		0.139	mS/cm	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Specific conductivity	MW-13A	03/24/2009		0.168	mS/cm	
Specific conductivity	MW-13A	06/17/2009		0.174	mS/cm	
Specific conductivity	MW-13A	12/03/2009		0.173	mS/cm	
Specific conductivity	MW-13A	03/25/2010		0.093	mS/cm	
Specific conductivity	MW-13A	06/23/2010		0.145	mS/cm	
Specific conductivity	MW-13A	09/23/2010		0.17	mS/cm	
Specific conductivity	MW-13A	12/08/2010		0.07	mS/cm	
Specific conductivity	MW-13A	03/30/2011		0.151	mS/cm	
Specific conductivity	MW-13A	06/06/2011		0.158	mS/cm	
Specific conductivity	MW-13A	09/27/2011		0.158	mS/cm	
Specific conductivity	MW-13A	12/14/2011		0.176	mS/cm	
Specific conductivity	MW-13A	03/21/2012		0.171	mS/cm	
Specific conductivity	MW-13A	06/08/2012		0.18	mS/cm	
Specific conductivity	MW-13A	09/26/2012		0.15	mS/cm	
Specific conductivity	MW-13A	12/03/2012		0.107	mS/cm	
Specific conductivity	MW-13A	03/11/2013		0.145	mS/cm	
Specific conductivity	MW-13A	06/05/2013		0.147	mS/cm	
Specific conductivity	MW-13A	12/03/2013		0.156	mS/cm	
Specific conductivity	MW-13A	03/04/2014		0.141	mS/cm	
Specific conductivity	MW-13A	06/02/2014		0.154	mS/cm	
Specific conductivity	MW-13A	09/22/2014		0.166	mS/cm	
Specific conductivity	MW-13A	11/17/2014		0.172	mS/cm	
Specific conductivity	MW-13A	02/23/2015		0.165	mS/cm	
Specific conductivity	MW-13A	05/19/2015		0.164	mS/cm	
Specific conductivity	MW-13A	08/26/2015		0.166	mS/cm	
Specific conductivity	MW-13A	11/10/2015		0.169	mS/cm	
Specific conductivity	MW-13A	02/22/2016		0.177	mS/cm	
Specific conductivity	MW-13A	05/16/2016		0.169	mS/cm	
Specific conductivity	MW-13A	08/31/2016		0.171	mS/cm	
Specific conductivity	MW-13A	11/14/2016		0.169	mS/cm	
Specific conductivity	MW-13A	02/22/2017		0.17	mS/cm	
Specific conductivity	MW-13A	05/24/2017		0.175	mS/cm	
Specific conductivity	MW-13A	08/30/2017		0.175	mS/cm	
Specific conductivity	MW-13A	11/13/2017		0.171	mS/cm	
Specific conductivity	MW-13A	02/20/2018		0.17	mS/cm	
Specific conductivity	MW-13A	05/15/2018		0.17	mS/cm	
Specific conductivity	MW-13A	08/21/2018		0.171	mS/cm	
Specific conductivity	MW-13A	11/12/2018		0.169	mS/cm	
Specific conductivity	MW-13B	03/22/2005		0.155	mS/cm	
Specific conductivity	MW-13B	06/15/2005		0.165	mS/cm	
Specific conductivity	MW-13B	09/27/2005		0.159	mS/cm	
Specific conductivity	MW-13B	12/15/2005		0.157	mS/cm	
Specific conductivity	MW-13B	03/29/2006		0.151	mS/cm	
Specific conductivity	MW-13B	06/21/2006		0.165	mS/cm	
Specific conductivity	MW-13B	09/26/2006		0.168	mS/cm	
Specific conductivity	MW-13B	12/13/2006		0.165	mS/cm	
Specific conductivity	MW-13B	03/27/2007		0.161	mS/cm	
Specific conductivity	MW-13B	09/18/2007		0.168	mS/cm	
Specific conductivity	MW-13B	12/19/2007		0.164	mS/cm	
Specific conductivity	MW-13B	03/25/2008		0.162	mS/cm	
Specific conductivity	MW-13B	06/18/2008		0.165	mS/cm	
Specific conductivity	MW-13B	09/17/2008		0.164	mS/cm	
Specific conductivity	MW-13B	12/16/2008		0.163	mS/cm	
Specific conductivity	MW-13B	03/24/2009		0.167	mS/cm	
Specific conductivity	MW-13B	06/17/2009		0.169	mS/cm	
Specific conductivity	MW-13B	12/03/2009		0.167	mS/cm	
Specific conductivity	MW-13B	03/25/2010		0.09	mS/cm	
Specific conductivity	MW-13B	06/23/2010		0.141	mS/cm	
Specific conductivity	MW-13B	09/23/2010		0.162	mS/cm	
Specific conductivity	MW-13B	12/08/2010		0.073	mS/cm	
Specific conductivity	MW-13B	03/30/2011		0.144	mS/cm	
Specific conductivity	MW-13B	06/06/2011		0.135	mS/cm	
Specific conductivity	MW-13B	09/27/2011		0.151	mS/cm	
Specific conductivity	MW-13B	12/14/2011		0.169	mS/cm	
Specific conductivity	MW-13B	03/21/2012		0.165	mS/cm	
Specific conductivity	MW-13B	06/08/2012		0.175	mS/cm	
Specific conductivity	MW-13B	09/26/2012		0.148	mS/cm	
Specific conductivity	MW-13B	12/03/2012		0.14	mS/cm	
Specific conductivity	MW-13B	03/11/2013		0.144	mS/cm	
Specific conductivity	MW-13B	06/05/2013		0.144	mS/cm	
Specific conductivity	MW-13B	12/03/2013		0.154	mS/cm	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Specific conductivity	MW-13B	03/04/2014		0.139	mS/cm	
Specific conductivity	MW-13B	06/02/2014		0.154	mS/cm	
Specific conductivity	MW-13B	09/22/2014		0.167	mS/cm	
Specific conductivity	MW-13B	11/17/2014		0.172	mS/cm	
Specific conductivity	MW-13B	02/23/2015		0.164	mS/cm	
Specific conductivity	MW-13B	05/19/2015		0.165	mS/cm	
Specific conductivity	MW-13B	08/26/2015		0.164	mS/cm	
Specific conductivity	MW-13B	11/10/2015		0.169	mS/cm	
Specific conductivity	MW-13B	02/22/2016		0.176	mS/cm	
Specific conductivity	MW-13B	05/16/2016		0.168	mS/cm	
Specific conductivity	MW-13B	08/31/2016		0.171	mS/cm	
Specific conductivity	MW-13B	11/14/2016		0.171	mS/cm	
Specific conductivity	MW-13B	02/22/2017		0.171	mS/cm	
Specific conductivity	MW-13B	05/24/2017		0.175	mS/cm	
Specific conductivity	MW-13B	08/30/2017		0.178	mS/cm	
Specific conductivity	MW-13B	11/13/2017		0.17	mS/cm	
Specific conductivity	MW-13B	02/20/2018		0.17	mS/cm	
Specific conductivity	MW-13B	05/15/2018		0.171	mS/cm	
Specific conductivity	MW-13B	08/21/2018		0.175	mS/cm	
Specific conductivity	MW-13B	11/12/2018		0.174	mS/cm	
Specific conductivity	MW-16	03/24/2009		0.135	mS/cm	
Specific conductivity	MW-16	06/16/2009		0.123	mS/cm	
Specific conductivity	MW-16	12/03/2009		0.16	mS/cm	
Specific conductivity	MW-16	03/25/2010		0.118	mS/cm	
Specific conductivity	MW-16	06/24/2010		0.155	mS/cm	
Specific conductivity	MW-16	09/24/2010		0.148	mS/cm	
Specific conductivity	MW-16	12/09/2010		0.15	mS/cm	
Specific conductivity	MW-16	03/30/2011		0.102	mS/cm	
Specific conductivity	MW-16	06/07/2011		0.096	mS/cm	
Specific conductivity	MW-16	09/27/2011		0.068	mS/cm	
Specific conductivity	MW-16	12/13/2011		0.12	mS/cm	
Specific conductivity	MW-16	03/21/2012		0.079	mS/cm	
Specific conductivity	MW-16	06/08/2012		0.118	mS/cm	
Specific conductivity	MW-16	09/27/2012		0.106	mS/cm	
Specific conductivity	MW-16	12/04/2012		0.085	mS/cm	
Specific conductivity	MW-16	03/12/2013		0.118	mS/cm	
Specific conductivity	MW-16	06/04/2013		0.103	mS/cm	
Specific conductivity	MW-16	09/05/2013		0.11	mS/cm	
Specific conductivity	MW-16	12/16/2013		0.096	mS/cm	
Specific conductivity	MW-16	03/05/2014		0.099	mS/cm	
Specific conductivity	MW-16	06/02/2014		0.094	mS/cm	
Specific conductivity	MW-16	09/22/2014		0.122	mS/cm	
Specific conductivity	MW-16	11/18/2014		0.126	mS/cm	
Specific conductivity	MW-16	02/23/2015		0.08	mS/cm	
Specific conductivity	MW-16	05/20/2015		0.101	mS/cm	
Specific conductivity	MW-16	08/26/2015		0.097	mS/cm	
Specific conductivity	MW-16	11/11/2015		0.136	mS/cm	
Specific conductivity	MW-16	02/24/2016		0.091	mS/cm	
Specific conductivity	MW-16	05/16/2016		0.102	mS/cm	
Specific conductivity	MW-16	08/31/2016		0.123	mS/cm	
Specific conductivity	MW-16	11/14/2016		0.11	mS/cm	
Specific conductivity	MW-16	02/22/2017		0.097	mS/cm	
Specific conductivity	MW-16	05/24/2017		0.047	mS/cm	
Specific conductivity	MW-16	08/30/2017		0.114	mS/cm	
Specific conductivity	MW-16	11/13/2017		0.104	mS/cm	
Specific conductivity	MW-16	02/20/2018		0.095	mS/cm	
Specific conductivity	MW-16	05/17/2018		0.097	mS/cm	
Specific conductivity	MW-16	08/22/2018		0.106	mS/cm	
Specific conductivity	MW-16	11/12/2018		0.112	mS/cm	
Specific conductivity	MW-35	03/22/2005		0.143	mS/cm	
Specific conductivity	MW-35	06/14/2005		0.153	mS/cm	
Specific conductivity	MW-35	09/27/2005		0.148	mS/cm	
Specific conductivity	MW-35	12/15/2005		0.145	mS/cm	
Specific conductivity	MW-35	03/28/2006		0.136	mS/cm	
Specific conductivity	MW-35	06/21/2006		0.152	mS/cm	
Specific conductivity	MW-35	09/26/2006		0.155	mS/cm	
Specific conductivity	MW-35	12/12/2006		0.151	mS/cm	
Specific conductivity	MW-35	03/27/2007		0.148	mS/cm	
Specific conductivity	MW-35	09/18/2007		0.152	mS/cm	
Specific conductivity	MW-35	12/20/2007		0.152	mS/cm	
Specific conductivity	MW-35	03/25/2008		0.147	mS/cm	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Specific conductivity	MW-35	06/18/2008		0.151	mS/cm	
Specific conductivity	MW-35	09/18/2008		0.142	mS/cm	
Specific conductivity	MW-35	12/19/2008		0.144	mS/cm	
Specific conductivity	MW-35	03/24/2009		0.15	mS/cm	
Specific conductivity	MW-35	06/16/2009		0.155	mS/cm	
Specific conductivity	MW-35	12/03/2009		0.152	mS/cm	
Specific conductivity	MW-35	03/25/2010		0.084	mS/cm	
Specific conductivity	MW-35	06/23/2010		0.128	mS/cm	
Specific conductivity	MW-35	09/23/2010		0.151	mS/cm	
Specific conductivity	MW-35	12/09/2010		0.15	mS/cm	
Specific conductivity	MW-35	03/30/2011		0.132	mS/cm	
Specific conductivity	MW-35	06/06/2011		0.123	mS/cm	
Specific conductivity	MW-35	09/26/2011		0.131	mS/cm	
Specific conductivity	MW-35	12/13/2011		0.148	mS/cm	
Specific conductivity	MW-35	03/21/2012		0.152	mS/cm	
Specific conductivity	MW-35	06/06/2012		0.138	mS/cm	
Specific conductivity	MW-35	09/26/2012		0.135	mS/cm	
Specific conductivity	MW-35	12/04/2012		0.148	mS/cm	
Specific conductivity	MW-35	03/13/2013		0.132	mS/cm	
Specific conductivity	MW-35	06/06/2013		0.133	mS/cm	
Specific conductivity	MW-35	09/05/2013		0.132	mS/cm	
Specific conductivity	MW-35	12/16/2013		0.121	mS/cm	
Specific conductivity	MW-35	03/04/2014		0.129	mS/cm	
Specific conductivity	MW-35	06/02/2014		0.14	mS/cm	
Specific conductivity	MW-35	09/22/2014		0.161	mS/cm	
Specific conductivity	MW-35	11/17/2014		0.16	mS/cm	
Specific conductivity	MW-35	02/25/2015		0.152	mS/cm	
Specific conductivity	MW-35	05/19/2015		0.135	mS/cm	
Specific conductivity	MW-35	08/26/2015		0.153	mS/cm	
Specific conductivity	MW-35	11/10/2015		0.156	mS/cm	
Specific conductivity	MW-35	02/22/2016		0.164	mS/cm	
Specific conductivity	MW-35	05/16/2016		0.156	mS/cm	
Specific conductivity	MW-35	08/31/2016		0.159	mS/cm	
Specific conductivity	MW-35	11/15/2016		0.158	mS/cm	
Specific conductivity	MW-35	02/22/2017		0.161	mS/cm	
Specific conductivity	MW-35	05/24/2017		0.166	mS/cm	
Specific conductivity	MW-35	08/30/2017		0.167	mS/cm	
Specific conductivity	MW-35	11/15/2017		0.161	mS/cm	
Specific conductivity	MW-35	02/20/2018		0.161	mS/cm	
Specific conductivity	MW-35	05/17/2018		0.164	mS/cm	
Specific conductivity	MW-35	08/22/2018		0.16	mS/cm	
Specific conductivity	MW-35	11/12/2018		0.164	mS/cm	
Sulfate	MW-13A	03/22/2005		2.8	MG/L	
Sulfate	MW-13A	06/15/2005		2.9	MG/L	
Sulfate	MW-13A	09/27/2005		3.2	MG/L	
Sulfate	MW-13A	12/15/2005		2.1	MG/L	
Sulfate	MW-13A	03/28/2006		3.2	MG/L	
Sulfate	MW-13A	06/21/2006		3.1	MG/L	
Sulfate	MW-13A	09/26/2006		2.5	MG/L	
Sulfate	MW-13A	12/13/2006		2.3	MG/L	
Sulfate	MW-13A	03/27/2007		2.5	MG/L	
Sulfate	MW-13A	06/19/2007		2.5	MG/L	
Sulfate	MW-13A	09/19/2007		2.5	MG/L	
Sulfate	MW-13A	12/19/2007		2.5	MG/L	
Sulfate	MW-13A	03/25/2008		2.4	MG/L	
Sulfate	MW-13A	06/18/2008		2.6	MG/L	
Sulfate	MW-13A	09/17/2008		2.4	MG/L	
Sulfate	MW-13A	12/17/2008		2.4	MG/L	
Sulfate	MW-13A	03/24/2009		2.5	MG/L	
Sulfate	MW-13A	06/17/2009		2.1	MG/L	
Sulfate	MW-13A	09/10/2009		2.2	MG/L	
Sulfate	MW-13A	12/03/2009		2.3	MG/L	
Sulfate	MW-13A	03/25/2010		2.3	MG/L	
Sulfate	MW-13A	06/23/2010		2.1	MG/L	
Sulfate	MW-13A	09/23/2010		2.3	MG/L	
Sulfate	MW-13A	12/08/2010		3.7	MG/L	
Sulfate	MW-13A	03/30/2011		2.2	MG/L	
Sulfate	MW-13A	06/06/2011		2.2	MG/L	
Sulfate	MW-13A	09/27/2011		2.3	MG/L	
Sulfate	MW-13A	12/14/2011		2.5	MG/L	
Sulfate	MW-13A	03/21/2012		1.9	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Sulfate	MW-13A	06/08/2012		2.1	MG/L	
Sulfate	MW-13A	09/26/2012		2.1	MG/L	
Sulfate	MW-13A	12/03/2012		2.2	MG/L	
Sulfate	MW-13A	03/11/2013		1.9	MG/L	
Sulfate	MW-13A	06/05/2013		1.7	MG/L	
Sulfate	MW-13A	12/03/2013		1.6	MG/L	
Sulfate	MW-13A	03/04/2014		2.1	MG/L	
Sulfate	MW-13A	06/02/2014		2.2	MG/L	
Sulfate	MW-13A	09/22/2014		2.2	MG/L	
Sulfate	MW-13A	11/17/2014		2.1	MG/L	
Sulfate	MW-13A	02/23/2015		2.1	MG/L	
Sulfate	MW-13A	05/19/2015		2.1	MG/L	
Sulfate	MW-13A	08/26/2015		2.3	MG/L	
Sulfate	MW-13A	11/10/2015		2.1	MG/L	
Sulfate	MW-13A	02/22/2016		2.1	MG/L	
Sulfate	MW-13A	05/16/2016		2.2	MG/L	
Sulfate	MW-13A	08/31/2016		2.3	MG/L	
Sulfate	MW-13A	11/14/2016		2	MG/L	
Sulfate	MW-13A	02/22/2017		2	MG/L	
Sulfate	MW-13A	05/24/2017		2.1	MG/L	
Sulfate	MW-13A	08/30/2017		1.8	MG/L	
Sulfate	MW-13A	11/13/2017		1.8	MG/L	
Sulfate	MW-13A	02/20/2018		2.1	MG/L	
Sulfate	MW-13A	05/15/2018		2	MG/L	
Sulfate	MW-13A	08/21/2018		1.8	MG/L	
Sulfate	MW-13A	11/12/2018		2.1	MG/L	
Sulfate	MW-13B	03/22/2005		4.6	MG/L	
Sulfate	MW-13B	06/15/2005		4.7	MG/L	
Sulfate	MW-13B	09/27/2005		4.5	MG/L	
Sulfate	MW-13B	12/15/2005		3.6	MG/L	
Sulfate	MW-13B	03/29/2006		4.5	MG/L	
Sulfate	MW-13B	06/21/2006		4.4	MG/L	
Sulfate	MW-13B	09/26/2006		4.1	MG/L	
Sulfate	MW-13B	12/13/2006		3.9	MG/L	
Sulfate	MW-13B	03/27/2007		4.1	MG/L	
Sulfate	MW-13B	06/19/2007		4.1	MG/L	
Sulfate	MW-13B	09/18/2007		4.2	MG/L	
Sulfate	MW-13B	12/19/2007		4.1	MG/L	
Sulfate	MW-13B	03/25/2008		4	MG/L	
Sulfate	MW-13B	06/18/2008		4.1	MG/L	
Sulfate	MW-13B	09/17/2008		4.2	MG/L	
Sulfate	MW-13B	12/16/2008		4.2	MG/L	
Sulfate	MW-13B	03/24/2009		4.2	MG/L	
Sulfate	MW-13B	06/17/2009		3.7	MG/L	
Sulfate	MW-13B	09/10/2009		3.7	MG/L	
Sulfate	MW-13B	12/03/2009		4.1	MG/L	
Sulfate	MW-13B	03/25/2010		3.9	MG/L	
Sulfate	MW-13B	06/23/2010		3.6	MG/L	
Sulfate	MW-13B	09/23/2010		3.8	MG/L	
Sulfate	MW-13B	12/08/2010		2.4	MG/L	
Sulfate	MW-13B	03/30/2011		4.4	MG/L	
Sulfate	MW-13B	06/06/2011		3.7	MG/L	
Sulfate	MW-13B	09/27/2011		3.7	MG/L	
Sulfate	MW-13B	12/14/2011		3.5	MG/L	
Sulfate	MW-13B	03/21/2012		3.2	MG/L	
Sulfate	MW-13B	06/08/2012		3.5	MG/L	
Sulfate	MW-13B	09/26/2012		3.6	MG/L	
Sulfate	MW-13B	12/03/2012		3.5	MG/L	
Sulfate	MW-13B	03/11/2013		3	MG/L	
Sulfate	MW-13B	06/05/2013		3.5	MG/L	
Sulfate	MW-13B	12/03/2013		3.1	MG/L	
Sulfate	MW-13B	03/04/2014		3.7	MG/L	
Sulfate	MW-13B	06/02/2014		3.6	MG/L	
Sulfate	MW-13B	09/22/2014		4.1	MG/L	
Sulfate	MW-13B	11/17/2014		3.7	MG/L	
Sulfate	MW-13B	02/23/2015		3.4	MG/L	
Sulfate	MW-13B	05/19/2015		3.1	MG/L	
Sulfate	MW-13B	08/26/2015		3.7	MG/L	
Sulfate	MW-13B	11/10/2015		3.2	MG/L	
Sulfate	MW-13B	02/22/2016		3.4	MG/L	
Sulfate	MW-13B	05/16/2016		3.5	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Sulfate	MW-13B	08/31/2016		3.7	MG/L	
Sulfate	MW-13B	11/14/2016		3	MG/L	
Sulfate	MW-13B	02/22/2017		3.5	MG/L	
Sulfate	MW-13B	05/24/2017		3.4	MG/L	
Sulfate	MW-13B	08/30/2017		3.8	MG/L	
Sulfate	MW-13B	11/13/2017		2.9	MG/L	
Sulfate	MW-13B	02/20/2018		3	MG/L	
Sulfate	MW-13B	05/15/2018		3.1	MG/L	
Sulfate	MW-13B	08/21/2018		2.9	MG/L	
Sulfate	MW-13B	11/12/2018		3	MG/L	
Sulfate	MW-16	03/24/2009		3	MG/L	
Sulfate	MW-16	06/16/2009		2.2	MG/L	
Sulfate	MW-16	09/09/2009		4.3	MG/L	
Sulfate	MW-16	12/03/2009		3.6	MG/L	
Sulfate	MW-16	03/25/2010		9.9	MG/L	
Sulfate	MW-16	06/24/2010		2.5	MG/L	
Sulfate	MW-16	09/24/2010		2.3	MG/L	
Sulfate	MW-16	12/09/2010		2.7	MG/L	
Sulfate	MW-16	03/30/2011		7.1	MG/L	
Sulfate	MW-16	06/07/2011		2.4	MG/L	
Sulfate	MW-16	09/27/2011		4.1	MG/L	
Sulfate	MW-16	12/13/2011		2.3	MG/L	
Sulfate	MW-16	03/21/2012		1.6	MG/L	
Sulfate	MW-16	06/08/2012		3	MG/L	
Sulfate	MW-16	09/27/2012		3.1	MG/L	
Sulfate	MW-16	12/04/2012		3	MG/L	
Sulfate	MW-16	03/12/2013		1.9	MG/L	
Sulfate	MW-16	06/04/2013		2.7	MG/L	
Sulfate	MW-16	09/05/2013		1.7	MG/L	
Sulfate	MW-16	12/16/2013		2.3	MG/L	
Sulfate	MW-16	03/05/2014		2.8	MG/L	
Sulfate	MW-16	06/02/2014		3.8	MG/L	
Sulfate	MW-16	09/22/2014		2.9	MG/L	
Sulfate	MW-16	11/18/2014		3.3	MG/L	
Sulfate	MW-16	02/23/2015		2.9	MG/L	
Sulfate	MW-16	05/20/2015		2.1	MG/L	
Sulfate	MW-16	08/26/2015		3.4	MG/L	
Sulfate	MW-16	11/11/2015		2.8	MG/L	
Sulfate	MW-16	02/24/2016		2.9	MG/L	
Sulfate	MW-16	05/16/2016		2.6	MG/L	
Sulfate	MW-16	08/31/2016		1.7	MG/L	
Sulfate	MW-16	11/14/2016		1.6	MG/L	
Sulfate	MW-16	02/22/2017		2.5	MG/L	
Sulfate	MW-16	05/24/2017		2.7	MG/L	
Sulfate	MW-16	08/30/2017		1.6	MG/L	
Sulfate	MW-16	11/13/2017		1	MG/L	
Sulfate	MW-16	02/20/2018		2.2	MG/L	
Sulfate	MW-16	05/17/2018		2.3	MG/L	
Sulfate	MW-16	08/22/2018		2.1	MG/L	
Sulfate	MW-16	11/12/2018		1.6	MG/L	
Sulfate	MW-35	03/22/2005		2.5	MG/L	
Sulfate	MW-35	06/14/2005		1.6	MG/L	
Sulfate	MW-35	09/27/2005		1.3	MG/L	
Sulfate	MW-35	12/15/2005	ND	1	MG/L	
Sulfate	MW-35	03/28/2006		3	MG/L	
Sulfate	MW-35	06/21/2006		3	MG/L	
Sulfate	MW-35	09/26/2006		2.4	MG/L	
Sulfate	MW-35	12/12/2006		2.2	MG/L	
Sulfate	MW-35	03/27/2007		2.5	MG/L	
Sulfate	MW-35	06/20/2007		2.4	MG/L	
Sulfate	MW-35	09/18/2007		2.6	MG/L	
Sulfate	MW-35	12/20/2007		2.4	MG/L	
Sulfate	MW-35	03/25/2008		2.4	MG/L	
Sulfate	MW-35	06/18/2008		2.6	MG/L	
Sulfate	MW-35	09/18/2008		2.3	MG/L	
Sulfate	MW-35	12/19/2008		2.6	MG/L	
Sulfate	MW-35	03/24/2009		2.7	MG/L	
Sulfate	MW-35	06/16/2009		2.2	MG/L	
Sulfate	MW-35	09/10/2009		2.4	MG/L	
Sulfate	MW-35	12/03/2009		2.5	MG/L	
Sulfate	MW-35	03/25/2010		2.6	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Sulfate	MW-35	06/23/2010		2.3	MG/L	
Sulfate	MW-35	09/23/2010		2.5	MG/L	
Sulfate	MW-35	12/09/2010		2.2	MG/L	
Sulfate	MW-35	03/30/2011		2.6	MG/L	
Sulfate	MW-35	06/06/2011		2.5	MG/L	
Sulfate	MW-35	09/26/2011		2.6	MG/L	
Sulfate	MW-35	12/13/2011		2.5	MG/L	
Sulfate	MW-35	03/21/2012		2.1	MG/L	
Sulfate	MW-35	06/06/2012		2.4	MG/L	
Sulfate	MW-35	09/26/2012		2.4	MG/L	
Sulfate	MW-35	12/04/2012		2.5	MG/L	
Sulfate	MW-35	03/13/2013		2.3	MG/L	
Sulfate	MW-35	06/06/2013		2	MG/L	
Sulfate	MW-35	09/05/2013		2.1	MG/L	
Sulfate	MW-35	12/16/2013		2.6	MG/L	
Sulfate	MW-35	03/04/2014		2.7	MG/L	
Sulfate	MW-35	06/02/2014		2.5	MG/L	
Sulfate	MW-35	09/22/2014		3.2	MG/L	
Sulfate	MW-35	11/17/2014		2.5	MG/L	
Sulfate	MW-35	02/25/2015		2.4	MG/L	
Sulfate	MW-35	05/19/2015		2.3	MG/L	
Sulfate	MW-35	08/26/2015		2.4	MG/L	
Sulfate	MW-35	11/10/2015		2.5	MG/L	
Sulfate	MW-35	02/22/2016		2.6	MG/L	
Sulfate	MW-35	05/16/2016		2.5	MG/L	
Sulfate	MW-35	08/31/2016		2.8	MG/L	
Sulfate	MW-35	11/15/2016		2.2	MG/L	
Sulfate	MW-35	02/22/2017		2.5	MG/L	
Sulfate	MW-35	05/24/2017		2.3	MG/L	
Sulfate	MW-35	08/30/2017		2.2	MG/L	
Sulfate	MW-35	11/15/2017		2.8	MG/L	
Sulfate	MW-35	02/20/2018		2.3	MG/L	
Sulfate	MW-35	05/17/2018		2.2	MG/L	
Sulfate	MW-35	08/22/2018		2.6	MG/L	
Sulfate	MW-35	11/12/2018		2.3	MG/L	
Temperature	MW-13A	03/22/2005		9.08	deg C	
Temperature	MW-13A	06/15/2005		9.37	deg C	
Temperature	MW-13A	09/27/2005		9.65	deg C	
Temperature	MW-13A	12/15/2005		8.6	deg C	
Temperature	MW-13A	03/28/2006		9.44	deg C	
Temperature	MW-13A	06/21/2006		9.41	deg C	
Temperature	MW-13A	09/26/2006		9.71	deg C	
Temperature	MW-13A	12/13/2006		8.79	deg C	
Temperature	MW-13A	03/27/2007		9.14	deg C	
Temperature	MW-13A	09/19/2007		9.26	deg C	
Temperature	MW-13A	12/19/2007		8.17	deg C	
Temperature	MW-13A	03/25/2008		8.47	deg C	
Temperature	MW-13A	06/18/2008		9.3	deg C	
Temperature	MW-13A	09/17/2008		8.8	deg C	
Temperature	MW-13A	12/17/2008		8.75	deg C	
Temperature	MW-13A	03/24/2009		8.32	deg C	
Temperature	MW-13A	06/17/2009		9.85	deg C	
Temperature	MW-13A	12/03/2009		8.92	deg C	
Temperature	MW-13A	03/25/2010		9.22	deg C	
Temperature	MW-13A	06/23/2010		9.58	deg C	
Temperature	MW-13A	09/23/2010		9.42	deg C	
Temperature	MW-13A	12/08/2010		9.45	deg C	
Temperature	MW-13A	03/30/2011		9.37	deg C	
Temperature	MW-13A	06/06/2011		10.4	deg C	
Temperature	MW-13A	09/27/2011		9.58	deg C	
Temperature	MW-13A	12/14/2011		8.92	deg C	
Temperature	MW-13A	03/21/2012		8.74	deg C	
Temperature	MW-13A	06/08/2012		9.3	deg C	
Temperature	MW-13A	09/26/2012		10.04	deg C	
Temperature	MW-13A	12/03/2012		9.2	deg C	
Temperature	MW-13A	03/11/2013		9.22	deg C	
Temperature	MW-13A	06/05/2013		11.96	deg C	
Temperature	MW-13A	12/03/2013		8.93	deg C	
Temperature	MW-13A	03/04/2014		8.98	deg C	
Temperature	MW-13A	06/02/2014		11.15	deg C	
Temperature	MW-13A	09/22/2014		10.58	deg C	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Temperature	MW-13A	11/17/2014		9.4	deg C	
Temperature	MW-13A	02/23/2015		9.41	deg C	
Temperature	MW-13A	05/19/2015		9.89	deg C	
Temperature	MW-13A	08/26/2015		10.69	deg C	
Temperature	MW-13A	11/10/2015		9.49	deg C	
Temperature	MW-13A	02/22/2016		9.59	deg C	
Temperature	MW-13A	05/16/2016		9.77	deg C	
Temperature	MW-13A	08/31/2016		9.98	deg C	
Temperature	MW-13A	11/14/2016		9.57	deg C	
Temperature	MW-13A	02/22/2017		9.11	deg C	
Temperature	MW-13A	05/24/2017		4.59	deg C	
Temperature	MW-13A	08/30/2017		9.85	deg C	
Temperature	MW-13A	11/13/2017		9.41	deg C	
Temperature	MW-13A	02/20/2018		9.07	deg C	
Temperature	MW-13A	05/15/2018		9.63	deg C	
Temperature	MW-13A	08/21/2018		9.58	deg C	
Temperature	MW-13A	11/12/2018		9.5	deg C	
Temperature	MW-13B	03/22/2005		9.55	deg C	
Temperature	MW-13B	06/15/2005		9.92	deg C	
Temperature	MW-13B	09/27/2005		10.79	deg C	
Temperature	MW-13B	12/15/2005		8.11	deg C	
Temperature	MW-13B	03/29/2006		8.8	deg C	
Temperature	MW-13B	06/21/2006		9.76	deg C	
Temperature	MW-13B	09/26/2006		10.32	deg C	
Temperature	MW-13B	12/13/2006		8.85	deg C	
Temperature	MW-13B	03/27/2007		9.04	deg C	
Temperature	MW-13B	09/18/2007		10.01	deg C	
Temperature	MW-13B	12/19/2007		8.08	deg C	
Temperature	MW-13B	03/25/2008		8.09	deg C	
Temperature	MW-13B	06/18/2008		9.23	deg C	
Temperature	MW-13B	09/17/2008		9.01	deg C	
Temperature	MW-13B	12/16/2008		8.43	deg C	
Temperature	MW-13B	03/24/2009		8.37	deg C	
Temperature	MW-13B	06/17/2009		10.81	deg C	
Temperature	MW-13B	12/03/2009		8.79	deg C	
Temperature	MW-13B	03/25/2010		9.23	deg C	
Temperature	MW-13B	06/23/2010		9.97	deg C	
Temperature	MW-13B	09/23/2010		9.6	deg C	
Temperature	MW-13B	12/08/2010		9.25	deg C	
Temperature	MW-13B	03/30/2011		9.32	deg C	
Temperature	MW-13B	06/06/2011		11.3	deg C	
Temperature	MW-13B	09/27/2011		10.57	deg C	
Temperature	MW-13B	12/14/2011		8.76	deg C	
Temperature	MW-13B	03/21/2012		8.5	deg C	
Temperature	MW-13B	06/08/2012		9.4	deg C	
Temperature	MW-13B	09/26/2012		10.59	deg C	
Temperature	MW-13B	12/03/2012		9.2	deg C	
Temperature	MW-13B	03/11/2013		9.15	deg C	
Temperature	MW-13B	06/05/2013		11.41	deg C	
Temperature	MW-13B	12/03/2013		9.44	deg C	
Temperature	MW-13B	03/04/2014		9	deg C	
Temperature	MW-13B	06/02/2014		14.32	deg C	
Temperature	MW-13B	09/22/2014		11.02	deg C	
Temperature	MW-13B	11/17/2014		9.4	deg C	
Temperature	MW-13B	02/23/2015		9.76	deg C	
Temperature	MW-13B	05/19/2015		10.23	deg C	
Temperature	MW-13B	08/26/2015		10.53	deg C	
Temperature	MW-13B	11/10/2015		9.59	deg C	
Temperature	MW-13B	02/22/2016		9.3	deg C	
Temperature	MW-13B	05/16/2016		9.93	deg C	
Temperature	MW-13B	08/31/2016		10.43	deg C	
Temperature	MW-13B	11/14/2016		10.41	deg C	
Temperature	MW-13B	02/22/2017		9.06	deg C	
Temperature	MW-13B	05/24/2017		9.76	deg C	
Temperature	MW-13B	08/30/2017		10.27	deg C	
Temperature	MW-13B	11/13/2017		9.54	deg C	
Temperature	MW-13B	02/20/2018		8.82	deg C	
Temperature	MW-13B	05/15/2018		9.98	deg C	
Temperature	MW-13B	08/21/2018		10.14	deg C	
Temperature	MW-13B	11/12/2018		10	deg C	
Temperature	MW-16	03/24/2009		9.08	deg C	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Temperature	MW-16	06/16/2009		9.98	deg C	
Temperature	MW-16	12/03/2009		9.08	deg C	
Temperature	MW-16	03/25/2010		9.11	deg C	
Temperature	MW-16	06/24/2010		9.39	deg C	
Temperature	MW-16	09/24/2010		9.44	deg C	
Temperature	MW-16	12/09/2010		9.13	deg C	
Temperature	MW-16	03/30/2011		9.14	deg C	
Temperature	MW-16	06/07/2011		9.46	deg C	
Temperature	MW-16	09/27/2011		9.43	deg C	
Temperature	MW-16	12/13/2011		8.84	deg C	
Temperature	MW-16	03/21/2012		8.82	deg C	
Temperature	MW-16	06/08/2012		9.2	deg C	
Temperature	MW-16	09/27/2012		9.06	deg C	
Temperature	MW-16	12/04/2012		9.1	deg C	
Temperature	MW-16	03/12/2013		9.02	deg C	
Temperature	MW-16	06/04/2013		9.47	deg C	
Temperature	MW-16	09/05/2013		9.36	deg C	
Temperature	MW-16	12/16/2013		9.04	deg C	
Temperature	MW-16	03/05/2014		9.4	deg C	
Temperature	MW-16	06/02/2014		9.56	deg C	
Temperature	MW-16	09/22/2014		10.73	deg C	
Temperature	MW-16	11/18/2014		8.9	deg C	
Temperature	MW-16	02/23/2015		9.02	deg C	
Temperature	MW-16	05/20/2015		9.3	deg C	
Temperature	MW-16	08/26/2015		9.48	deg C	
Temperature	MW-16	11/11/2015		9.01	deg C	
Temperature	MW-16	02/24/2016		9.02	deg C	
Temperature	MW-16	05/16/2016		9.38	deg C	
Temperature	MW-16	08/31/2016		9.66	deg C	
Temperature	MW-16	11/14/2016		9.81	deg C	
Temperature	MW-16	02/22/2017		9.01	deg C	
Temperature	MW-16	05/24/2017		9.35	deg C	
Temperature	MW-16	08/30/2017		9.7	deg C	
Temperature	MW-16	11/13/2017		9.3	deg C	
Temperature	MW-16	02/20/2018		8.86	deg C	
Temperature	MW-16	05/17/2018		9.36	deg C	
Temperature	MW-16	08/22/2018		9.86	deg C	
Temperature	MW-16	11/12/2018		9.6	deg C	
Temperature	MW-35	03/22/2005		9.8	deg C	
Temperature	MW-35	06/14/2005		10.28	deg C	
Temperature	MW-35	09/27/2005		10.49	deg C	
Temperature	MW-35	12/15/2005		8.86	deg C	
Temperature	MW-35	03/28/2006		9.53	deg C	
Temperature	MW-35	06/21/2006		10.31	deg C	
Temperature	MW-35	09/26/2006		10.62	deg C	
Temperature	MW-35	12/12/2006		9.26	deg C	
Temperature	MW-35	03/27/2007		9.4	deg C	
Temperature	MW-35	09/18/2007		10.24	deg C	
Temperature	MW-35	12/20/2007		8.69	deg C	
Temperature	MW-35	03/25/2008		8.75	deg C	
Temperature	MW-35	06/18/2008		9.73	deg C	
Temperature	MW-35	09/18/2008		9.98	deg C	
Temperature	MW-35	12/19/2008		8.5	deg C	
Temperature	MW-35	03/24/2009		9.32	deg C	
Temperature	MW-35	06/16/2009		11.76	deg C	
Temperature	MW-35	12/03/2009		9.57	deg C	
Temperature	MW-35	03/25/2010		9.82	deg C	
Temperature	MW-35	06/23/2010		10.07	deg C	
Temperature	MW-35	09/23/2010		10.09	deg C	
Temperature	MW-35	12/09/2010		9.85	deg C	
Temperature	MW-35	03/30/2011		9.72	deg C	
Temperature	MW-35	06/06/2011		10.2	deg C	
Temperature	MW-35	09/26/2011		10.14	deg C	
Temperature	MW-35	12/13/2011		9.41	deg C	
Temperature	MW-35	03/21/2012		9.78	deg C	
Temperature	MW-35	06/06/2012		10.3	deg C	
Temperature	MW-35	09/26/2012		10.2	deg C	
Temperature	MW-35	12/04/2012		9.8	deg C	
Temperature	MW-35	03/13/2013		9.75	deg C	
Temperature	MW-35	06/06/2013		10.83	deg C	
Temperature	MW-35	09/05/2013		10.09	deg C	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Temperature	MW-35	12/16/2013		9.84	deg C	
Temperature	MW-35	03/04/2014		9.76	deg C	
Temperature	MW-35	06/02/2014		11.79	deg C	
Temperature	MW-35	09/22/2014		13.7	deg C	
Temperature	MW-35	11/17/2014		10.4	deg C	
Temperature	MW-35	02/25/2015		9.9	deg C	
Temperature	MW-35	05/19/2015		10.3	deg C	
Temperature	MW-35	08/26/2015		13.09	deg C	
Temperature	MW-35	11/10/2015		10.34	deg C	
Temperature	MW-35	02/22/2016		10.31	deg C	
Temperature	MW-35	05/16/2016		10.12	deg C	
Temperature	MW-35	08/31/2016		10.78	deg C	
Temperature	MW-35	11/15/2016		10.41	deg C	
Temperature	MW-35	02/22/2017		9.95	deg C	
Temperature	MW-35	05/24/2017		9.99	deg C	
Temperature	MW-35	08/30/2017		11.63	deg C	
Temperature	MW-35	11/15/2017		9.83	deg C	
Temperature	MW-35	02/20/2018		9.52	deg C	
Temperature	MW-35	05/17/2018		10.07	deg C	
Temperature	MW-35	08/22/2018		10.48	deg C	
Temperature	MW-35	11/12/2018		10.3	deg C	
Thallium, total	MW-13A	12/03/2013	ND	0.001	MG/L	
Thallium, total	MW-13A	03/04/2014	ND	0.001	MG/L	
Thallium, total	MW-13A	06/02/2014	ND	0.001	MG/L	
Thallium, total	MW-13A	09/22/2014	ND	0.001	MG/L	
Thallium, total	MW-13A	11/17/2014	ND	0.001	MG/L	
Thallium, total	MW-13A	02/23/2015	ND	0.001	MG/L	
Thallium, total	MW-13A	05/19/2015	ND	0.001	MG/L	
Thallium, total	MW-13A	08/26/2015	ND	0.001	MG/L	
