

2019 Annual Monitoring Report

Olympic View Sanitary Landfill

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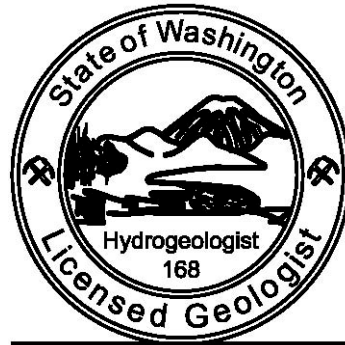
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1.0 INTRODUCTION

This report summarizes the results of the 2019 semi-annual 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 May and November of 2019. 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.

A semi-annual monitoring schedule for the OVSL was initiated this year. In a February 14, 2019 letter, the Washington Department of Ecology (Ecology) agreed to a two-year trial period for reducing the frequency of groundwater quality monitoring at the OVSL from the previous quarterly schedule to a semi-annual basis. Ecology also indicated that if the facility continues to demonstrate overall decreasing groundwater contaminant concentrations, and if no new significant increasing parameter trends are observed, semi-annual monitoring at the landfill would remain appropriate for the facility.

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 1.2, SCS Engineers, 2019). 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 environmental monitoring at the OVSL during 2019. The following information summarizes the routine monitoring activities described in this report:

- Semiannual collection and analysis of groundwater samples at select monitoring wells within the monitoring network
- Semiannual 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
- Semi-annual collection and analysis of a leachate pond/leak detection system sample
- Collection and analysis of leachate influent samples (during the November semi-annual monitoring event)
- Quarterly measurement of LFG concentrations at perimeter soil gas monitoring probes and building monitoring locations

1.1 REPORT CONTENTS

The 2019 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 the water quality samples collected during the November 2019 semi-annual monitoring event
- 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 2019 monitoring events
- A data validation report and associated analytical laboratory reports for the November 2019 semi-annual monitoring event
- A summary of historical LFG monitoring measurements

In addition, the results for recent leachate forcemain testing (conducted in February 2020) have been attached to this report as Appendix F.

Previously issued analytical laboratory data reports for the first semi-annual monitoring event will not be reissued with this report, but can be found in the April 2019 semi-annual monitoring report. Similarly, LFG monitoring results for the first two quarters of 2019 have been previously documented in the April 2019 monitoring report.

In order to conserve paper resources, the complete 2019 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 stormwater 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 stormwater drainage system controls stormwater 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 2019 MONITORING ACTIVITIES

3.1 GROUNDWATER

3.1.1 Groundwater Monitoring Network

Groundwater monitoring is conducted at the OVSL in accordance with the January 2001 Agreed Order, the EMP as modified through subsequent technical discussions with Ecology, and the current site-specific SAP (SCS, 2019, revision 1.2). 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 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. *[Note: Water quality monitoring at Upgradient wells is limited to Appendix II field parameters for one of the semi-annual events (May event) as long as no new water quality exceedances or increasing trends are observed.]*
- 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 in the exhibit below. The locations of these groundwater monitoring wells are illustrated on Figure 2.

Exhibit 1. 2019 OVSL Groundwater Monitoring Well Network (by Type)

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

A indicates a shallower well completion

B indicates an intermediate well completion

C indicates a deeper well completion

* Water quality monitoring at Upgradient wells will be limited to Appendix II field parameters for one of the semi-annual events (May event) as long as no new water quality exceedances or increasing trends are observed.

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 semi-annual basis during 2019, with sampling events completed in May and November. Per the current SAP, the Upgradient monitoring wells (MW-13A, MW-13B, MW-16 and MW-35) were only monitored for field parameters during the May event.

3.1.3 Parameters and Analytical Methods

The analytical program for groundwater quality monitoring during the 2019 reporting period included the Appendix I and II parameters summarized in Exhibit 2. In addition to the routine Appendix I/II parameter list, five year Appendix III parameters were also included in the requested analyses for Compliance wells MW-15R, MW-34C and MW-42 during the May semi-annual event.

Exhibit 2. 2019 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

** Five year Appendix III parameters were only analyzed for Compliance wells MW-15R, MW-34C and MW-42 during the May 2019 monitoring event.

Laboratory methods are derived from several industry-standard publications. Methods for Chemical Analysis of Water and Wastes (MCAWW, EPA 1983) describe procedures 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 Eurofins/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 2019 site-specific SAP (revision 1.2).

As part of the routine groundwater monitoring program, static water levels were initially measured and recorded in all of the water quality wells being sampled prior to initializing any well purging or groundwater collection procedures. Static water levels also were measured at 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 2019).

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 (APHA 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 2019).

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. Excess purge and sampling water was discharged into the leachate collection pond.

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 semi-annual monitoring of the LP-LCD station. Leachate samples were collected from L-INF and OBWL-TD during November 2019. The LP-LCD was sampled as part of the May and November 2019 monitoring events.

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.

Exhibit 3. 2019 OVSL Leachate Analytical Parameters

Semi-Annual 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)

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 peristaltic 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 2019).

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. During 2019, all LFG monitoring at the OVSL was conducted by Aspect Consulting, with the data being communicated to SCS for inclusion in the semi-annual and annual monitoring reports.

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 2019 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. 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 quarterly during March, May, August, and November 2019. 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 2019 SAP. The LFG probes and building locations were monitored in the field (for all parameters) using a Lantec GEM2000, or equivalent, 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.

3.3.4 Field Conditions

General weather conditions were noted for 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 August and November 2019 are included in this report.

4.0 2019 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 2019. Recorded depth-to-water levels are summarized in field documentation included in Appendix A.

Depth-to-water measurements collected through 2019 were used to calculate groundwater elevations in feet relative to MSL. The 2019 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 each of the semi-annual events 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 140.79 (MW-30A in November) to 241.93 (MW-13A in May) ft. MSL over the 2019 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 for past 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. As summarized below in Exhibit 4, the average hydraulic gradient across the site remained fairly consistent between the wet and dry seasons.

Exhibit 4. Calculated 2019 Hydraulic Gradient and Flow Velocities

East Side of OVSL Facility		
	May 2019	November 2019
Well Pair	MW-35/MW-24	
Hydraulic Gradient (ft./ft.)	0.0335	0.0342
Flow Velocity (ft./day)	2.90	2.96
West Side of OVSL Facility		
	May 2019	November 2019
Well Pair	MW-20/MW-33A	
Hydraulic Gradient (ft./ft.)	0.0133	0.0120
Flow Velocity (ft./day)	6.81	6.15

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 for the 2019 semi-annual monitoring events. 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 semi-annual LP-LCD leak detection monitoring stations is also provided. Appendix III parameter detections for select groundwater 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, three Appendix III parameters (cis-1,2 dichloroethene, toluene and total mercury) were reported in the May 2019 groundwater sample collected from Compliance well MW-34C. With the exception of the 0.00031 mg/L total mercury reported in this sample, the low-level detections were J-flagged (estimated results less than the laboratory reporting limit). No Appendix III parameters were detected in the May 2019 samples collected from Compliance wells MW-15R and MW-42.

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 May 2019 semi-annual data set, the laboratory reported a number of low-level laboratory blank detections (less than the reporting limit) for iron, manganese, nickel and toluene. These blank detections did not appear to be related to any anomalous sample detections for these parameters. Data qualifiers were appended to the reported results as appropriate.

An express shipment delay for the November 2019 L-INF 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. The trip blank accompanying the November 2019 leachate samples reported low levels of tetrahydrofuran and methylene chloride. Because a similar level of tetrahydrofuran was reported in the OBWL-TD sample, these results may be an artifact of field or laboratory contamination. In addition, low-level, laboratory blank detections were reported for total iron and chloroform in several samples at concentrations below the project established reporting limits. No corrective action was taken for any values below requested reporting limits.

Notwithstanding the above reported laboratory data qualifiers, the 2019 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 2019 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 2019 (Figure 6A)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	0.0000996	0.0030 MW-19C	0.00000514	0.000216
<i>Locations</i>	MW-35		MW-43	MW-33A
High	0.000413		0.0199	0.0101
<i>Locations</i>	MW-16		MW-34C	MW-32

Total Iron (mg/L) - November 2019 (Figure 6B)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	<0.06	0.20 MW-19C	<0.06	0.063
<i>Locations</i>	MW-13A, MW-13B, MW-35		MW-15R	MW-36A
High	0.11		39	3.5
<i>Location</i>	MW-16		MW-34C	MW-29A

Total Manganese (mg/L) - November 2019 (Figure 6C)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	<0.001	1.2 MW-19C	0.0015	0.0020
<i>Locations</i>	MW-13A, MW-35		MW-15R	MW-36A
High	0.018		4.1	3.3
<i>Locations</i>	MW-16		MW-42	MW-32

Vinyl Chloride (µg/L) – November 2019 (Figure 6D)				
Concentration	Upgradient	Performance	Compliance	Downgradient
Low	<0.02	0.046 MW-19C	<0.02	<0.02
Locations	MW-13A MW-13B, MW-16, MW-35		MW-15R, MW-34A, MW-39, MW-43	MW-29A, MW-33A, MW-33C, MW-36A
High	NA		0.094	0.20
Locations			MW-42	MW-32

As noted during past monitoring years, groundwater impacts are observed in each category of monitoring wells at the site.