Thallium, total	MW-13A	11/10/2015	ND	0.001	MG/L	
Thallium, total	MW-13A	02/22/2016	ND	0.001	MG/L	
Thallium, total	MW-13A	05/16/2016	ND	0.001	MG/L	
Thallium, total	MW-13A	08/31/2016	ND	0.001	MG/L	
Thallium, total	MW-13A	11/14/2016	ND	0.001	MG/L	
Thallium, total	MW-13A	02/22/2017	ND	0.001	MG/L	
Thallium, total	MW-13A	05/24/2017	ND	0.001	MG/L	
Thallium, total	MW-13A	08/30/2017	ND	0.001	MG/L	
Thallium, total	MW-13A	11/13/2017	ND	0.001	MG/L	
Thallium, total	MW-13A	02/20/2018	ND	0.001	MG/L	
Thallium, total	MW-13A	05/15/2018	ND	0.001	MG/L	
Thallium, total	MW-13A	08/21/2018	ND	0.001	MG/L	
Thallium, total	MW-13A	11/12/2018	ND	0.001	MG/L	
Thallium, total	MW-13B	12/03/2013	ND	0.001	MG/L	
Thallium, total	MW-13B	03/04/2014	ND	0.001	MG/L	
Thallium, total	MW-13B	06/02/2014	ND	0.001	MG/L	
Thallium, total	MW-13B	09/22/2014	ND	0.001	MG/L	
Thallium, total	MW-13B	11/17/2014	ND	0.001	MG/L	
Thallium, total	MW-13B	02/23/2015	ND	0.001	MG/L	
Thallium, total	MW-13B	05/19/2015	ND	0.001	MG/L	
Thallium, total	MW-13B	08/26/2015	ND	0.001	MG/L	
Thallium, total	MW-13B	11/10/2015	ND	0.001	MG/L	
Thallium, total	MW-13B	02/22/2016	ND	0.001	MG/L	
Thallium, total	MW-13B	05/16/2016	ND	0.001	MG/L	
Thallium, total	MW-13B	08/31/2016	ND	0.001	MG/L	
Thallium, total	MW-13B	11/14/2016	ND	0.001	MG/L	
Thallium, total	MW-13B	02/22/2017	ND	0.001	MG/L	
Thallium, total	MW-13B	05/24/2017	ND	0.001	MG/L	
Thallium, total	MW-13B	08/30/2017	ND	0.001	MG/L	
Thallium, total	MW-13B	11/13/2017	ND	0.001	MG/L	
Thallium, total	MW-13B	02/20/2018	ND	0.001	MG/L	
Thallium, total	MW-13B	05/15/2018	ND	0.001	MG/L	
Thallium, total	MW-13B	08/21/2018	ND	0.001	MG/L	
Thallium, total	MW-13B	11/12/2018	ND	0.001	MG/L	
Thallium, total	MW-16	09/05/2013	ND	0.001	MG/L	
Thallium, total	MW-16	12/16/2013	ND	0.001	MG/L	
Thallium, total	MW-16	03/05/2014	ND	0.001	MG/L	
Thallium, total	MW-16	06/02/2014	ND	0.001	MG/L	
Thallium, total	MW-16	09/22/2014	ND	0.001	MG/L	
Thallium, total	MW-16	11/18/2014	ND	0.001	MG/L	
Thallium, total	MW-16	02/23/2015	ND	0.001	MG/L	
Thallium, total	MW-16	05/20/2015	ND	0.001	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Thallium, total	MW-16	08/26/2015	ND	0.001	MG/L	
Thallium, total	MW-16	11/11/2015	ND	0.001	MG/L	
Thallium, total	MW-16	02/24/2016	ND	0.001	MG/L	
Thallium, total	MW-16	05/16/2016	ND	0.001	MG/L	
Thallium, total	MW-16	08/31/2016	ND	0.001	MG/L	
Thallium, total	MW-16	11/14/2016	ND	0.001	MG/L	
Thallium, total	MW-16	02/22/2017	ND	0.001	MG/L	
Thallium, total	MW-16	05/24/2017	ND	0.001	MG/L	
Thallium, total	MW-16	08/30/2017	ND	0.001	MG/L	
Thallium, total	MW-16	11/13/2017	ND	0.001	MG/L	
Thallium, total	MW-16	02/20/2018	ND	0.001	MG/L	
Thallium, total	MW-16	05/17/2018	ND	0.001	MG/L	
Thallium, total	MW-16	08/22/2018	ND	0.001	MG/L	
Thallium, total	MW-16	11/12/2018	ND	0.001	MG/L	
Thallium, total	MW-35	09/05/2013	ND	0.001	MG/L	
Thallium, total	MW-35	12/16/2013	ND	0.001	MG/L	
Thallium, total	MW-35	03/04/2014	ND	0.001	MG/L	
Thallium, total	MW-35	06/02/2014	ND	0.001	MG/L	
Thallium, total	MW-35	09/22/2014	ND	0.001	MG/L	
Thallium, total	MW-35	11/17/2014	ND	0.001	MG/L	
Thallium, total	MW-35	02/25/2015	ND	0.001	MG/L	
Thallium, total	MW-35	05/19/2015	ND	0.001	MG/L	
Thallium, total	MW-35	08/26/2015	ND	0.001	MG/L	
Thallium, total	MW-35	11/10/2015	ND	0.001	MG/L	
Thallium, total	MW-35	02/22/2016	ND	0.001	MG/L	
Thallium, total	MW-35	05/16/2016	ND	0.001	MG/L	
Thallium, total	MW-35	08/31/2016	ND	0.001	MG/L	
Thallium, total	MW-35	11/15/2016	ND	0.001	MG/L	
Thallium, total	MW-35	02/22/2017	ND	0.001	MG/L	
Thallium, total	MW-35	05/24/2017	ND	0.001	MG/L	
Thallium, total	MW-35	08/30/2017	ND	0.001	MG/L	
Thallium, total	MW-35	11/15/2017	ND	0.001	MG/L	
Thallium, total	MW-35	02/20/2018	ND	0.001	MG/L	
Thallium, total	MW-35	05/17/2018	ND	0.001	MG/L	
Thallium, total	MW-35	08/22/2018	ND	0.001	MG/L	
Thallium, total	MW-35	11/12/2018	ND	0.001	MG/L	
Total dissolved solids (tds)	MW-13A	03/22/2005		113	MG/L	
Total dissolved solids (tds)	MW-13A	06/15/2005		111	MG/L	
Total dissolved solids (tds)	MW-13A	09/27/2005		175	MG/L	
Total dissolved solids (tds)	MW-13A	12/15/2005		166	MG/L	
Total dissolved solids (tds)	MW-13A	03/28/2006		110	MG/L	
Total dissolved solids (tds)	MW-13A	06/21/2006		120	MG/L	
Total dissolved solids (tds)	MW-13A	09/26/2006		110	MG/L	
Total dissolved solids (tds)	MW-13A	12/13/2006		100	MG/L	
Total dissolved solids (tds)	MW-13A	03/27/2007		100	MG/L	
Total dissolved solids (tds)	MW-13A	06/19/2007		100	MG/L	
Total dissolved solids (tds)	MW-13A	09/19/2007		110	MG/L	
Total dissolved solids (tds)	MW-13A	12/19/2007		84	MG/L	
Total dissolved solids (tds)	MW-13A	03/25/2008		99	MG/L	
Total dissolved solids (tds)	MW-13A	06/18/2008		110	MG/L	
Total dissolved solids (tds)	MW-13A	09/17/2008		110	MG/L	
Total dissolved solids (tds)	MW-13A	12/17/2008		90	MG/L	
Total dissolved solids (tds)	MW-13A	03/24/2009		95	MG/L	
Total dissolved solids (tds)	MW-13A	06/17/2009		110	MG/L	
Total dissolved solids (tds)	MW-13A	09/10/2009		100	MG/L	
Total dissolved solids (tds)	MW-13A	12/03/2009		100	MG/L	
Total dissolved solids (tds)	MW-13A	03/25/2010		100	MG/L	
Total dissolved solids (tds)	MW-13A	06/23/2010		120	MG/L	
Total dissolved solids (tds)	MW-13A	09/23/2010		98	MG/L	
Total dissolved solids (tds)	MW-13A	12/08/2010		90	MG/L	
Total dissolved solids (tds)	MW-13A	03/30/2011		110	MG/L	
Total dissolved solids (tds)	MW-13A	06/06/2011		110	MG/L	
Total dissolved solids (tds)	MW-13A	09/27/2011		100	MG/L	
Total dissolved solids (tds)	MW-13A	12/14/2011		97	MG/L	
Total dissolved solids (tds)	MW-13A	03/21/2012		93	MG/L	
Total dissolved solids (tds)	MW-13A	06/08/2012		120	MG/L	
Total dissolved solids (tds)	MW-13A	09/26/2012		120	MG/L	
Total dissolved solids (tds)	MW-13A	12/03/2012		88	MG/L	
Total dissolved solids (tds)	MW-13A	03/11/2013		100	MG/L	
Total dissolved solids (tds)	MW-13A	06/05/2013		100	MG/L	
Total dissolved solids (tds)	MW-13A	12/03/2013		98	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Total dissolved solids (tds)	MW-13A	03/04/2014		100	MG/L	
Total dissolved solids (tds)	MW-13A	06/02/2014		100	MG/L	
Total dissolved solids (tds)	MW-13A	09/22/2014		110	MG/L	
Total dissolved solids (tds)	MW-13A	11/17/2014		110	MG/L	
Total dissolved solids (tds)	MW-13A	02/23/2015		99	MG/L	
Total dissolved solids (tds)	MW-13A	05/19/2015		100	MG/L	
Total dissolved solids (tds)	MW-13A	08/26/2015		97	MG/L	
Total dissolved solids (tds)	MW-13A	11/10/2015		100	MG/L	
Total dissolved solids (tds)	MW-13A	02/22/2016		100	MG/L	
Total dissolved solids (tds)	MW-13A	05/16/2016		99	MG/L	
Total dissolved solids (tds)	MW-13A	08/31/2016		130	MG/L	
Total dissolved solids (tds)	MW-13A	11/14/2016		110	MG/L	
Total dissolved solids (tds)	MW-13A	02/22/2017		110	MG/L	
Total dissolved solids (tds)	MW-13A	05/24/2017		100	MG/L	
Total dissolved solids (tds)	MW-13A	08/30/2017		100	MG/L	
Total dissolved solids (tds)	MW-13A	11/13/2017		110	MG/L	
Total dissolved solids (tds)	MW-13A	02/20/2018		110	MG/L	
Total dissolved solids (tds)	MW-13A	05/15/2018		110	MG/L	
Total dissolved solids (tds)	MW-13A	08/21/2018		110	MG/L	
Total dissolved solids (tds)	MW-13A	11/12/2018		98	MG/L	
Total dissolved solids (tds)	MW-13B	03/22/2005		108	MG/L	
Total dissolved solids (tds)	MW-13B	06/15/2005		114	MG/L	
Total dissolved solids (tds)	MW-13B	09/27/2005		111	MG/L	
Total dissolved solids (tds)	MW-13B	12/15/2005		130	MG/L	
Total dissolved solids (tds)	MW-13B	03/29/2006		89	MG/L	
Total dissolved solids (tds)	MW-13B	06/21/2006		110	MG/L	
Total dissolved solids (tds)	MW-13B	09/26/2006		100	MG/L	
Total dissolved solids (tds)	MW-13B	12/13/2006		98	MG/L	
Total dissolved solids (tds)	MW-13B	03/27/2007		100	MG/L	
Total dissolved solids (tds)	MW-13B	06/19/2007		99	MG/L	
Total dissolved solids (tds)	MW-13B	09/18/2007		99	MG/L	
Total dissolved solids (tds)	MW-13B	12/19/2007		91	MG/L	
Total dissolved solids (tds)	MW-13B	03/25/2008		99	MG/L	
Total dissolved solids (tds)	MW-13B	06/18/2008		120	MG/L	
Total dissolved solids (tds)	MW-13B	09/17/2008		110	MG/L	
Total dissolved solids (tds)	MW-13B	12/16/2008		93	MG/L	
Total dissolved solids (tds)	MW-13B	03/24/2009		94	MG/L	
Total dissolved solids (tds)	MW-13B	06/17/2009		100	MG/L	
Total dissolved solids (tds)	MW-13B	09/10/2009		100	MG/L	
Total dissolved solids (tds)	MW-13B	12/03/2009		110	MG/L	
Total dissolved solids (tds)	MW-13B	03/25/2010		100	MG/L	
Total dissolved solids (tds)	MW-13B	06/23/2010		110	MG/L	
Total dissolved solids (tds)	MW-13B	09/23/2010		94	MG/L	
Total dissolved solids (tds)	MW-13B	12/08/2010		94	MG/L	
Total dissolved solids (tds)	MW-13B	03/30/2011		110	MG/L	
Total dissolved solids (tds)	MW-13B	06/06/2011		99	MG/L	
Total dissolved solids (tds)	MW-13B	09/27/2011		100	MG/L	
Total dissolved solids (tds)	MW-13B	12/14/2011		91	MG/L	
Total dissolved solids (tds)	MW-13B	03/21/2012		100	MG/L	
Total dissolved solids (tds)	MW-13B	06/08/2012		110	MG/L	
Total dissolved solids (tds)	MW-13B	09/26/2012		110	MG/L	
Total dissolved solids (tds)	MW-13B	12/03/2012		93	MG/L	
Total dissolved solids (tds)	MW-13B	03/11/2013		100	MG/L	
Total dissolved solids (tds)	MW-13B	06/05/2013		98	MG/L	
Total dissolved solids (tds)	MW-13B	12/03/2013		99	MG/L	
Total dissolved solids (tds)	MW-13B	03/04/2014		99	MG/L	
Total dissolved solids (tds)	MW-13B	06/02/2014		100	MG/L	
Total dissolved solids (tds)	MW-13B	09/22/2014		110	MG/L	
Total dissolved solids (tds)	MW-13B	11/17/2014		110	MG/L	
Total dissolved solids (tds)	MW-13B	02/23/2015		110	MG/L	
Total dissolved solids (tds)	MW-13B	05/19/2015		110	MG/L	
Total dissolved solids (tds)	MW-13B	08/26/2015		98	MG/L	
Total dissolved solids (tds)	MW-13B	11/10/2015		100	MG/L	
Total dissolved solids (tds)	MW-13B	02/22/2016		100	MG/L	
Total dissolved solids (tds)	MW-13B	05/16/2016		99	MG/L	
Total dissolved solids (tds)	MW-13B	08/31/2016		120	MG/L	
Total dissolved solids (tds)	MW-13B	11/14/2016		100	MG/L	
Total dissolved solids (tds)	MW-13B	02/22/2017		110	MG/L	
Total dissolved solids (tds)	MW-13B	05/24/2017		97	MG/L	
Total dissolved solids (tds)	MW-13B	08/30/2017		110	MG/L	
Total dissolved solids (tds)	MW-13B	11/13/2017		110	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Total dissolved solids (tds)	MW-13B	02/20/2018		99	MG/L	
Total dissolved solids (tds)	MW-13B	05/15/2018		100	MG/L	
Total dissolved solids (tds)	MW-13B	08/21/2018		110	MG/L	
Total dissolved solids (tds)	MW-13B	11/12/2018		110	MG/L	
Total dissolved solids (tds)	MW-16	03/24/2009		87	MG/L	
Total dissolved solids (tds)	MW-16	06/16/2009		85	MG/L	
Total dissolved solids (tds)	MW-16	09/09/2009		89	MG/L	
Total dissolved solids (tds)	MW-16	12/03/2009		97	MG/L	
Total dissolved solids (tds)	MW-16	03/25/2010		83	MG/L	
Total dissolved solids (tds)	MW-16	06/24/2010		95	MG/L	
Total dissolved solids (tds)	MW-16	09/24/2010		120	MG/L	
Total dissolved solids (tds)	MW-16	12/09/2010		100	MG/L	
Total dissolved solids (tds)	MW-16	03/30/2011		91	MG/L	
Total dissolved solids (tds)	MW-16	06/07/2011		94	MG/L	
Total dissolved solids (tds)	MW-16	09/27/2011		100	MG/L	
Total dissolved solids (tds)	MW-16	12/13/2011		93	MG/L	
Total dissolved solids (tds)	MW-16	03/21/2012		71	MG/L	
Total dissolved solids (tds)	MW-16	06/08/2012		95	MG/L	
Total dissolved solids (tds)	MW-16	09/27/2012		87	MG/L	
Total dissolved solids (tds)	MW-16	12/04/2012		100	MG/L	
Total dissolved solids (tds)	MW-16	03/12/2013		100	MG/L	
Total dissolved solids (tds)	MW-16	06/04/2013		68	MG/L	
Total dissolved solids (tds)	MW-16	09/05/2013		100	MG/L	
Total dissolved solids (tds)	MW-16	12/16/2013		92	MG/L	
Total dissolved solids (tds)	MW-16	03/05/2014		82	MG/L	
Total dissolved solids (tds)	MW-16	06/02/2014		79	MG/L	
Total dissolved solids (tds)	MW-16	09/22/2014		93	MG/L	
Total dissolved solids (tds)	MW-16	11/18/2014		100	MG/L	
Total dissolved solids (tds)	MW-16	02/23/2015		80	MG/L	
Total dissolved solids (tds)	MW-16	05/20/2015		99	MG/L	
Total dissolved solids (tds)	MW-16	08/26/2015		93	MG/L	
Total dissolved solids (tds)	MW-16	11/11/2015		99	MG/L	
Total dissolved solids (tds)	MW-16	02/24/2016		79	MG/L	
Total dissolved solids (tds)	MW-16	05/16/2016		83	MG/L	
Total dissolved solids (tds)	MW-16	08/31/2016		93	MG/L	
Total dissolved solids (tds)	MW-16	11/14/2016		86	MG/L	
Total dissolved solids (tds)	MW-16	02/22/2017		80	MG/L	
Total dissolved solids (tds)	MW-16	05/24/2017		93	MG/L	
Total dissolved solids (tds)	MW-16	08/30/2017		85	MG/L	
Total dissolved solids (tds)	MW-16	11/13/2017		80	MG/L	
Total dissolved solids (tds)	MW-16	02/20/2018		80	MG/L	
Total dissolved solids (tds)	MW-16	05/17/2018		65	MG/L	
Total dissolved solids (tds)	MW-16	08/22/2018		100	MG/L	
Total dissolved solids (tds)	MW-16	11/12/2018		81	MG/L	
Total dissolved solids (tds)	MW-35	03/22/2005		100	MG/L	
Total dissolved solids (tds)	MW-35	06/14/2005		88	MG/L	
Total dissolved solids (tds)	MW-35	09/27/2005		123	MG/L	
Total dissolved solids (tds)	MW-35	12/15/2005		87	MG/L	
Total dissolved solids (tds)	MW-35	03/28/2006		91	MG/L	
Total dissolved solids (tds)	MW-35	06/21/2006		110	MG/L	
Total dissolved solids (tds)	MW-35	09/26/2006		110	MG/L	
Total dissolved solids (tds)	MW-35	12/12/2006		90	MG/L	
Total dissolved solids (tds)	MW-35	03/27/2007		93	MG/L	
Total dissolved solids (tds)	MW-35	06/20/2007		110	MG/L	
Total dissolved solids (tds)	MW-35	09/18/2007		90	MG/L	
Total dissolved solids (tds)	MW-35	12/20/2007		120	MG/L	
Total dissolved solids (tds)	MW-35	03/25/2008		76	MG/L	
Total dissolved solids (tds)	MW-35	06/18/2008		93	MG/L	
Total dissolved solids (tds)	MW-35	09/18/2008		92	MG/L	
Total dissolved solids (tds)	MW-35	12/19/2008		93	MG/L	
Total dissolved solids (tds)	MW-35	03/24/2009		84	MG/L	
Total dissolved solids (tds)	MW-35	06/16/2009		95	MG/L	
Total dissolved solids (tds)	MW-35	09/10/2009		83	MG/L	
Total dissolved solids (tds)	MW-35	12/03/2009		85	MG/L	
Total dissolved solids (tds)	MW-35	03/25/2010		96	MG/L	
Total dissolved solids (tds)	MW-35	06/23/2010		100	MG/L	
Total dissolved solids (tds)	MW-35	09/23/2010		86	MG/L	
Total dissolved solids (tds)	MW-35	12/09/2010		97	MG/L	
Total dissolved solids (tds)	MW-35	03/30/2011		91	MG/L	
Total dissolved solids (tds)	MW-35	06/06/2011		96	MG/L	
Total dissolved solids (tds)	MW-35	09/26/2011		100	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Total dissolved solids (tds)	MW-35	12/13/2011		95	MG/L	
Total dissolved solids (tds)	MW-35	03/21/2012		85	MG/L	
Total dissolved solids (tds)	MW-35	06/06/2012		120	MG/L	
Total dissolved solids (tds)	MW-35	09/26/2012		110	MG/L	
Total dissolved solids (tds)	MW-35	12/04/2012		100	MG/L	
Total dissolved solids (tds)	MW-35	03/13/2013		96	MG/L	
Total dissolved solids (tds)	MW-35	06/06/2013		90	MG/L	
Total dissolved solids (tds)	MW-35	09/05/2013		100	MG/L	
Total dissolved solids (tds)	MW-35	12/16/2013		95	MG/L	
Total dissolved solids (tds)	MW-35	03/04/2014		94	MG/L	
Total dissolved solids (tds)	MW-35	06/02/2014		92	MG/L	
Total dissolved solids (tds)	MW-35	09/22/2014		99	MG/L	
Total dissolved solids (tds)	MW-35	11/17/2014		100	MG/L	
Total dissolved solids (tds)	MW-35	02/25/2015		93	MG/L	
Total dissolved solids (tds)	MW-35	05/19/2015		110	MG/L	
Total dissolved solids (tds)	MW-35	08/26/2015		99	MG/L	
Total dissolved solids (tds)	MW-35	11/10/2015		98	MG/L	
Total dissolved solids (tds)	MW-35	02/22/2016		93	MG/L	
Total dissolved solids (tds)	MW-35	05/16/2016		100	MG/L	
Total dissolved solids (tds)	MW-35	08/31/2016		95	MG/L	
Total dissolved solids (tds)	MW-35	11/15/2016		120	MG/L	
Total dissolved solids (tds)	MW-35	02/22/2017		100	MG/L	
Total dissolved solids (tds)	MW-35	05/24/2017		110	MG/L	
Total dissolved solids (tds)	MW-35	08/30/2017		99	MG/L	
Total dissolved solids (tds)	MW-35	11/15/2017		100	MG/L	
Total dissolved solids (tds)	MW-35	02/20/2018		98	MG/L	
Total dissolved solids (tds)	MW-35	05/17/2018		92	MG/L	
Total dissolved solids (tds)	MW-35	08/22/2018		110	MG/L	
Total dissolved solids (tds)	MW-35	11/12/2018		100	MG/L	
Total organic carbon (toc)	MW-13A	03/22/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/15/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/27/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/15/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/28/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/21/2006		2.2	MG/L	
Total organic carbon (toc)	MW-13A	09/26/2006		6	MG/L	
Total organic carbon (toc)	MW-13A	12/13/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/27/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/19/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/19/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/19/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/25/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/18/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/17/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/17/2008		1	MG/L	
Total organic carbon (toc)	MW-13A	03/24/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/17/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/10/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/03/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/25/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/23/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/23/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/08/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/30/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/06/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/27/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/14/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/21/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/08/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/26/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/03/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/11/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/05/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	12/03/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	03/04/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	06/02/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	09/22/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	11/17/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	05/19/2015	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	02/22/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	05/16/2016	ND	1	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Total organic carbon (toc)	MW-13A	08/31/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	11/14/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	02/22/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	05/24/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	08/30/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	11/13/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	02/20/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	05/15/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	08/21/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13A	11/12/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/22/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/15/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/27/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/15/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/29/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/21/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/26/2006		4.8	MG/L	
Total organic carbon (toc)	MW-13B	12/13/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/27/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/19/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/18/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/19/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/25/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/18/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/17/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/16/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/24/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/17/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/10/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/03/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/25/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/23/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/23/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/08/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/30/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/06/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/27/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/14/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/21/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/08/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/26/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/03/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/11/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/05/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	12/03/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	03/04/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	06/02/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	09/22/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	11/17/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	05/19/2015	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	02/22/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	05/16/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	08/31/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	11/14/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	02/22/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	05/24/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	08/30/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	11/13/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	02/20/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	05/15/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	08/21/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-13B	11/12/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-16	03/24/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-16	06/16/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-16	09/09/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-16	12/03/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-16	03/25/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-16	06/24/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-16	09/24/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-16	12/09/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-16	03/30/2011	ND	1	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Total organic carbon (toc)	MW-16	06/07/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-16	09/27/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-16	12/13/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-16	03/21/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-16	06/08/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-16	09/27/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-16	12/04/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-16	03/12/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-16	06/04/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-16	09/05/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-16	12/16/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-16	03/05/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-16	06/02/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-16	09/22/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-16	11/18/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-16	05/20/2015	ND	1	MG/L	
Total organic carbon (toc)	MW-16	02/24/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-16	05/16/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-16	08/31/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-16	11/14/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-16	02/22/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-16	05/24/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-16	08/30/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-16	11/13/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-16	02/20/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-16	05/17/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-16	08/22/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-16	11/12/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/22/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/14/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/27/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/15/2005	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/28/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/21/2006		2.1	MG/L	
Total organic carbon (toc)	MW-35	09/26/2006		4.3	MG/L	
Total organic carbon (toc)	MW-35	12/12/2006	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/27/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/20/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/18/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/20/2007	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/25/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/18/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/18/2008	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/19/2008		1	MG/L	
Total organic carbon (toc)	MW-35	03/24/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/16/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/10/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/03/2009	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/25/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/23/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/23/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/09/2010	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/30/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/06/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/26/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/13/2011	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/21/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/06/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/26/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/04/2012	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/13/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/06/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/05/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-35	12/16/2013	ND	1	MG/L	
Total organic carbon (toc)	MW-35	03/04/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-35	06/02/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-35	09/22/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-35	11/17/2014	ND	1	MG/L	
Total organic carbon (toc)	MW-35	05/19/2015	ND	1	MG/L	
Total organic carbon (toc)	MW-35	02/22/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-35	05/16/2016	ND	1	MG/L	