The highest concentrations of arsenic, total iron and total manganese (0.000413, 0.11 and 0.018 mg/L, respectively) that were detected in Upgradient (background) monitoring wells during the November 2019 monitoring event occurred in MW-16. Vinyl chloride was not reported in any of the Upgradient wells throughout 2019.

Detectable concentrations of arsenic, total iron and total manganese (0.0030, 0.20 and 1.2 mg/L, respectively) were reported during November 2019 in Performance monitoring well MW-19C. In addition, 0.046 µg/L of vinyl chloride was reported in this well during this event.

The highest November 2019 concentrations of primary parameters in the Compliance monitoring wells were reported in MW-34C (0.00199 arsenic), MW-34C (39 mg/L iron) and MW-42 (4.1 mg/L manganese and 0.094 µg/L vinyl chloride).

These same parameters were highest in the Downgradient monitoring wells MW-32 (0.0101 mg/L arsenic, 3.3 mg/L manganese and 0.20 µg/L vinyl chloride) and MW-29A (3.5 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 (2019). 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.

As previously reported for the site, 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 (2005-2019)

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
		Chloride	MW-15R, MW-34A, MW-34C
		Magnesium	MW-15R, MW-34A, MW-34C, MW-42
		Manganese	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
		Total Organic Carbon	MW-34C
		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 2019 analytical results. Water quality samples collected during November 2019 were of similar geochemical water type with clear differences seen between the groundwater and leachate derived samples.

As noted in past monitoring reports, the positions of the sampled wells on the diagram indicate that the dominant anion in site groundwater is 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 2019 OBWL-TD sample reported relatively elevated anion ratios for sulfate, chloride, calcium and magnesium with respect to the remaining leachate samples. The Piper diagram for November 2019 can be found in Appendix D. The Piper diagram for the May 2019 event of the current compliance year can be found in the corresponding semi-annual monitoring report.

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 2019 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 2019)

Well Group	Upgradient	Performance	Compliance	Downgradient
Sum of Cations (meq/L)	1.43 – 1.72	1.62	0.53 – 4.09	0.78 – 4.26
Sum of Anions (meq/L)	1.53 – 1.83	1.7	0.63 – 4.26	0.89 – 4.13
Balance (%)	-3.41 – -3.12	-2.47	-8.43 – 1.47	7.06 – 1.59

Ion balances observed at the site during the November 2019 event were typically within or very close to this threshold. An ion balance of -8.43 was reported for Compliance well MW-43, which has historically reported balances near or slightly outside the (+/-) 5 percent threshold. Results outside the (+/-) 5 to 10% ion balance threshold may be 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 November 2019, prediction limits for inorganic parameters were exceeded at least once in all of the Compliance (MW-15R, MW-34A, MW-34C, MW-39, MW-42 and MW-43) and Downgradient (MW-29A, MW-32, MW-33A, MW-33C and MW-36A) monitoring wells. Compliance well MW-42 (15 exceedances) and Downgradient well MW-32 (13 exceedances) reported the largest number of prediction limit exceedances for the event. A summary of the latest prediction limit exceedances for the November 2019 Compliance and Downgradient well results are presented on Table 7. Prediction limit calculations for 2019 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 (sulfate), MW-13B (bicarbonate/total alkalinity, specific conductance, chloride and sulfate), MW-16 (total alkalinity, calcium, chloride and magnesium) 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 MTCASat; calculation details are presented in Appendix C. The following exhibit and Table 8 summarize the COCs and their 2019 UCL exceedances in the Compliance and Downgradient monitoring wells.

Exhibit 8. 2019 MTCA Exceedances for Chemicals of Concern

Chemicals of Concern	Units	Site-specific MTCA Cleanup Level	Exceedances in 2019 (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 2019.

The OVSL continued to report generally stable to improving groundwater quality through the 2019 reporting period. Similar to past years, the 95% UCL for vinyl chloride remained below the cleanup level in all Compliance wells and all Downgradient wells except MW-32. It is 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 and manganese); MW-39 (ammonia, arsenic, iron, and manganese); MW-42 (ammonia, arsenic, iron and manganese); and MW-43 (iron and manganese). A single Compliance well (MW-42) reported a statistically significant increasing trend for arsenic. However, statistically significant decreasing trends were noted in several Compliance wells for vinyl chloride (in MW-34C), manganese (in MW-15R and 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 2019.

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 (arsenic, and iron); MW-33C (arsenic and manganese); and MW-36A (arsenic). One Downgradient well (MW-33C) reported a statistically significant increasing trend for 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 (1.1 µg/L) slightly exceeded its 1.0 µg/L site-specific cleanup standard in Performance well MW-19C during the May 2019 event. This VOC has periodically exceeded this standard in this specific well over the past several compliance years,

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 2019 reporting period by parameter and well are summarized on Table 9. Criteria for the following seven analytes were exceeded:

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

Six of these parameters are noted to have routinely exceeded their respective regulatory standards over the previous five (2015 through 2019) compliance years. As previously noted, trichloroethene has been reported to occasionally exceed its 1 µg/L cleanup standard in Performance well MW-19C.

4.2 LEACHATE MONITORING RESULTS

4.2.1 Leachate Quality

The results of the November 2019 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 each 2019 semi-annual event (refer to Table 4E).

Similar to past years, the 2019 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 (tert-butyl alcohol, chloroform, methylene chloride and tetrahydrofuran) were reported in the November 2019 sample. The annual OBWL-TD sample reported generally lower leachate indicator results than the leachate influent. Four low-level VOC detections, including acetone, tert-butyl alcohol, p-cymene and tetrahydrofuran were also reported in the OBWL-TD sample. Compared to the L-INF sample, the 2019 semi-annual LP-LCD samples generally reported lower alkalinity, ammonia, chloride, COD and TOC concentrations.

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 2019 reporting period, approximately 878,605 gallons of leachate were pumped into the leachate collection pond. A total of 37.59 inches of rainfall was recorded at the OVSL weather station during 2019.

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 2018, annual leachate generation ranged from 1,106,803 gallons (in 2014) to 681,901 gallons (in 2016). The leachate volume calculated for 2019 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 13 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 2019 are presented on Table 10. A total of 905 gallons of liquid were removed from the collection system during 2019. This is a significantly smaller LP-LCD volume than was pumped (5,345 gallons) from this system during the preceding year (2018).

4.2.3 Leachate Forcemain Testing Results

Vikek Environmental Engineering LLC (Vikek) performed biennial testing of the facility's leachate forcemain on February 25, 2020, consistent with the requirements of WAC 173-350-330. The results of the test indicated that the forcemain was in good condition with no observable leaks. A copy of the testing report is provided in Appendix F.

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 third and fourth quarter 2019 LFG monitoring results are summarized in Tables 11A and 11B, respectively. A summary of the LFG probe results over the entire 2019 compliance period is also provided on Table 12. In addition, LFG extraction rates and major gas component results for the 2019 operational period are summarized in Appendix E (on Table E-4). Over 2019, an estimated 112.6 million cubic feet of LFG were collected at the OVSL flare inlet, with an annualized average concentration of 26.11 percent methane (by volume).

4.3.1 Perimeter Gas Probes

LFG probe GP-15, located on northwest edge of the Phase II waste cell, reported methane concentration of 2.2 and 0.6 percent by volume during the August and November events, respectively. Methane was not detected in any of the remaining LFG perimeter monitoring probes during the second half of 2019. It should be noted that methane concentrations of less than five percent by volume have a reading accuracy of ± 0.3 percent by volume.

Carbon dioxide was reported at the majority of LFG probe locations with detected concentration readings during August 2019 ranging from 0.5 (GP-10D) to 10.8 percent by volume (GP-7). LFG probes reported carbon dioxide concentrations ranging between 0.8 (GP-10D) and 11.2 percent by

volume (GP-15) during November 2019. It should be noted that concentrations of carbon dioxide less than five percent by volume have a reading accuracy of ± 0.3 percent by volume.