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TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Total organic carbon (toc)	MW-35	08/31/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-35	11/15/2016	ND	1	MG/L	
Total organic carbon (toc)	MW-35	02/22/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-35	05/24/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-35	08/30/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-35	11/15/2017	ND	1	MG/L	
Total organic carbon (toc)	MW-35	02/20/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-35	05/17/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-35	08/22/2018	ND	1	MG/L	
Total organic carbon (toc)	MW-35	11/12/2018	ND	1	MG/L	
Vanadium, total	MW-13A	12/03/2013		0.0042	MG/L	
Vanadium, total	MW-13A	03/04/2014		0.0042	MG/L	
Vanadium, total	MW-13A	06/02/2014		0.0048	MG/L	
Vanadium, total	MW-13A	09/22/2014		0.0039	MG/L	
Vanadium, total	MW-13A	11/17/2014		0.0042	MG/L	
Vanadium, total	MW-13A	02/23/2015		0.0042	MG/L	
Vanadium, total	MW-13A	05/19/2015		0.0034	MG/L	
Vanadium, total	MW-13A	08/26/2015		0.0039	MG/L	
Vanadium, total	MW-13A	11/10/2015		0.004	MG/L	
Vanadium, total	MW-13A	02/22/2016		0.004	MG/L	
Vanadium, total	MW-13A	05/16/2016		0.0039	MG/L	
Vanadium, total	MW-13A	08/31/2016		0.0041	MG/L	
Vanadium, total	MW-13A	11/14/2016		0.0039	MG/L	
Vanadium, total	MW-13A	02/22/2017		0.0043	MG/L	
Vanadium, total	MW-13A	05/24/2017		0.0033	MG/L	
Vanadium, total	MW-13A	08/30/2017		0.0039	MG/L	
Vanadium, total	MW-13A	11/13/2017		0.0038	MG/L	
Vanadium, total	MW-13A	02/20/2018		0.0026	MG/L	
Vanadium, total	MW-13A	05/15/2018	ND	0.002	MG/L	
Vanadium, total	MW-13A	08/21/2018		0.0041	MG/L	
Vanadium, total	MW-13A	11/12/2018		0.0039	MG/L	
Vanadium, total	MW-13B	12/03/2013		0.0058	MG/L	
Vanadium, total	MW-13B	03/04/2014		0.0057	MG/L	
Vanadium, total	MW-13B	06/02/2014		0.0057	MG/L	
Vanadium, total	MW-13B	09/22/2014		0.005	MG/L	
Vanadium, total	MW-13B	11/17/2014		0.0055	MG/L	
Vanadium, total	MW-13B	02/23/2015		0.0054	MG/L	
Vanadium, total	MW-13B	05/19/2015		0.0054	MG/L	
Vanadium, total	MW-13B	08/26/2015		0.0056	MG/L	
Vanadium, total	MW-13B	11/10/2015		0.0058	MG/L	
Vanadium, total	MW-13B	02/22/2016		0.0058	MG/L	
Vanadium, total	MW-13B	05/16/2016		0.0056	MG/L	
Vanadium, total	MW-13B	08/31/2016		0.0054	MG/L	
Vanadium, total	MW-13B	11/14/2016		0.0061	MG/L	
Vanadium, total	MW-13B	02/22/2017		0.0058	MG/L	
Vanadium, total	MW-13B	05/24/2017		0.0044	MG/L	
Vanadium, total	MW-13B	08/30/2017		0.0054	MG/L	
Vanadium, total	MW-13B	11/13/2017		0.0051	MG/L	
Vanadium, total	MW-13B	02/20/2018		0.0045	MG/L	
Vanadium, total	MW-13B	05/15/2018		0.0029	MG/L	
Vanadium, total	MW-13B	08/21/2018		0.0058	MG/L	
Vanadium, total	MW-13B	11/12/2018		0.0054	MG/L	
Vanadium, total	MW-16	09/05/2013		0.0034	MG/L	
Vanadium, total	MW-16	12/16/2013		0.0039	MG/L	
Vanadium, total	MW-16	03/05/2014		0.0042	MG/L	
Vanadium, total	MW-16	06/02/2014		0.0042	MG/L	
Vanadium, total	MW-16	09/22/2014		0.0042	MG/L	
Vanadium, total	MW-16	11/18/2014		0.004	MG/L	
Vanadium, total	MW-16	02/23/2015		0.0051	MG/L	
Vanadium, total	MW-16	05/20/2015		0.0042	MG/L	
Vanadium, total	MW-16	08/26/2015		0.0032	MG/L	
Vanadium, total	MW-16	11/11/2015		0.0034	MG/L	
Vanadium, total	MW-16	02/24/2016		0.0043	MG/L	
Vanadium, total	MW-16	05/16/2016		0.0034	MG/L	
Vanadium, total	MW-16	08/31/2016		0.0042	MG/L	
Vanadium, total	MW-16	11/14/2016		0.0049	MG/L	
Vanadium, total	MW-16	02/22/2017		0.0047	MG/L	
Vanadium, total	MW-16	05/24/2017		0.003	MG/L	
Vanadium, total	MW-16	08/30/2017		0.0033	MG/L	
Vanadium, total	MW-16	11/13/2017		0.0031	MG/L	
Vanadium, total	MW-16	02/20/2018		0.0029	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Vanadium, total	MW-16	05/17/2018		0.0037	MG/L	
Vanadium, total	MW-16	08/22/2018		0.0034	MG/L	
Vanadium, total	MW-16	11/12/2018		0.0047	MG/L	
Vanadium, total	MW-35	09/05/2013		0.0042	MG/L	
Vanadium, total	MW-35	12/16/2013		0.0046	MG/L	
Vanadium, total	MW-35	03/04/2014		0.0047	MG/L	
Vanadium, total	MW-35	06/02/2014		0.0042	MG/L	
Vanadium, total	MW-35	09/22/2014		0.0044	MG/L	
Vanadium, total	MW-35	11/17/2014		0.0042	MG/L	
Vanadium, total	MW-35	02/25/2015		0.0048	MG/L	
Vanadium, total	MW-35	05/19/2015		0.0042	MG/L	
Vanadium, total	MW-35	08/26/2015		0.0041	MG/L	
Vanadium, total	MW-35	11/10/2015		0.0043	MG/L	
Vanadium, total	MW-35	02/22/2016		0.0045	MG/L	
Vanadium, total	MW-35	05/16/2016		0.0046	MG/L	
Vanadium, total	MW-35	08/31/2016		0.0046	MG/L	
Vanadium, total	MW-35	11/15/2016		0.0043	MG/L	
Vanadium, total	MW-35	02/22/2017		0.005	MG/L	
Vanadium, total	MW-35	05/24/2017		0.0034	MG/L	
Vanadium, total	MW-35	08/30/2017		0.0042	MG/L	
Vanadium, total	MW-35	11/15/2017		0.004	MG/L	
Vanadium, total	MW-35	02/20/2018		0.0032	MG/L	
Vanadium, total	MW-35	05/17/2018		0.0044	MG/L	
Vanadium, total	MW-35	08/22/2018		0.0042	MG/L	
Vanadium, total	MW-35	11/12/2018		0.0042	MG/L	
Zinc, total	MW-13A	12/03/2013	ND	0.005	MG/L	
Zinc, total	MW-13A	03/04/2014	ND	0.005	MG/L	
Zinc, total	MW-13A	06/02/2014	ND	0.005	MG/L	
Zinc, total	MW-13A	09/22/2014	ND	0.005	MG/L	
Zinc, total	MW-13A	11/17/2014	ND	0.005	MG/L	
Zinc, total	MW-13A	02/23/2015	ND	0.005	MG/L	
Zinc, total	MW-13A	05/19/2015	ND	0.005	MG/L	
Zinc, total	MW-13A	08/26/2015	ND	0.005	MG/L	
Zinc, total	MW-13A	11/10/2015	ND	0.005	MG/L	
Zinc, total	MW-13A	02/22/2016	ND	0.005	MG/L	
Zinc, total	MW-13A	05/16/2016	ND	0.005	MG/L	
Zinc, total	MW-13A	08/31/2016	ND	0.005	MG/L	
Zinc, total	MW-13A	11/14/2016	ND	0.005	MG/L	
Zinc, total	MW-13A	02/22/2017	ND	0.005	MG/L	
Zinc, total	MW-13A	05/24/2017	ND	0.005	MG/L	
Zinc, total	MW-13A	08/30/2017	ND	0.005	MG/L	
Zinc, total	MW-13A	11/13/2017	ND	0.005	MG/L	
Zinc, total	MW-13A	02/20/2018	ND	0.005	MG/L	
Zinc, total	MW-13A	05/15/2018	ND	0.005	MG/L	
Zinc, total	MW-13A	08/21/2018	ND	0.005	MG/L	
Zinc, total	MW-13A	11/12/2018	ND	0.005	MG/L	
Zinc, total	MW-13B	12/03/2013	ND	0.005	MG/L	
Zinc, total	MW-13B	03/04/2014	ND	0.005	MG/L	
Zinc, total	MW-13B	06/02/2014	ND	0.005	MG/L	
Zinc, total	MW-13B	09/22/2014	ND	0.005	MG/L	
Zinc, total	MW-13B	11/17/2014	ND	0.005	MG/L	
Zinc, total	MW-13B	02/23/2015	ND	0.005	MG/L	
Zinc, total	MW-13B	05/19/2015	ND	0.005	MG/L	
Zinc, total	MW-13B	08/26/2015	ND	0.005	MG/L	
Zinc, total	MW-13B	11/10/2015	ND	0.005	MG/L	
Zinc, total	MW-13B	02/22/2016	ND	0.005	MG/L	
Zinc, total	MW-13B	05/16/2016	ND	0.005	MG/L	
Zinc, total	MW-13B	08/31/2016	ND	0.005	MG/L	
Zinc, total	MW-13B	11/14/2016	ND	0.005	MG/L	
Zinc, total	MW-13B	02/22/2017	ND	0.005	MG/L	
Zinc, total	MW-13B	05/24/2017	ND	0.005	MG/L	
Zinc, total	MW-13B	08/30/2017	ND	0.005	MG/L	
Zinc, total	MW-13B	11/13/2017	ND	0.005	MG/L	
Zinc, total	MW-13B	02/20/2018	ND	0.005	MG/L	
Zinc, total	MW-13B	05/15/2018	ND	0.005	MG/L	
Zinc, total	MW-13B	08/21/2018	ND	0.005	MG/L	
Zinc, total	MW-13B	11/12/2018	ND	0.005	MG/L	
Zinc, total	MW-16	09/05/2013	ND	0.005	MG/L	
Zinc, total	MW-16	12/16/2013	ND	0.005	MG/L	
Zinc, total	MW-16	03/05/2014	ND	0.005	MG/L	
Zinc, total	MW-16	06/02/2014	ND	0.005	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data