During the first August event depressed oxygen levels (less than 20.3 percent by volume) were measured at LFG probe locations ranging from 0.0 (GP-15) to 19.7 (GP-12S/D and GP-13D) percent by volume. Four probes (GP-9S/D, GP-10S/D, GP-11S/D, and GP-12M) reported oxygen levels above 20.3 percent by volume. Depressed oxygen levels for the November 2019 ranged from 0.1 (GP-15) to 19.8 (GP-9D) percent by volume. During November 2019, GP-10S/D was the only probe pair to reported oxygen levels above 20.3 percent by volume. It should be noted that the reading accuracy for oxygen with the GEM2000 at concentrations less than 25 percent by volume is ± 1 percent by volume.

Overall LFG production at 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 2019 monitoring year.

4.3.2 Structure Monitoring

Methane was not detected above instrument detection levels in any of the four monitored structures (Scale House, South Slope Well House, Electrical Shed and Office) during the August and November LFG monitoring events. 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 20.4 and 21.9 percent by volume during the second half of 2019.

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 during the August and November LFG monitoring events are presented on Figures 8A and 8B, respectively. LFG probe measurement recorded during both the August and November monitoring events were obtained over periods of slightly declining barometric pressure conditions.

5.0 SUMMARY AND CONCLUSIONS

The 2019 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 2019 were slightly higher than those reported for the preceding year, but remain significantly lower than pre-2015 levels, demonstrating the continued 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 2019, site specific MTCA cleanup levels, groundwater protection standards and/or federal MCLs were exceeded for seven analytes: pH, total arsenic, total iron, total manganese, ammonia, trichloroethene 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.

Similar to past monitoring years, arsenic was the only OVSL parameter to exceed a primary MCL during 2019 compliance period. These exceedances continue to be reported in two wells: MW-32 (0.0101 mg/L in November) and MW-34C (0.0199 mg/L in November). 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 least once in all of Compliance and Downgradient monitoring wells at the OVSL. With the exception of vinyl chloride in MW-32, the only parameters that exceeded the site specific MTCA cleanup goals in these wells 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 2019. In addition, with the exception of arsenic in MW-33C and MW-42, no statistically significant increasing trends were calculated for the OVSL COCs during 2019.

Prediction limits for inorganic parameters were exceeded at least once in eleven 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 fourteen well locations. Significantly decreasing concentration trends were reported for trichloroethene (MW-19C) and vinyl chloride in wells MW-19C, MW-32 and MW-34C.

Overall, the groundwater analytical data, statistical and graphical analyses, and comparison to water quality standards though 2019 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. As has been previously noted, 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 manganese, 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 2019 by the absence of VOCs, including vinyl chloride, in downgradient wells MW-29A, MW-33A, MW-33C and MW-36A.

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. The 2019 monitoring results indicate that the current schedule for semi-annual monitoring at the OVSL remains appropriate for the facility.

5.2 LEACHATE

As noted for previous compliance years, a comparison between the 2019 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 tert-butyl alcohol, chloroform, methylene chloride and tetrahydrofuran were also reported in the November 2019 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 acetone, tert-butyl alcohol, p-cymene and tetrahydrofuran were also reported in the OBWL-TD sample. The LP-LCD monitoring station was sampled during both semi-annual events. These samples continued to report elevated specific conductivity, alkalinity, calcium, chloride, sodium, sulfate, TDS and TOC compared to the groundwater results.

A total of 878,605 gallons of leachate were generated from the OVSL during the course of the 2019 reporting year. This volume was marginally higher than that reported for the preceding year (779,605 gallons), but remains well below previous annual totals (ranging to 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 905 gallons of liquid were captured and returned to the pond in 2019. The LP-LCD volume remained relatively low, and continues to suggest that leakage through the leachate pond liner system is well controlled.

Biennial testing recently performed on the facility's leachate forcemain indicated that the system was in good condition with no observable leaks.

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 2019. 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 2019 operational period are summarized in Appendix E. Over 2019, an estimated 112.6 million cubic feet of LFG were collected at the OVSL flare inlet, with an annualized average concentration of 26.11 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

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Tables



Table 1. Groundwater Well Construction Details
 2019 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.)
<i>Water Quality Monitoring Wells</i>							
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
<i>Water Level Measurement Only Wells</i>							
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
2019 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, Bicarbonate 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
Compliance Monitoring Locations									
MW-15R ^c	✓	✓	✓	✓	✓		✓	✓	✓
MW-34A									
MW-34C ^c									
MW-39									
MW-42 ^c									
MW-43									
Performance Monitoring Locations									
MW-19C	✓	✓	✓	✓	✓		✓	✓	
Downgradient Monitoring Locations									
MW-29A	✓	✓	✓	✓	✓		✓	✓	✓
MW-32									
MW-33A									
MW-33C									
MW-36A									
Upgradient Monitoring Locations									
MW-13A ^a	✓	✓	✓	✓	✓		✓	✓	✓
MW-13B ^a									
MW-35 ^a									
MW-16 ^a									
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.

^a Water quality monitoring at the Upgradient wells was limited to Appendix II field parameters during the Semi-annual # 1 event (in May).

^b Sampled annually (November 2019).

^c Appendix III parameters were run for select groundwater samples (MW-15R, MW-34C, and MW-42) during the 2019 Semi-annual # 1 event (in May).

Table 3. Groundwater Elevations
2019 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Location ID	Measuring Point Elevation (ft. MSL)	Semi-Annual #1 May 2019		Semi-Annual #2 November 2019	
		DTW	WLE	DTW	WLE
<i>Water Quality Monitoring Wells</i>					
MW-13A	288.74	46.81	241.93	48.33	240.41
MW-13B	288.66	60.19	228.47	62.43	226.23
MW-15R	180.66	19.29	161.37	20.05	160.61
MW-16	240.01	59.21	180.80	62.82	177.19
MW-19C	196.96	34.54	162.42	36.22	160.74
MW-29A	160.21	14.47	145.74	15.28	144.93
MW-32	152.36	1.82	150.54	2.43	149.93
MW-33A	147.68	5.69	141.99	5.53	142.15
MW-33C	147.59	2.65	144.94	2.91	144.68
MW-34A	197.95	40.26	157.69	41.29	156.66
MW-34C	199.89	42.08	157.81	43.10	156.79
MW-35	302.69	72.31	230.38	73.35	229.34
MW-36A	192.68	31.72	160.96	32.60	160.08
MW-39	189.92	21.41	168.51	22.21	167.71
MW-42	187.43	28.54	158.89	29.63	157.80
MW-43	186.42	25.67	160.75	26.76	159.66
<i>Water Level Measurement Only Wells</i>					
MW-2A1	174.22	8.62	165.60	10.20	164.02
MW-2B1	172.94	7.43	165.51	8.97	163.97
MW-4	175.78	15.48	160.30	16.93	158.85
MW-10	155.12	4.93	150.19	5.54	149.58
MW-20	198.41	36.60	161.81	38.36	160.05
MW-21	156.03	6.15	149.88	6.72	149.31
MW-23A	182.28	13.01	169.27	14.60	167.68
MW-24	208.25	33.12	175.13	35.31	172.94
MW-29C	156.92	12.82	144.10	13.88	143.04
MW-30A	166.74	24.95	141.79	25.95	140.79
MW-36	189.39	31.82	157.57	32.75	156.64
MW-41A	199.43	25.49	173.94	28.06	171.37
MW-41B	200.64	25.82	174.82	28.45	172.19
MW-41C	199.67	27.22	172.45	29.65	170.02

Notes:

DTW = Depth to Water (ft)
WLE = Water level elevation
Elevations, ft. MSL

Table 4B. Detections and Field Measurements - Performance Monitoring Wells
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-19C 5/29/2019	MW-19C 11/13/2019
Field Parameter			
Dissolved Oxygen	mg/L	1.83	0.25
Oxidative Reduction Potential	mV	82.9	94.9
pH	pH	6.53	6.76
Specific Conductivity	umhos/cm	172	165
Temperature	deg C	10.7	10.2
Turbidity	NTU	2.5	2.1
General Chemistry			
Alkalinity, Bicarbonate (As CaCO3)	mg/L	85	77
Alkalinity, Total (As CaCO3)	mg/L	85	77
Ammonia (as N)	mg/L	0.47	0.48
Calcium, Dissolved	mg/L	15	14
Chemical Oxygen Demand	mg/L	--	--
Chloride	mg/L	--	--
Iron, Dissolved	mg/L	0.15 B	0.12
Iron, Total	mg/L	0.19 B	0.20 B
Magnesium, Dissolved	mg/L	7.7	7.3
Manganese, Dissolved	mg/L	1.1 B	1.2
Manganese, Total	mg/L	1.2 B	1.2
Nitrate (As N)	mg/L	--	--
Nitrate/Nitrite, Total	mg/L	--	--
Potassium, Dissolved	mg/L	1.2	1.2
Sodium, Dissolved	mg/L	5.8	5.7
Sulfate	mg/L	--	--
Total Dissolved Solids (TDS)	mg/L	110	100
Total Organic Carbon (TOC)	mg/L	--	--
Total Suspended Solids (TSS)	mg/L	--	--
Metals			
Antimony, Total	mg/L	--	--
Arsenic, Total	mg/L	0.00261	0.0030
Barium, Total	mg/L	0.004	0.004
Beryllium, Total	mg/L	--	--
Cadmium, Total	mg/L	--	--
Chromium, Total	mg/L	--	--
Cobalt, Total	mg/L	--	--
Copper, Total	mg/L	--	--
Lead, Total	mg/L	--	--
Mercury, Total	mg/L	--	--
Nickel, Total	mg/L	--	--
Selenium, Total	mg/L	--	--
Vanadium, Total	mg/L	--	--
Zinc, Total	mg/L	0.0021 J	--
Volatile Organic Compounds			
Acetone	ug/L	--	--
Carbon disulfide	ug/L	--	--
cis-1,2-Dichloroethene	ug/L	--	--
Methylene Chloride	ug/L	--	1.5
Toluene	ug/L	--	--
Trichloroethene	ug/L	1.1	1.0
Vinyl chloride	ug/L	0.026	0.046