Constituent	Well	Date	ND	Result	Unit	Outlier
Zinc, total	MW-16	09/22/2014	ND	0.005	MG/L	
Zinc, total	MW-16	11/18/2014	ND	0.005	MG/L	
Zinc, total	MW-16	02/23/2015	ND	0.005	MG/L	
Zinc, total	MW-16	05/20/2015	ND	0.005	MG/L	
Zinc, total	MW-16	08/26/2015	ND	0.005	MG/L	
Zinc, total	MW-16	11/11/2015	ND	0.005	MG/L	
Zinc, total	MW-16	02/24/2016	ND	0.005	MG/L	
Zinc, total	MW-16	05/16/2016	ND	0.005	MG/L	
Zinc, total	MW-16	08/31/2016	ND	0.005	MG/L	
Zinc, total	MW-16	11/14/2016		0.0056	MG/L	
Zinc, total	MW-16	02/22/2017	ND	0.005	MG/L	
Zinc, total	MW-16	05/24/2017	ND	0.005	MG/L	
Zinc, total	MW-16	08/30/2017	ND	0.005	MG/L	
Zinc, total	MW-16	11/13/2017	ND	0.005	MG/L	
Zinc, total	MW-16	02/20/2018	ND	0.005	MG/L	
Zinc, total	MW-16	05/17/2018	ND	0.005	MG/L	
Zinc, total	MW-16	08/22/2018	ND	0.005	MG/L	
Zinc, total	MW-16	11/12/2018	ND	0.005	MG/L	
Zinc, total	MW-35	09/05/2013	ND	0.005	MG/L	
Zinc, total	MW-35	12/16/2013	ND	0.005	MG/L	
Zinc, total	MW-35	03/04/2014	ND	0.005	MG/L	
Zinc, total	MW-35	06/02/2014	ND	0.005	MG/L	
Zinc, total	MW-35	09/22/2014	ND	0.005	MG/L	
Zinc, total	MW-35	11/17/2014	ND	0.005	MG/L	
Zinc, total	MW-35	02/25/2015	ND	0.005	MG/L	
Zinc, total	MW-35	05/19/2015	ND	0.005	MG/L	
Zinc, total	MW-35	08/26/2015	ND	0.005	MG/L	
Zinc, total	MW-35	11/10/2015	ND	0.005	MG/L	
Zinc, total	MW-35	02/22/2016	ND	0.005	MG/L	
Zinc, total	MW-35	05/16/2016	ND	0.005	MG/L	
Zinc, total	MW-35	08/31/2016	ND	0.005	MG/L	
Zinc, total	MW-35	11/15/2016	ND	0.005	MG/L	
Zinc, total	MW-35	02/22/2017	ND	0.005	MG/L	
Zinc, total	MW-35	05/24/2017	ND	0.005	MG/L	
Zinc, total	MW-35	08/30/2017	ND	0.005	MG/L	
Zinc, total	MW-35	11/15/2017	ND	0.005	MG/L	
Zinc, total	MW-35	02/20/2018	ND	0.005	MG/L	
Zinc, total	MW-35	05/17/2018	ND	0.005	MG/L	
Zinc, total	MW-35	08/22/2018	ND	0.005	MG/L	
Zinc, total	MW-35	11/12/2018	ND	0.005	MG/L	

* = outlier for that consistituent/well
ND = not detected; result = detection limit

TABLE 2-4
Shapiro Wilk Test of Normality for Multiple Groups

Constituent	N (Detects)	Detect Freq	G raw	G log	Critical Value	Limit Type
Alkalinity, bicarbonate (as caco3)	202	1	3.499	4.33	2.326	nonparametric
Alkalinity, total (as caco3)	206	1	3.505	4.196	2.326	nonparametric
Ammonia (as n)	73	0.361	8.031	7.583	2.326	nonparametric
Antimony, total	3	0.035				nonparametric
Arsenic, total	93	1	1.682	1.714	2.326	normal
Barium, total	86	1	0.696	0.695	2.326	normal
Beryllium, total	0	0				nonparametric
Cadmium, total	0	0				nonparametric
Calcium, dissolved	206	1	6.93	6.684	2.326	nonparametric
Chloride	202	0.981	6.091	5.057	2.326	nonparametric
Chromium, total	39	0.453	1.394	1.393	2.326	nonparametric
Cobalt, total	0	0				nonparametric
Copper, total	1	0.012				nonparametric
Iron, total	11	0.128	0.743	0.656	2.326	nonparametric
Lead, total	1	0.012				nonparametric
Magnesium, dissolved	206	1	2.15	1.635	2.326	normal
Manganese, total	23	0.271	2.625	2.607	2.326	nonparametric
Nickel, total	1	0.012				nonparametric
Nitrate (as n)	194	1	14.871	13.335	2.326	nonparametric
pH	197	1	0.767	1.225	2.326	normal
Potassium, dissolved	14	0.068	2.153	2.019	2.326	nonparametric
Selenium, total	0	0				nonparametric
Silver, total	0	0				nonparametric
Sodium, dissolved	206	1	6.251	5.339	2.326	nonparametric
Specific conductivity	199	1	8.144	8.335	2.326	nonparametric
Sulfate	205	0.995	6.19	5.187	2.326	nonparametric
Temperature	199	1	7.792	7.255	2.326	nonparametric
Thallium, total	0	0				nonparametric
Total dissolved solids (tds)	206	1	6.272	5.195	2.326	nonparametric
Total organic carbon (toc)	7	0.036	0.146	1.287	2.326	nonparametric
Vanadium, total	85	0.988	4.63	4.634	2.326	nonparametric
Zinc, total	1	0.012				nonparametric

Fit to distribution is confirmed if G < critical value.

If detection frequency is < 50% nonparametric or Poisson limit is use

Data in this table are based on pooled data shown in Table 2-3, outliers excluded

TABLE 2-5

COMPARISON OF UPDATED (2019) PREDICTION LIMITS† TO PREVIOUS YEAR (2018) PREDICTION LIMITS

Olympic View Sanitary Landfill

Constituent	2018 Pred. Limit	unit	Distributional Assumption	Constituent	2019 Pred. Limit	unit	Distributional Assumption
Alkalinity, bicarbonate (as CaCO3)	96	mg/L	nonparametric	Alkalinity, bicarbonate (as CaCO3)	96	mg/L	nonparametric
Alkalinity, total (as CaCO3)	96	mg/L	nonparametric	Alkalinity, total (as CaCO3)	96	mg/L	nonparametric
Ammonia (as N)	0.30	mg/L	nonparametric	Ammonia (as N)	0.30	mg/L	nonparametric
Antimony, total	0.0013	mg/L	nonparametric	Antimony, total	0.0013	mg/L	nonparametric
Arsenic, total	0.466	ugL	normal	Arsenic, total	0.478	ugL	normal
Barium, total	0.0044	mg/L	normal	Barium, total	0.0043	mg/L	normal
Beryllium, total	Current RL*	mg/L	nonparametric	Beryllium, total	Current RL*	mg/L	nonparametric
Cadmium, total	Current RL*	mg/L	nonparametric	Cadmium, total	Current RL*	mg/L	nonparametric
Calcium, dissolved	18.0	mg/L	nonparametric	Calcium, dissolved	18.0	mg/L	nonparametric
Chloride	4.4	mg/L	nonparametric	Chloride	4.4	mg/L	nonparametric
Chromium, total	0.0092	mg/L	nonparametric	Chromium, total	0.0092	mg/L	nonparametric
Cobalt, total	Current RL*	mg/L	nonparametric	Cobalt, total	Current RL*	mg/L	nonparametric
Copper, total	0.0021	mg/L	nonparametric	Copper, total	0.0021	mg/L	nonparametric
Iron, total	0.31	mg/L	nonparametric	Iron, total	0.31	mg/L	nonparametric
Lead, total	0.0014	mg/L	nonparametric	Lead, total	0.0014	mg/L	nonparametric
Magnesium, dissolved	11.2	mg/L	normal	Magnesium, dissolved	11.2	mg/L	normal
Manganese, total	0.032	mg/L	nonparametric	Manganese, total	0.032	mg/L	nonparametric
Nickel, total	0.0041	mg/L	nonparametric	Nickel, total	0.0041	mg/L	nonparametric
Nitrate (as N)	1.8	mg/L	nonparametric	Nitrate (as N)	1.8	mg/L	nonparametric
pH	5.84 - 8.20	units	normal	pH	5.83 - 8.19	units	normal
Potassium, dissolved	1.4	mg/L	nonparametric	Potassium, dissolved	1.4	mg/L	nonparametric
Selenium, total	Current RL*	mg/L	nonparametric	Selenium, total	Current RL*	mg/L	nonparametric
Silver, total	Current RL*	mg/L	nonparametric	Silver, total	Current RL*	mg/L	nonparametric
Sodium, dissolved	7.7	mg/L	nonparametric	Sodium, dissolved	7.7	mg/L	nonparametric
Specific conductivity	0.18	mS/cm	nonparametric	Specific conductivity	0.18	mS/cm	nonparametric
Sulfate	9.9	mg/L	nonparametric	Sulfate	9.9	mg/L	nonparametric
Temperature	14.32	deg C	nonparametric	Temperature	14.32	deg C	nonparametric
Thallium, total	Current RL*	mg/L	nonparametric	Thallium, total	Current RL*	mg/L	nonparametric
Total dissolved solids (tds)	175	mg/L	nonparametric	Total dissolved solids (tds)	175	mg/L	nonparametric
Total organic carbon (toc)	6.0	mg/L	nonparametric	Total organic carbon (toc)	6.0	mg/L	nonparametric
Vanadium, total	0.0062	mg/L	normal	Vanadium, total	0.0061	mg/L	nonparametric
Zinc, total	0.0056	mg/L	nonparametric	Zinc, total	0.0056	mg/L	nonparametric

† Note that beginning in 2016, Prediction Limits for Trace Metals became based on "total" analyses vs "dissolved" previously

* for background data sets with all non-detected values, a nonparametric prediction limit is the current constituent-specific laboratory reporting limit (RL)

mg/L = milligrams per liter

ug/L = micrograms per liter

mS/cm = milliSiemens per centimeter

deg C = degrees Celsius

3. Annual UCL Calculations using Preliminary Groundwater Cleanup Goals

- 2018 Annual Preliminary Groundwater Cleanup Goals Statistical Evaluation Summary (Table 3-1)

TABLE 3-1: 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2016 through December 31, 2018

Wells Evaluated: (1) Compliance -- MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43; (2) Downgradient -- MW-29A, MW-32, MW-33A, MW-33C, MW-36A

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-15R	Compliance	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-15R	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-15R	Compliance	Arsenic, total	12	100%	0.269	0.24	ug/L	LN	0.462	ug/L	No	No
MW-15R	Compliance	Iron, total	12	8.3%	0.11	0.11	mg/L	A	0.30	mg/L	No	No
MW-15R	Compliance	Manganese, total	12	100%	0.0084	0.004	mg/L	Z	0.05	mg/L	No	No
MW-15R	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-15R	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-15R	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-15R	Compliance	Vinyl Chloride	12	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-15R	Compliance	Ammonia as N	12	0%	0.03 (ND)	0.03	mg/L	B	0.19	mg/L	No	No
MW-34A	Compliance	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34A	Compliance	Arsenic, total	12	100%	0.488	0.464	ug/L	Z	0.462	ug/L	Yes	No
MW-34A	Compliance	Iron, total	12	17%	0.092	0.06	mg/L	A	0.30	mg/L	No	No
MW-34A	Compliance	Manganese, total	12	83%	0.0044	0.0025	mg/L	LN	0.05	mg/L	No	No
MW-34A	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-34A	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34A	Compliance	Vinyl Chloride	12	0%	0.02 (ND)	0.03	ug/L	B	0.20	ug/L	No	No
MW-34A	Compliance	Ammonia as N	12	17%	0.035	0.035	mg/L	A	0.19	mg/L	No	No
MW-34C	Compliance	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-34C	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34C	Compliance	Arsenic, total	12	100%	69.9	44.9	ug/L	LN	0.462	ug/L	**Yes**	No
MW-34C	Compliance	Iron, total	12	100%	96	77	mg/L	LN	0.30	mg/L	**Yes**	No
MW-34C	Compliance	Manganese, total	12	100%	14	5.5	mg/L	LN	0.05	mg/L	**Yes**	No
MW-34C	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-34C	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No

TABLE 3-1: 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2016 through December 31, 2018

Wells Evaluated: (1) Compliance -- MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43; (2) Downgradient -- MW-29A, MW-32, MW-33A, MW-33C, MW-36A