Notes:

Parameters not listed above were not detected at any of the above listed sample locations during the reporting y.
 CaCO₃ = Calcium carbonate **Bold** = Analyte exceeds a water quality standard.

deg-C = Degrees Celcius

B = Analyte detected in sample blank

J = Concentration is estimated

µmhos/cm = Microhms per centimeter

µg/L = Micrograms per liter

mg/L = Miligrams per liter

Table 4C. Detections and Field Measurements - Downgradient Monitoring Wells
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-29A 5/29/2019	MW-29A 11/13/2019	MW-32 5/30/2019	MW-32 11/13/2019	MW-33A 5/28/2019	MW-33A 11/12/2019	MW-33C 5/28/2019	MW-33C 11/12/2019	MW-36A 5/29/2019	MW-36A 11/11/2019
Field Parameter											
Dissolved Oxygen	mg/L	5.03	0.25	1.12	0.53	1.85	0.57	1.22	0.32	6.14	2.80
Oxidative Reduction Potential	mV	81.8	138.7	77.1	49.1	103.7	67.5	12.5	18.1	338.2	286.5
pH	pH	6.12	6.02	6.57	6.73	6.58	6.78	7.42	7.43	5.90	5.96
Specific Conductivity	umhos/cm	102	89	339	415	137	137	164	157	137	128
Temperature	deg C	8.1	10.7	10.6	11.4	8.5	9.2	9.0	8.8	9.5	9.5
Turbidity	NTU	1.5	1.5	0.7	1.4	13.0	2.5	0.7	1.4	0.8	2.1
General Chemistry											
Alkalinity, Bicarbonate (As CaCO3)	mg/L	41	36	130	170	62	63	71	71	62	56
Alkalinity, Total (As CaCO3)	mg/L	41	36	130	170	62	63	71	71	62	56
Ammonia (as N)	mg/L	0.058	0.082	0.062	0.040	--	--	--	--	--	--
Calcium, Dissolved	mg/L	7.2	6.0	31	39	14	13	18	17	11	9.1
Chemical Oxygen Demand	mg/L	--	--	--	--	--	--	--	--	--	--
Chloride	mg/L	--	--	16	16	3.1	3.0	3.2	3.1	--	--
Iron, Dissolved	mg/L	4.2 B	3.4	0.70 B	0.86	0.093 B	0.055 J	0.056 J B	0.066	--	0.03 J
Iron, Total	mg/L	4.2 B	3.5 B	0.72 B	0.94 B	1.6 B	0.51 B	0.11 B	0.10 B	0.026 J B	0.063 B
Magnesium, Dissolved	mg/L	4.2	3.5	15	19	6.6	6.6	7.1	7.1	7.2	6.3
Manganese, Dissolved	mg/L	1.3 B	1.2	2.0 B	3.1	0.0046 B	0.0031	0.13 B	0.15	0.00042 J B	0.00083 J
Manganese, Total	mg/L	1.4 B	1.2	2.1 B	3.3	0.0089 B	0.0033 J	0.17 B	0.18	0.0013 B	0.0020
Nitrate (As N)	mg/L	--	--	--	--	--	--	--	--	0.93	0.79
Nitrate/Nitrite, Total	mg/L	--	--	--	--	--	--	--	--	--	--
Potassium, Dissolved	mg/L	0.26 J	0.35 J	1.0	1.2	0.71 J	0.76 J	1.1	1.2	0.83 J	0.86 J
Sodium, Dissolved	mg/L	3.4	3.2	13	14	3.8	4.0	4.0	4.1	6.7	6.1
Sulfate	mg/L	--	--	13	16	--	5.3	9.1	10	--	--
Total Dissolved Solids (TDS)	mg/L	61	55	190	260	120 B	85	130 B	94	120	88
Total Organic Carbon (TOC)	mg/L	1.6	1.5	1.4	1.7	1.2	--	--	--	--	--
Total Suspended Solids (TSS)	mg/L	--	--	--	--	5.2	6.8	--	--	--	--
Metals											
Antimony, Total	mg/L	--	--	--	--	0.00057 J	--	--	--	--	--
Arsenic, Total	mg/L	0.00186	0.00189	0.00947	0.0101	0.000349	0.000216	0.00288	0.00268	0.000561	0.000507
Barium, Total	mg/L	0.0067	0.0068	0.0046	0.0075	0.0020	0.0011	0.0042	0.0043	0.0027	0.0024
Beryllium, Total	mg/L	--	--	--	--	--	--	0.00013 J	--	--	--
Cadmium, Total	mg/L	--	--	--	--	--	--	--	--	--	--
Chromium, Total	mg/L	--	--	--	--	--	--	--	--	0.0093	0.0091
Cobalt, Total	mg/L	0.0026 J	0.0022 J	--	--	--	--	--	--	--	--
Copper, Total	mg/L	--	--	--	--	0.00059 J	--	--	--	--	--
Lead, Total	mg/L	--	--	--	--	--	--	--	--	--	--
Mercury, Total	mg/L	--	--	--	--	--	--	--	--	--	--
Nickel, Total	mg/L	0.0021 J B	0.0015 J	0.00097 J B	0.0017 J	0.00068 J B	--	--	--	0.00075 J B	0.0015 J
Selenium, Total	mg/L	--	--	--	--	--	--	--	--	--	--
Vanadium, Total	mg/L	--	0.0018 J	--	--	--	0.0023	--	--	--	0.0014 J
Zinc, Total	mg/L	0.0022 J	--	0.0021 J	--	0.002 J	--	0.002 J	--	0.0027 J	--
Volatile Organic Compounds											
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ug/L	--	--	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	0.59 J	0.47 J	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	0.36	0.20	--	--	--	--	--	--