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-34C	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34C	Compliance	Vinyl Chloride	12	100%	0.081	0.07	ug/L	LN	0.20	ug/L	No	Yes (▼)
MW-34C	Compliance	Ammonia as N	12	25%	0.034	0.034	mg/L	A	0.19	mg/L	No	No
MW-39	Compliance	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-39	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-39	Compliance	Arsenic, total	12	100%	2.13	1.78	ug/L	Z	0.462	ug/L	Yes	No
MW-39	Compliance	Iron, total	12	100%	37	33.7	mg/L	Z	0.30	mg/L	Yes	No
MW-39	Compliance	Manganese, total	12	100%	0.66	0.45	mg/L	Z	0.05	mg/L	Yes	No
MW-39	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-39	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-39	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-39	Compliance	Vinyl Chloride	12	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-39	Compliance	Ammonia as N	12	92%	0.65	0.49	mg/L	Z	0.19	mg/L	Yes	No
MW-42	Compliance	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-42	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-42	Compliance	Arsenic, total	12	100%	1.93	1.81	ug/L	Z	0.462	ug/L	Yes	Yes (▲)
MW-42	Compliance	Iron, total	12	100%	27	24.8	mg/L	LN	0.30	mg/L	Yes	No
MW-42	Compliance	Manganese, total	12	100%	4.5	4.3	mg/L	LN	0.05	mg/L	Yes	Yes (▼)
MW-42	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-42	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-42	Compliance	Trichloroethene	12	17%	0.58	0.58	ug/L	A	1.0	ug/L	No	No
MW-42	Compliance	Vinyl Chloride	12	75%	0.082	0.05	ug/L	LN	0.20	ug/L	No	No
MW-42	Compliance	Ammonia as N	12	100%	8.4	5.8	mg/L	Z	0.19	mg/L	Yes	No
MW-43	Compliance	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-43	Compliance	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-43	Compliance	Arsenic, total	12	42%	0.108	0.108	ug/L	A	0.462	ug/L	No	No
MW-43	Compliance	Iron, total	12	100%	3.5	3.28	mg/L	LN	0.30	mg/L	Yes	No

TABLE 3-1: 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2016 through December 31, 2018

Wells Evaluated: (1) Compliance -- MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43; (2) Downgradient -- MW-29A, MW-32, MW-33A, MW-33C, MW-36A

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-43	Compliance	Manganese, total	12	100%	0.11	0.09	mg/L	LN	0.05	mg/L	**Yes**	No
MW-43	Compliance	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-43	Compliance	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-43	Compliance	Trichloroethene	12	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-43	Compliance	Vinyl Chloride	12	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-43	Compliance	Ammonia as N	12	50%	0.052	0.052	mg/L	A***	0.19	mg/L	No	**Yes (▼)**
MW-29A	Downgradient	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-29A	Downgradient	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-29A	Downgradient	Arsenic, total	6	100%	2.19	2.16	ug/L	LN	0.462	ug/L	**Yes**	No
MW-29A	Downgradient	Iron, total	6	100%	4.6	4.30	mg/L	LN	0.30	mg/L	**Yes**	No
MW-29A	Downgradient	Manganese, total	6	100%	1.4	1.29	mg/L	Z	0.05	mg/L	**Yes**	No
MW-29A	Downgradient	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-29A	Downgradient	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-29A	Downgradient	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-29A	Downgradient	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-29A	Downgradient	Ammonia as N	6	100%	0.19	0.12	mg/L	Z	0.19	mg/L	No	**Yes (▼)**
MW-32	Downgradient	1,1-Dichloroethane	12	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-32	Downgradient	1,4-Dichlorobenzene	12	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-32	Downgradient	Arsenic, total	12	100%	11.2	10.5	ug/L	LN	0.462	ug/L	**Yes**	No
MW-32	Downgradient	Iron, total	12	100%	0.81	0.72	mg/L	LN	0.30	mg/L	**Yes**	No
MW-32	Downgradient	Manganese, total	12	100%	2.6	2.0	mg/L	Z	0.05	mg/L	**Yes**	No
MW-32	Downgradient	cis-1,2-dichloroethene	12	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-32	Downgradient	Ethyl ether	12	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-32	Downgradient	Trichloroethene	12	50%	0.71	0.71	ug/L	A***	1.0	ug/L	No	No
MW-32	Downgradient	Vinyl Chloride	12	100%	0.46	0.35	ug/L	LN	0.20	ug/L	**Yes**	**Yes (▼)**
MW-32	Downgradient	Ammonia as N	12	33%	0.12	0.12	mg/L	A	0.19	mg/L	No	No
MW-33A	Downgradient	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No

TABLE 3-1: 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2016 through December 31, 2018

Wells Evaluated: (1) Compliance -- MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43; (2) Downgradient -- MW-29A, MW-32, MW-33A, MW-33C, MW-36A

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-33A	Downgradient	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-33A	Downgradient	Arsenic, total	6	100%	0.610	0.705	ug/L	LN	0.462	ug/L	**Yes**	No
MW-33A	Downgradient	Iron, total	6	100%	2.5	2.4	mg/L	Z	0.30	mg/L	**Yes**	No
MW-33A	Downgradient	Manganese, total	6	100%	0.083	0.046	mg/L	Z	0.05	mg/L	No	No
MW-33A	Downgradient	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-33A	Downgradient	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-33A	Downgradient	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-33A	Downgradient	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-33A	Downgradient	Ammonia as N	6	50%	0.30	0.30	mg/L	A**	0.19	mg/L	**Yes**	No
MW-33C	Downgradient	1,1-Dichloroethane	8	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-33C	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-33C	Downgradient	Arsenic, total	8	100%	2.77	2.65	ug/L	LN	0.462	ug/L	**Yes**	No
MW-33C	Downgradient	Iron, total	8	88%	0.28	0.26	mg/L	LN	0.3	mg/L	No	No
MW-33C	Downgradient	Manganese, total	8	100%	0.29	0.21	mg/L	Z	0.05	mg/L	**Yes**	No
MW-33C	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-33C	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-33C	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-33C	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-33C	Downgradient	Ammonia as N	8	13%	0.04	0.04	mg/L	A	0.19	mg/L	No	No
MW-36A	Downgradient	1,1-Dichloroethane	8	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-36A	Downgradient	1,4-Dichlorobenzene	8	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-36A	Downgradient	Arsenic, total	8	100%	0.616	0.592	ug/L	LN	0.462	ug/L	**Yes**	No
MW-36A	Downgradient	Iron, total	8	50%	0.17	0.13	mg/L	LN	0.3	mg/L	No	No
MW-36A	Downgradient	Manganese, total	8	88%	0.0034	0.003	mg/L	LN	0.05	mg/L	No	No
MW-36A	Downgradient	cis-1,2-dichloroethene	8	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-36A	Downgradient	Ethyl ether	8	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-36A	Downgradient	Trichloroethene	8	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-36A	Downgradient	Vinyl Chloride	8	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No

TABLE 3-1: 2018 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCAStat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2016 through December 31, 2018

Wells Evaluated: (1) Compliance -- MW-15R, MW-34A, MW-34C, MW-39, MW-42, MW-43; (2) Downgradient -- MW-29A, MW-32, MW-33A, MW-33C, MW-36A

Monitoring Well	Monitoring Well Type	Corrective Action Monitoring Parameter	N[1]	% Detect	Max[2]	95% UCL of Mean[3]	Units[4]	Note	Groundwater Cleanup Level[5]	Units[4]	Does 95% UCL Exceed Cleanup Level?	Significant Trend?[6]
MW-36A	Downgradient	Ammonia as N	8	25%	0.031	0.031	mg/L	A	0.19	mg/L	No	No

NOTES:

[1] N = number of data points used for UCL calculation of the mean; only SIM results used for Vinyl Chloride (e.g., duplicate results with higher RLs by non-SIM were omitted).

[2] MAX = maximum detected result in the data set; if no detected results, then = maximum reporting limit for non-detect results (indicated with ND).

[3] A 3-year moving data set is used for calculation of the UCL.

[4] ug/L - micrograms per liter; mg/L = milligrams per liter.

[5] Groundwater Cleanup Levels are listed on Table 3 of the October 2010 Draft Cleanup Action Plan.

[6] Trend analysis results are based on data for the period January 2005 through December 2018; arrows indicated increasing (▲) or decreasing (▼) trends.

A = Detection frequency of data set too low and/or N too few to calculate 95% UCL of mean; therefore, the highest detected result in the data set used to represent 95% UCL of mean.

A* = Same as note "A" except that the highest value in the data set is below the reporting limit of one or more non-detected results; therefore, the highest reporting limit is used to represent the 95% UCL of the mean.

A** = MTCAStat suggests use of lognormal formula but calculation of 95% UCL of mean by Land's formula provides unrealistic result; therefore, the highest detected result is used to represent the 95% UCL of the mean.

A*** = MTCAStat suggests use of the Z-score method but then cites inability to calculate due to presence of censored values; therefore, the highest detected result is used to represent the 95% UCL of the mean.

B = Detection frequency = 0; therefore, the highest reporting limit in the data set is used to represent the 95% UCL of mean.

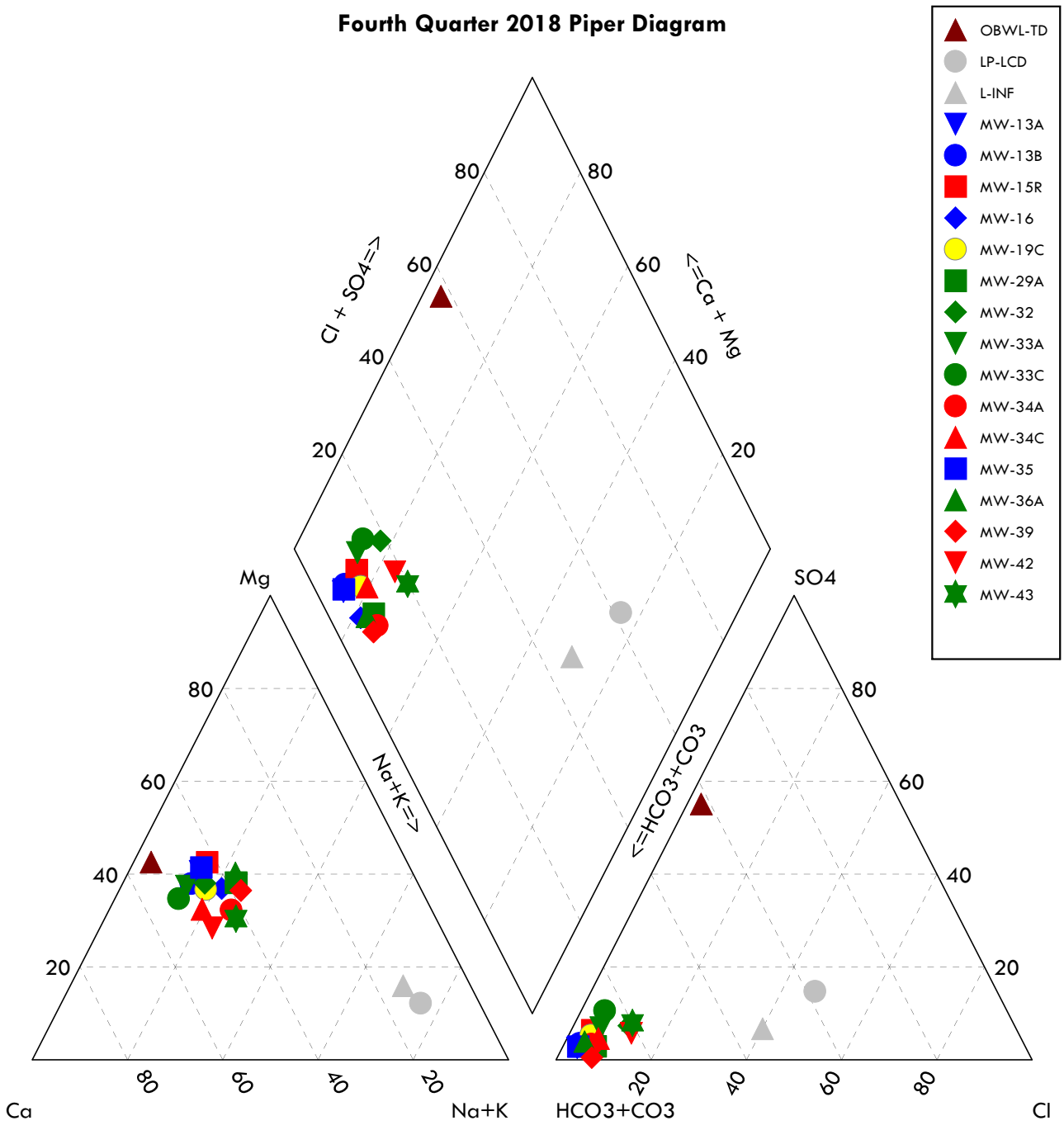
LN = The 95% UCL of the mean is calculated using Land's formula since lognormal distribution is indicated.

N = The 95% UCL of the mean is calculated using a normal-based t-statistic since a normal distribution is indicated.

Z = the 95% UCL of the mean is calculated using the Z-score method in MTCAStat since neither normal nor lognormal distribution can be determined.

Appendix D

Fourth Quarter 2018 Groundwater Geochemical Evaluation



DESCRIPTION: Piper Diagram, Fourth Quarter 2018

	PROJECT: Olympic View Sanitary Landfill	PROJECT NO: 04204027.22
	CLIENT: Waste Management Closed Sites	DATE: February 2019

Cation/Anion Balance

Location	MW-13A
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	<0.00	<0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	5.20	0.23	
K	0.02258	<1.00	<0.026	
Ca	0.04990	15.00	0.75	
Mg	0.08229	8.30	0.68	
		Sum of Cations	1.683	meq/L
Cl	0.02821	1.90	0.05	
SO4	0.02082	2.10	0.04	
NO3	0.01613	0.38	0.01	
HCO3	0.01639	97.20	1.59	
		Sum of Anions	1.696	meq/L
Balance (% difference) *			-0.39	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-13B
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	<0.00	<0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	5.30	0.23	
K	0.02258	<1.00	<0.026	
Ca	0.04990	17.00	0.85	
Mg	0.08229	8.20	0.67	
		Sum of Cations	1.78	meq/L
Cl	0.02821	2.00	0.06	
SO4	0.02082	3.00	0.06	
NO3	0.01613	0.40	0.01	
HCO3	0.01639	99.60	1.63	
		Sum of Anions	1.758	meq/L
Balance (% difference) *			0.61	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-15R
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.00	0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	5.30	0.23	
K	0.02258	<1.00	<0.026	
Ca	0.04990	14.00	0.70	
Mg	0.08229	8.60	0.71	
		Sum of Cations	1.662	meq/L
Cl	0.02821	2.50	0.07	
SO4	0.02082	5.00	0.10	
NO3	0.01613	0.37	0.01	
HCO3	0.01639	87.60	1.44	
		Sum of Anions	1.616	meq/L
Balance (% difference) *			1.41	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-16
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	<0.00	<0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	5.10	0.22	
K	0.02258	<1.00	<0.026	
Ca	0.04990	9.70	0.48	
Mg	0.08229	5.20	0.43	
		Sum of Cations	1.16	meq/L
Cl	0.02821	1.40	0.04	
SO4	0.02082	1.60	0.03	
NO3	0.01613	0.28	0.00	
HCO3	0.01639	63.60	1.04	
		Sum of Anions	1.12	meq/L
Balance (% difference) *			1.74	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-19C
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	1.10	0.040	
Fe	0.03581	0.13	0.000	
Na	0.04350	5.60	0.24	
K	0.02258	1.40	0.036	
Ca	0.04990	14.00	0.70	
Mg	0.08229	6.90	0.57	
		Sum of Cations	1.586	meq/L
Cl	0.02821	2.70	0.08	
SO4	0.02082	4.20	0.09	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	90.00	1.47	
		Sum of Anions	1.64	meq/L
Balance (% difference) *			-1.66	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-29A
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	1.20	0.044	
Fe	0.03581	3.30	0.000	
Na	0.04350	3.40	0.15	
K	0.02258	<1.00	<0.026	
Ca	0.04990	5.60	0.28	
Mg	0.08229	3.40	0.28	
		Sum of Cations	0.776	meq/L
Cl	0.02821	1.90	0.05	
SO4	0.02082	1.10	0.02	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	43.20	0.71	
		Sum of Anions	0.785	meq/L
Balance (% difference) *			-0.57	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-32
Sample Date	11/14/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	2.40	0.087	
Fe	0.03581	0.71	0.000	
Na	0.04350	13.00	0.57	
K	0.02258	1.20	0.031	
Ca	0.04990	31.00	1.55	
Mg	0.08229	16.00	1.32	
		Sum of Cations	3.55	meq/L
Cl	0.02821	14.00	0.39	
SO4	0.02082	12.00	0.25	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	168.00	2.75	
		Sum of Anions	3.4	meq/L
Balance (% difference) *			2.13	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-33A
Sample Date	11/14/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.00	0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	3.90	0.17	
K	0.02258	<1.00	<0.026	
Ca	0.04990	14.00	0.70	
Mg	0.08229	6.50	0.53	
		Sum of Cations	1.43	meq/L
Cl	0.02821	2.90	0.08	
SO4	0.02082	4.60	0.10	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	73.20	1.20	
		Sum of Anions	1.378	meq/L
Balance (% difference) *			1.81	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-33C
Sample Date	11/14/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.14	0.005	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	4.20	0.18	
K	0.02258	1.40	0.036	
Ca	0.04990	17.00	0.85	
Mg	0.08229	6.90	0.57	
		Sum of Cations	1.64	meq/L
Cl	0.02821	2.80	0.08	
SO4	0.02082	8.20	0.17	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	82.80	1.36	
		Sum of Anions	1.608	meq/L
Balance (% difference) *			0.99	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-34A
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.00	0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	9.20	0.40	
K	0.02258	<1.00	<0.026	
Ca	0.04990	14.00	0.70	
Mg	0.08229	6.50	0.53	
		Sum of Cations	1.66	meq/L
Cl	0.02821	3.50	0.10	
SO4	0.02082	2.80	0.06	
NO3	0.01613	0.23	0.00	
HCO3	0.01639	94.80	1.55	
		Sum of Anions	1.714	meq/L
Balance (% difference) *			-1.63	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-34C
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.58	0.021	
Fe	0.03581	0.65	0.000	
Na	0.04350	10.00	0.43	
K	0.02258	1.10	0.028	
Ca	0.04990	23.00	1.15	
Mg	0.08229	9.40	0.77	
		Sum of Cations	2.405	meq/L
Cl	0.02821	5.70	0.16	
SO4	0.02082	5.40	0.11	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	132.00	2.16	
		Sum of Anions	2.437	meq/L
Balance (% difference) *			-0.66	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-35
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	<0.00	<0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	5.20	0.23	
K	0.02258	<1.00	<0.026	
Ca	0.04990	15.00	0.75	
Mg	0.08229	8.60	0.71	
		Sum of Cations	1.708	meq/L
Cl	0.02821	1.90	0.05	
SO4	0.02082	2.30	0.05	
NO3	0.01613	0.41	0.01	
HCO3	0.01639	96.00	1.57	
		Sum of Anions	1.68	meq/L
Balance (% difference) *			0.78	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-36A
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	<0.00	<0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	6.30	0.27	
K	0.02258	<1.00	<0.026	
Ca	0.04990	9.90	0.49	
Mg	0.08229	6.50	0.53	
		Sum of Cations	1.329	meq/L
Cl	0.02821	1.80	0.05	
SO4	0.02082	2.40	0.05	
NO3	0.01613	0.61	0.01	
HCO3	0.01639	70.80	1.16	
		Sum of Anions	1.27	meq/L
Balance (% difference) *			2.22	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-39
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.47	0.017	
Fe	0.03581	36.00	0.000	
Na	0.04350	8.70	0.38	
K	0.02258	<1.00	<0.026	
Ca	0.04990	12.00	0.60	
Mg	0.08229	7.00	0.58	
		Sum of Cations	1.596	meq/L
Cl	0.02821	5.50	0.16	
SO4	0.02082	<1.00	<0.02	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	120.00	1.97	
		Sum of Anions	2.143	meq/L
Balance (% difference) *			-14.64	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-42
Sample Date	11/12/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	3.90	0.142	
Fe	0.03581	23.00	0.000	
Na	0.04350	17.00	0.74	
K	0.02258	8.50	0.217	
Ca	0.04990	39.00	1.95	
Mg	0.08229	14.00	1.15	
		Sum of Cations	4.2	meq/L
Cl	0.02821	20.00	0.56	
SO4	0.02082	12.00	0.25	
NO3	0.01613	<0.05	<0.00	
HCO3	0.01639	216.00	3.54	
		Sum of Anions	4.355	meq/L
Balance (% difference) *			-1.85	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	MW-43
Sample Date	11/14/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.02	0.001	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	2.50	0.11	
K	0.02258	<1.00	<0.026	
Ca	0.04990	4.10	0.20	
Mg	0.08229	1.80	0.15	
		Sum of Cations	0.488	meq/L
Cl	0.02821	1.90	0.05	
SO4	0.02082	1.70	0.04	
NO3	0.01613	0.38	0.01	
HCO3	0.01639	21.60	0.35	
		Sum of Anions	0.449	meq/L
Balance (% difference) *			4.14	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	L-INF
Sample Date	11/13/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	2.80	0.102	
Fe	0.03581	0.72	0.000	
Na	0.04350	840.00	36.54	
K	0.02258	120.00	3.069	
Ca	0.04990	160.00	7.98	
Mg	0.08229	110.00	9.05	
		Sum of Cations	56.7	meq/L
Cl	0.02821	1100.00	31.03	
SO4	0.02082	250.00	5.21	
NO3	0.01613	0.06	0.00	
HCO3	0.01639	2520.00	41.30	
		Sum of Anions	77.5	meq/L
Balance (% difference) *			-15.48	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	OBWL-TD
Sample Date	11/13/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364	0.00	0.000	
Fe	0.03581	<0.06	<0.000	
Na	0.04350	1.30	0.06	
K	0.02258	1.10	0.028	
Ca	0.04990	25.00	1.25	
Mg	0.08229	12.00	0.99	
		Sum of Cations	2.32	meq/L
Cl	0.02821	<5.00	<0.14	
SO4	0.02082	62.00	1.29	
NO3	0.01613	2.10	0.03	
HCO3	0.01639	60.00	0.98	
		Sum of Anions	2.45	meq/L
Balance (% difference) *			-2.73	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Cation/Anion Balance

Location	LP-LCD
Sample Date	11/13/2018

Major Ions	Conversion Factor +	mg/l	meq/l	
Mn	0.0364			
Fe	0.03581	0.24	0.000	
Na	0.04350	620.00	26.97	
K	0.02258	78.00	1.995	
Ca	0.04990	95.00	4.74	
Mg	0.08229	57.00	4.69	
		Sum of Cations	38.4	meq/L
Cl	0.02821	540.00	15.23	
SO4	0.02082	230.00	4.79	
NO3	0.01613	32.00	0.52	
HCO3	0.01639	756.00	12.39	
		Sum of Anions	32.9	meq/L
Balance (% difference) *			7.66	%

+ mg/l to meq/l

* [(Total anions - Total cations) / (Total anions + Total cations)]*100

Appendix E

Landfill Gas Monitoring Results

Table E1. Historical Results of Methane (CH_4) Measurements
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Date Monitored	OV-GP-07	OV-GP-08	OV-GP-9S	OV-GP-9D	OV-GP10S	OV-GP10D	OV-GP11S	OV-GP11D	OV-GP12S	OV-GP12M	OV-GP12D	OV-GP13S	OV-GP13M	OV-GP13D	OV-GP14	OV-GP15	OV-GP16
10/23/2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/10/2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/16/2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3/14/2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/22/2017	—	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.5	0.0
8/28/2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0
5/30/2017	0.0	0.0	0.0	—	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0
3/17/2017	—	0.0	0.0	—	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0
11/15/2016	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
9/20/2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/27/2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3/24/2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
12/15/2015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/29/2015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/7/2015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0
3/30/2015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.2	0.0
12/29/2014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
9/24/2014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/16/2014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	1.0	0.0
3/28/2014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	3.7	0.0
12/13/2013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0
7/13/2013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.7	0.0
5/13/2013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/13/2013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
11/12/2012	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
8/12/2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0
5/18/2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0	0.0	0.2	0.0
3/12/2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0
12/22/2011	0.0	0.0	0.0	—	0.0	—	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	1.5	0.0
9/27/2011	0.0	0.0	0.0	—	0.0	—	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	0.3	0.0
6/29/2011	0.1	0.0	0.0	—	0.0	—	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	1.0	0.0
3/16/2011	0.0	0.0	0.0	—	0.0	—	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	0.0	0.0
12/22/2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/27/2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/29/2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3/16/2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
12/8/2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0
9/4/2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
6/5/2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3/3/2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.1

Notes:
OV-GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
Detected CH4>0.3% vol.
— Screened interval submerged

Table E2. Historical Results of Carbon Dioxide (CO_2) Measurements
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Port Orchard, Washington

Date Monitored	OV-GP-07	OV-GP-08	OV-GP-9S	OV-GP-9D	OV-GP10S	OV-GP10D	OV-GP11S	OV-GP11D	OV-GP12S	OV-GP12M	OV-GP12D	OV-GP13S	OV-GP13M	OV-GP13D	OV-GP14	OV-GP15	OV-GP16
10/23/2018	10.0	0.1	1.6	1.4	0.7	0.7	2.1	0.6	1.1	1.0	1.4	3.0	3.6	3.1	7.6	9.5	2.2
9/10/2018	10.6	5.6	1.9	1.3	0.7	0.6	2.5	0.6	1.2	1.0	1.3	3.2	3.4	3.2	7.7	9.8	2.1
5/16/2018	5.8	2.1	1.1	1.7	0.6	0.5	0.8	2.5	0.9	1.6	0.6	3.4	3.0	1.7	4.3	5.2	2.3
3/14/2018	4.5	2.2	1.8	1.3	0.8	0.7	2.3	1.0	0.9	1.1	0.7	3.4	3.3	1.1	4.3	6.0	2.0
11/22/2017	—	3.7	2.0	1.6	0.9	0.7	2.7	—	1.3	1.2	—	3.4	3.6	0.0	6.5	5.8	2.8
8/28/2017	8.9	4.8	2.2	1.1	0.7	0.5	3.0	—	1.0	1.2	—	3.2	2.4	2.9	6.3	1.6	2.3
5/30/2017	4.5	1.1	2.3	—	0.8	0.6	3.2	—	1.0	2.5	—	3.5	3.2	—	4.7	3.7	1.5
3/17/2017	—	1.2	1.7	—	0.6	0.7	0.0	—	1.1	1.4	—	3.4	3.3	0.0	3.4	4.2	1.6
11/15/2016	8.2	3.6	2.1	1.4	0.9	0.7	2.2	1.5	1.2	1.3	0.4	3.0	2.6	0.2	5.6	6.6	1.5
9/20/2016	11.2	5.0	2.2	1.4	0.5	0.3	1.9	0.6	0.9	0.9	0.7	1.8	2.5	0.1	2.0	3.0	2.0
6/27/2016	7.3	2.8	1.9	1.0	0.7	0.5	1.0	2.9	1.0	1.1	0.5	2.8	2.4	0.3	5.8	3.3	2.5
3/24/2016	3.1	1.4	1.8	1.3	0.7	0.7	2.1	2.1	1.7	1.6	1.1	3.3	3.3	2.1	4.8	4.3	2.4
12/15/2015	6.4	2.3	1.9	1.6	0.9	0.7	2.6	2.0	1.2	1.0	1.0	3.9	3.5	1.6	5.9	3.5	3.8
9/29/2015	10.8	6.2	1.6	1.5	0.6	0.7	2.0	2.6	0.9	1.0	1.3	2.9	1.9	0.2	8.7	9.4	4.0
5/7/2015	7.9	3.6	2.6	1.7	0.9	0.8	3.6	—	1.1	2.4	—	3.4	3.3	0.0	6.1	5.0	4.5
3/30/2015	6.2	2.0	2.4	1.7	0.9	0.8	3.3	—	1.3	1.4	—	0.8	3.3	3.4	5.7	6.5	3.8
12/29/2014	8.3	2.6	2.6	1.8	1.0	0.9	3.2	3.5	1.3	1.2	1.7	3.6	3.5	0.1	6.8	7.3	3.9
9/24/2014	11.2	6.1	2.0	1.6	0.8	0.7	3.4	3.0	1.2	1.3	1.6	2.9	3.3	1.3	9.3	10.1	4.2
6/16/2014	8.9	4.0	2.9	1.8	1.2	1.0	4.2	—	2.0	1.7	—	3.7	3.3	1.1	6.6	6.1	5.0
3/28/2014	5.9	2.0	1.8	1.8	0.8	0.9	2.5	—	1.9	2.2	—	3.3	3.5	3.2	6.4	2.2	3.3
12/13/2013	9.6	5.4	2.6	1.7	1.1	0.9	3.5	3.6	1.7	1.9	1.7	3.9	3.8	3.7	8.5	9.5	5.1
7/13/2013	9.6	4.5	2.9	1.5	1.1	0.7	3.9	0.4	1.8	1.7	0.4	3.5	3.1	3.1	7.8	7.8	7.4
5/13/2013	6.2	2.6	2.3	1.7	0.8	0.7	2.4	2.2	1.9	1.0	0.8	2.3	2.6	0.1	5.3	4.0	5.0
2/13/2013	4.2	2.5	1.7	1.5	0.7	0.7	1.8	2.4	1.1	0.9	0.8	2.3	2.4	0.8	5.1	6.2	3.9
11/20/2012	8.3	2.8	1.9	1.6	0.9	0.7	2.2	2.9	1.3	1.2	1.2	2.9	2.1	3.0	7.5	3.5	4.8
8/20/2012	9.6	4.6	2.5	1.4	0.8	0.6	2.8	2.8	1.8	1.5	—	3.5	2.1	1.6	7.9	1.7	6.1
5/18/2012	6.0	3.1	2.6	1.7	0.8	0.6	2.1	—	2.2	1.1	—	2.6	1.7	1.1	5.7	3.4	5.1
3/12/2012	4.2	1.7	2.3	1.7	0.7	0.7	1.7	2.4	1.9	1.9	0.1	3.0	3.2	2.8	—	6.2	4.4
12/22/2011	1.5	5.5	3.2	—	1.3	—	1.3	—	1.4	1.0	—	2.0	2.0	—	5.1	5.2	4.6
9/27/2011	9.7	4.7	1.7	—	0.7	—	1.8	—	0.7	0.7	—	2.9	1.8	—	8.9	8.8	2.4
6/29/2011	6.6	3.0	3.0	—	0.7	—	2.1	—	2.3	0.9	—	3.4	3.0	—	6.4	3.9	6.2
3/16/2011	1.5	0.5	2.1	—	0.7	—	1.4	—	2.4	1.7	—	3	3.1	—	0.3	0.3	3.8
12/22/2010	8.3	2.4	2.3	1.7	3.2	2.8	2.4	2.1	2.2	1.8	1.0	3.9	3.5	0.4	3.4	1.3	6.7
9/27/2010	11.0	4.1	2.1	1.5	0.9	1.0	2.0	0.4	1.9	1.3	0.7	1.1	3.2	0.3	10.2	0.8	7.4
6/29/2010	8.0	0.2	3.5	1.6	0.9	0.7	2.5	1.6	2.3	2.2	0.7	2.7	3.0	2.4	7.3	0.2	9.3
3/16/2010	5.1	2.1	2.5	1.7	0.2	0.7	1.9	1.7	1.5	1.3	1.4	1.2	3.2	2.5	6.0	1.9	7.0
12/8/2009	6.9	6.1	2.3	1.7	0.1	0.4	1.8	0.2	1.5	1.8	0.2	1.5	3.3	3.3	10.0	2.8	7.1
9/4/2009	11.3	6.8	2.7	2.0	0.9	0.9	2.6	2.0	2.4	2.7	2.2	3.4	3.8	3.9	11.7	5.1	1.9
6/5/2009	7.6	4.9	3.2	1.9	0.6	0.6	2.2	1.6	2.3	2.3	1.5	2.9	3.8	2.4	8.2	2.4	2.0
3/3/2009	7.7	2.8	2.1	1.4	0.6	0.6	1.6	1.4	1.5	1.4	1.3	2.1	4.0	3.6	8.0	2.4	1.1

Notes:
OV-GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
Detected CO2>0.3% vol.
— Screened interval submerged

Table E3. Historical Results of Oxygen (O_2) Measurements
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Port Orchard, Washington

Date Monitored	OV-GP-07	OV-GP-08	OV-GP-9S	OV-GP-9D	OV-GP10S	OV-GP10D	OV-GP11S	OV-GP11D	OV-GP12S	OV-GP12M	OV-GP12D	OV-GP13S	OV-GP13M	OV-GP13D	OV-GP14	OV-GP15	OV-GP16
10/23/2018	8.8	20.8	20.0	19.7	20.9	20.1	19.7	21.1	20.0	20.3	16.8	18.7	17.5	18.5	9.6	5.4	19.6
9/10/2018	8.8	10.4	19.7	19.7	20.9	20.0	19.5	20.8	17.9	19.6	15.4	17.7	16.7	17.1	8.8	4.0	19.2
5/16/2018	6.2	11.6	19.1	18.8	19.7	18.4	19.8	17.6	19.4	19.3	19.9	17.2	16.9	18.6	7.0	4.2	18.4
3/14/2018	6.1	10.5	19.9	19.3	20.8	19.3	17.4	19.6	20.5	19.9	18.7	17.6	17.4	20.2	5.4	1.5	19.2
11/22/2017	—	10.0	18.9	19.2	20.2	19.7	18.9	—	19.7	19.7	—	17.7	17.4	21.2	7.6	0.1	17.8
8/28/2017	7.8	8.6	18.7	18.5	20.1	18.9	18.1	—	16.4	16.4	—	17.3	17.0	16.1	8.0	16.1	19.0
5/30/2017	4.6	13.3	18.3	—	20.2	18.6	17.5	—	19.9	19.2	—	17.2	16.3	—	6.5	10.4	18.7
3/17/2017	—	8.8	18.2	—	20.0	18.1	0.0	—	19.7	19.1	—	17.7	17.0	0.0	6.7	1.1	19.2
11/15/2016	4.7	4.0	17.5	18.9	19.7	19.4	18.3	19.1	18.3	18.1	20.0	16.6	17.8	20.7	8.2	0.0	17.3
9/20/2016	7.7	11.9	19.7	19.6	20.5	20.7	19.2	19.9	19.5	20.0	17.8	18.5	17.9	21.1	15.8	16.8	18.8
6/27/2016	6.8	11.3	19.3	18.6	20.2	19.3	18.7	18.2	19.7	19.9	19.4	18.5	17.5	20.6	8.0	7.0	18.5
3/24/2016	9.7	6.7	18.4	18.8	20.1	18.2	17.5	15.6	18.7	18.8	17.7	16.7	15.9	18.5	4.9	0.0	17.6
12/15/2015	5.9	3.7	18.6	19.7	20.1	19.3	18.3	17.5	20.7	20.3	18.8	16.6	17.3	19.0	5.0	5.7	16.1
9/29/2015	7.0	7.8	19.8	19.6	20.4	19.6	19.2	18.5	19.9	19.6	16.2	17.4	18.4	20.4	7.4	5.0	16.6
5/7/2015	4.1	7.0	19.0	19.4	20.2	18.9	17.6	—	18.9	18.3	—	16.9	16.6	20.7	5.5	5.5	16.0
3/30/2015	4.5	9.4	18.6	19.0	20.3	18.9	17.7	—	19.3	18.3	—	19.7	17.1	17.7	5.0	0.1	16.3
12/29/2014	3.6	5.3	18.5	19.6	20.5	19.8	17.9	14.4	20.1	19.5	16.4	17.5	17.5	20.7	5.7	0.0	16.4
9/24/2014	8.3	8.6	19.9	19.6	20.4	19.4	18.6	17.4	19.5	18.7	15.2	18.5	17.7	19.5	7.0	3.2	17.7
6/16/2014	3.7	5.7	18.5	18.8	20.0	18.5	16.9	—	19.1	18.8	—	17.7	17.3	20.1	5.9	0.0	16.9
3/28/2014	4.8	3.3	19.0	19.5	20.9	18.8	18.7	—	18.7	18.2	—	18.3	18.1	18.2	5.5	5.8	16.8
12/13/2013	4.9	6.3	19.4	19.6	20.1	19.3	17.6	11.5	18.5	17.8	16.6	17.6	17.3	17.3	3.9	1.2	16.1
7/13/2013	4.4	5.8	18.5	19.1	20.0	19.2	16.9	20.2	17.3	16.3	19.1	17.0	17.7	18.0	0.0	0.0	13.6
5/13/2013	4.5	8.4	18.8	19.0	20.1	18.7	18.2	15.7	19.6	20.0	18.7	18.2	17.9	20.8	6.2	7.2	15.4
2/13/2013	4.0	7.4	19.2	18.2	20.4	18.4	18.9	14.2	20.5	20.2	18.1	18.6	17.1	20.2	5.8	0.3	15.9
11/20/2012	4.8	4.5	18.0	19.5	20.2	19.7	18.9	14.0	18.9	18.9	16.8	17.9	18.9	18.1	5.2	7.2	13.8
8/20/2012	5.0	6.7	18.5	18.4	19.3	18.6	17.9	12.5	18.3	18.0	—	16.9	17.5	18.4	4.3	19.1	15.3
5/18/2012	4.2	5.8	17.7	18.7	19.8	19.3	18.1	—	19.2	19.3	—	18.0	19.1	19.8	5.5	13.0	15.0
3/12/2012	3.5	5.4	18.6	19.0	20.1	18.6	19.1	15.4	18.0	17.7	21.4	18.2	17.6	18.3	—	0.0	15.6
12/22/2011	20.0	5.7	17.6	—	19.8	—	18.9	—	19.6	19.3	—	17.7	18.4	—	6.7	12.4	15.2
9/27/2011	8.9	10.8	19.9	—	20.6	—	20.0	—	20.4	19.9	—	18.3	18.8	—	7.6	4.4	18.8
6/29/2011	3.6	6.5	17.9	—	20.2	—	18.7	—	19.4	19.8	—	17.2	14.9	—	4.8	6.5	14.8
3/16/2011	20.1	20.7	18.3	—	20.5	—	16.5	—	16.7	17.4	—	16.6	15	—	20.6	20.4	15.3
12/22/2010	1.8	2.4	16.3	17.8	11.1	10.1	16.5	16.4	16.1	16.1	18.8	14.7	14.5	19.5	18.6	19.4	11.2
9/27/2010	6.6	9.7	18.5	19.0	20.5	20.6	19.1	20.5	19.0	19.0	19.4	17.5	15.3	20.7	8.2	20.3	12.6
6/29/2010	3.5	20.1	16.6	18.0	19.3	18.3	17.3	18.1	16.8	16.8	18.4	15.8	13.4	14.9	4.5	19.6	9.2
3/16/2010	3.0	8.5	18.4	19.3	21.6	19.3	18.0	18.9	20.9	20.9	18.0	17.0	12.7	15.6	2.8	10.0	10.4
12/8/2009	2.5	6.0	16.6	18.8	21.3	21.6	19.3	21.7	17.9	17.9	20.1	17.9	15.2	15.7	1.8	5.3	10.4
9/4/2009	7.5	6.4	19.8	19.8	21.1	20.2	20.1	19.6	15.9	15.9	14.3	17.3	14.3	13.9	3.0	3.3	19.3
6/5/2009	2.4	3.4	17.0	18.3	20.1	18.9	18.3	19.0	16.3	16.3	17.0	15.3	12.6	12.4	3.0	6.2	18.9
3/3/2009	2.9	7.5	18.8	18.9	20.4	18.9	18.8	19.3	19.0	19.0	16.7	16.3	13.4	13.7	2.7	0.0	19.5

Notes:
OV-GP = Gas Probe
S = Shallow Monitoring Zone
M = Middle Monitoring Zone
D = Deep Monitoring Zone
Depressed O2<20.3% vol.
— Screened interval submerged

Table E-4. 2018 Landfill Gas Collection (at Flare Inlet)
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Device Name	Date Time	CH4 (Methane %)	CO_2 (Carbon Dioxide %)	O2 (Oxygen %)	Balance Gas (%)	Temperature (°F)	Flow (SCFM)
OV-FL-IN	2/5/2018 14:10	22.4	17.4	3.0	57.2	66.6	275.0
OV-FL-IN	2/7/2018 8:16	20.8	16.8	3.6	58.8	59.4	270.0
OV-FL-IN	3/21/2018 12:49	23.9	16.3	4.4	55.4	--	--
OV-FL-IN	3/28/2018 11:23	0.0	0.1	21.2	78.7	--	--
OV-FL-IN	3/28/2018 11:28	12.7	12.1	7.0	68.2	--	--
OV-FL-IN	3/28/2018 11:47	20.3	15.8	8.2	55.7	--	--
OV-FL-IN	3/28/2018 12:10	17.8	13.8	8.0	60.4	--	--
OV-FL-IN	3/29/2018 12:51	18.7	14.2	5.2	61.9	--	--
OV-FL-IN	4/10/2018 10:15	31.0	21.9	0.6	46.5	--	--
OV-FL-IN	4/10/2018 10:18	31.0	22.0	0.5	46.5	--	--
OV-FL-IN	4/10/2018 10:20	33.2	22.5	0.3	44.0	--	--
OV-FL-IN	4/10/2018 10:22	35.7	23.4	0.1	40.8	--	--
OV-FL-IN	4/10/2018 10:26	36.2	23.6	0.2	40.0	--	--
OV-FL-IN	4/10/2018 10:31	35.6	23.2	0.3	40.9	--	--
OV-FL-IN	4/10/2018 10:32	35.0	22.6	0.4	42.0	--	--
OV-FL-IN	4/10/2018 10:35	33.2	21.5	0.7	44.6	--	--
OV-FL-IN	4/10/2018 10:46	29.6	19.6	2.4	48.4	--	--
OV-FL-IN	4/10/2018 11:17	25.4	18.0	2.3	54.3	--	--
OV-FL-IN	4/10/2018 11:40	23.7	17.4	2.3	56.6	--	--
OV-FL-IN	4/10/2018 12:06	22.6	16.9	2.5	58.0	--	--
OV-FL-IN	4/16/2018 11:17	0.5	0.4	21.0	78.1	--	--
OV-FL-IN	4/16/2018 11:22	44.0	25.0	0.4	30.6	--	--
OV-FL-IN	4/16/2018 11:25	46.8	26.4	0.1	26.7	--	--
OV-FL-IN	4/16/2018 11:28	47.1	26.6	0.1	26.2	--	--
OV-FL-IN	4/16/2018 11:33	45.6	26.0	0.5	27.9	--	--
OV-FL-IN	4/16/2018 11:35	45.8	26.1	0.4	27.7	--	--
OV-FL-IN	4/16/2018 11:40	44.4	24.2	0.5	30.9	--	--
OV-FL-IN	4/16/2018 11:48	38.1	21.0	2.9	38.0	--	--
OV-FL-IN	4/16/2018 11:49	38.1	21.0	2.9	38.0	--	--
OV-FL-IN	4/16/2018 12:00	37.2	21.0	2.5	39.3	--	--
OV-FL-IN	4/16/2018 12:20	33.8	20.2	2.6	43.4	--	--
OV-FL-IN	4/16/2018 12:29	33.0	19.9	2.6	44.5	--	--
OV-FL-IN	4/23/2018 12:15	19.4	14.6	4.7	61.3	--	--
OV-FL-IN	5/1/2018 13:45	19.3	14.9	4.7	61.1	--	--
OV-FL-IN	5/7/2018 10:15	17.8	14.3	5.1	62.8	--	--
OV-FL-IN	5/15/2018 11:19	19.5	14.9	4.8	60.8	76.7	271.7
OV-FL-IN	5/22/2018 12:47	21.8	17.0	3.2	58.0	82.4	248.5
OV-FL-IN	5/30/2018 13:08	21.2	16.4	3.0	59.4	80.2	255.1
OV-FL-IN	6/4/2018 13:52	20.8	16.5	3.2	59.5	82.5	244.2
OV-FL-IN	6/11/2018 11:59	19.5	16.1	4.2	60.2	81.1	227.8
OV-FL-IN	6/13/2018 8:51	29.1	21.7	2.3	46.9	69.8	357.0
OV-FL-IN	6/13/2018 9:43	20.1	15.9	3.3	60.7	81.7	326.0
OV-FL-IN	6/13/2018 10:43	25.3	18.1	2.8	53.8	79.0	320.4
OV-FL-IN	6/14/2018 13:56	24.0	17.6	1.6	56.8	91.6	273.0
OV-FL-IN	6/14/2018 15:39	23.6	17.6	1.7	57.1	94.3	266.0
OV-FL-IN	6/19/2018 11:27	20.8	17.3	2.3	59.6	92.8	252.1
OV-FL-IN	6/25/2018 11:56	20.9	17.0	2.6	59.5	92.6	249.7
OV-FL-IN	7/2/2018 10:59	33.0	22.3	1.2	43.5	80.4	320.5
OV-FL-IN	8/14/2018 15:11	24.5	19.1	1.7	54.7	102.2	226.0
OV-FL-IN	8/15/2018 8:50	22.9	18.6	2.2	56.3	77.4	228.0
OV-FL-IN	8/16/2018 16:22	22.4	18.1	2.1	57.4	94.8	219.0
OV-FL-IN	8/27/2018 12:26	20.0	17.0	3.4	59.6	89.2	220.3
OV-FL-IN	9/4/2018 11:44	21.3	17.3	2.7	58.7	86.0	230.0
OV-FL-IN	9/10/2018 11:53	21.0	17.4	3.4	58.2	84.1	233.0
OV-FL-IN	9/17/2018 12:49	20.0	16.8	3.8	59.4	77.7	224.0
OV-FL-IN	9/24/2018 11:49	19.8	16.8	3.8	59.6	77.7	226.5
OV-FL-IN	10/1/2018 12:17	20.9	16.8	3.6	58.7	60.6	237.0
OV-FL-IN	10/8/2018 12:38	21.5	17.6	3.5	57.4	66.2	253.0
OV-FL-IN	10/15/2018 14:00	19.7	16.8	4.0	59.5	67.8	241.5

Table E-4. 2018 Landfill Gas Collection (at Flare Inlet)
2018 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Device Name	Date Time	CH4 (Methane %)	CO_2 (Carbon Dioxide %)	O2 (Oxygen %)	Balance Gas (%)	Temperature (°F)	Flow (SCFM)
OV-FL-IN	10/23/2018 14:27	20.0	16.4	4.0	59.6	68.2	242.6
OV-FL-IN	10/29/2018 12:24	18.4	15.9	4.6	61.1	66.3	226.2
OV-FL-IN	11/5/2018 11:32	19.6	16.5	4.2	59.7	59.3	240.2
OV-FL-IN	11/19/2018 11:44	47.1	31.4	0.0	21.5	39.9	210.1
OV-FL-IN	11/20/2018 16:50	28.4	19.7	1.2	50.7	51.5	272.0
OV-FL-IN	11/21/2018 11:00	26.4	18.9	1.7	53.0	55.0	253.0
OV-FL-IN	11/21/2018 16:32	25.7	18.9	1.6	53.8	55.1	251.0
OV-FL-IN	11/26/2018 13:05	24.7	19.2	1.6	54.5	56.9	255.8
OV-FL-IN	12/3/2018 14:14	20.9	18.0	2.4	58.7	52.9	216.2
OV-FL-IN	12/11/2018 11:57	30.3	21.1	0.5	48.1	53.7	282.3
OV-FL-IN	12/13/2018 11:00	41.4	28.6	0.2	29.8	52.0	296.8
OV-FL-IN	12/13/2018 12:03	28.4	21.1	0.7	49.8	52.8	265.7
OV-FL-IN	12/17/2018 14:30	25.0	19.2	1.7	54.1	56.1	230.5
OV-FL-IN	12/28/2018 12:34	23.6	17.7	2.3	56.4	52.2	--
Annualized Averege LFG Component (%, °F or scfm))		**26.48**	**18.68**	**3.03**	**51.80**	**71.67**	**254.81**
Estimated Volume of LFG Removed During 2018 (MMscf)							**133.93**

-- = measurement not taken

% = percent by volume

°F = degrees Fahrenheit

scfm = standard cubic foot per minute

MMscf = million cubic feet

Figure E-1: LFG Probe Methane Timeseries

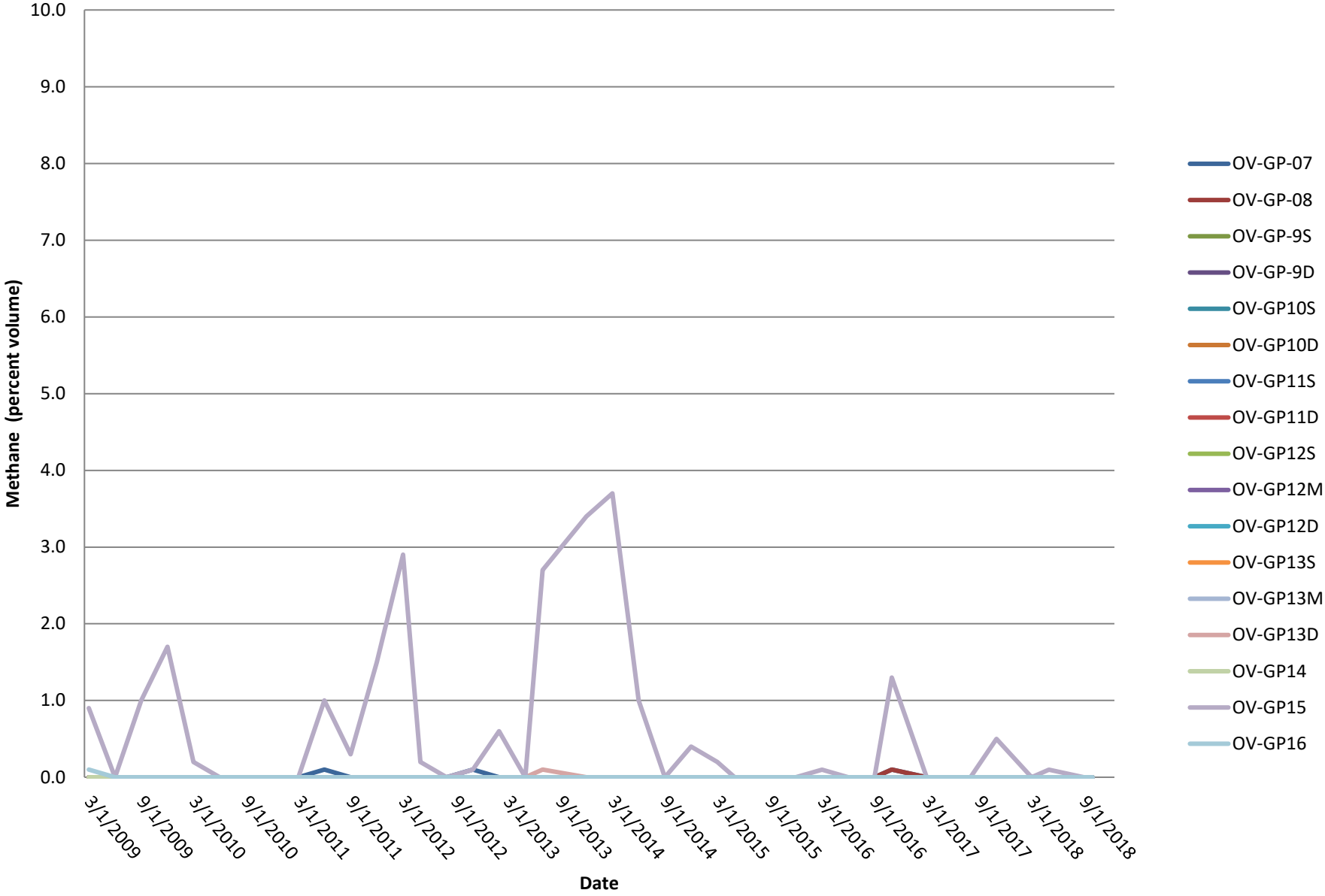


Figure E-2: LFG Probe Carbon Dioxide Timeseries

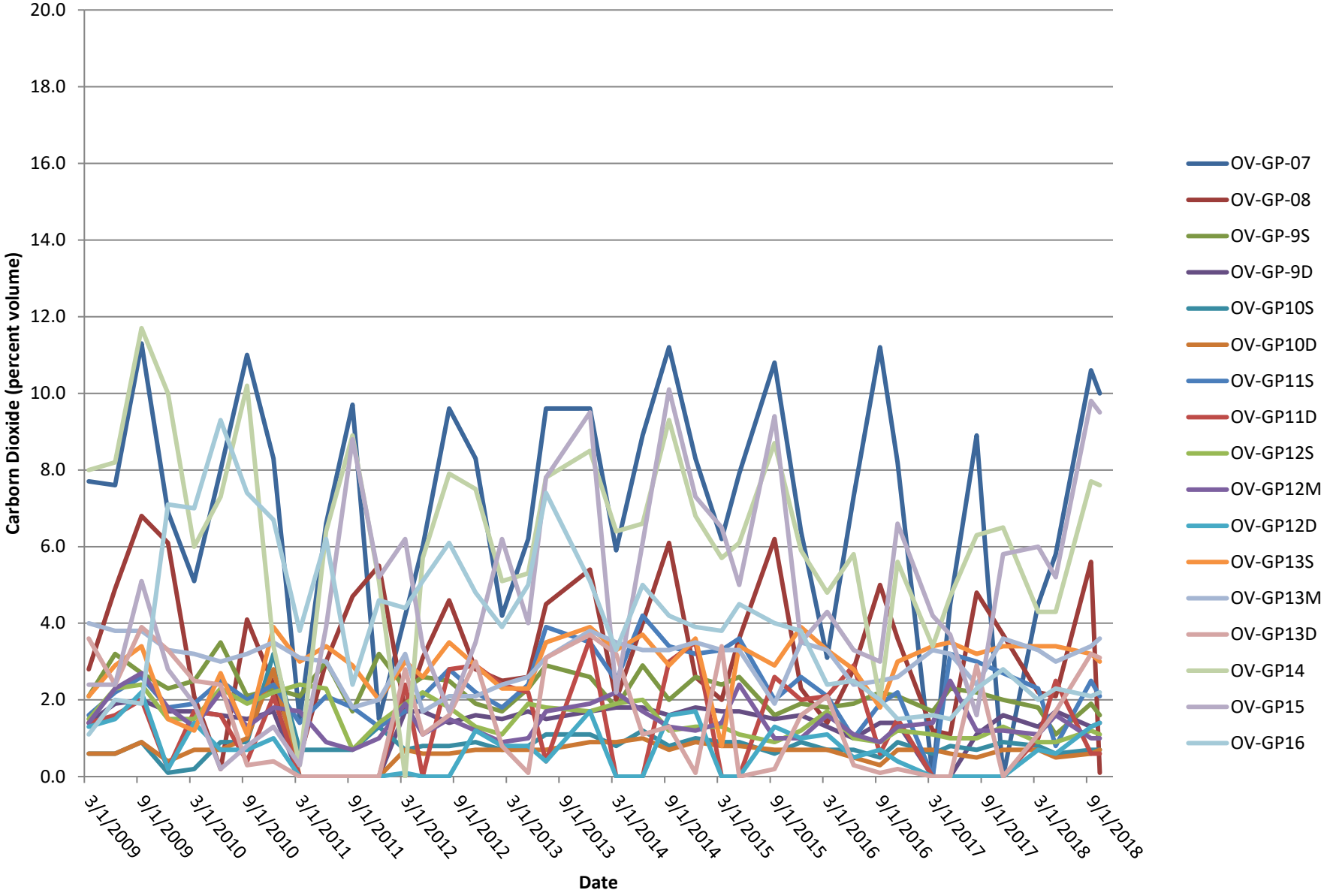


Figure E-3: LFG Probe Depressed Oxygen Timeseries