Notes:

Parameters not listed above were not detected at any of the above listed sample locations during the reporting year
 CaCO₃ = Calcium carbonate
 deg-C = Degrees Celcius
 J = Concentration is estimated
 umhos/cm = Microhms per centimeter
 ug/L = Micrograms per liter
 mg/L = Milligrams per liter
 mV = Millivolts
 N = Nitrogen
 NTU = Nephelometric turbidity units
 SU = Standard units
 -- = Parameter not detected above the project-specific reporting limit
 NM = Not Measured, see field notes

Table 4D. Detections and Field Measurements - Upgradient Monitoring Wells
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-13A 5/28/2019	MW-13A 11/11/2019	MW-13B 5/28/2019	MW-13B 11/11/2019	MW-16 5/29/2019	MW-16 11/12/2019	MW-35 5/29/2019	MW-35 11/12/2019
Field Parameter									
Dissolved Oxygen	mg/L	8.30	7.17	8.55	7.53	8.41	7.03	8.01	7.09
Oxidative Reduction Potential	mV	265.8	306.3	251.4	298.6	268.3	347.4	272.8	326.7
pH	pH	6.70	6.72	7.09	7.03	5.98	6.17	6.77	6.61
Specific Conductivity	umhos/cm	169	169	176	175	108	136	169	166
Temperature	deg C	9.5	9.2	10.1	9.7	9.7	9.0	10.4	9.7
Turbidity	NTU	0.5	1.2	1.1	1.0	1.7	2.1	1.2	1.2
General Chemistry									
Alkalinity, Bicarbonate (As)	mg/L	*	82	*	83	*	68	*	82
Alkalinity, Total (As CaCO3)	mg/L	*	82	*	83	*	68	*	82
Ammonia (as N)	mg/L	*	--	*	--	*	--	*	--
Calcium, Dissolved	mg/L	*	15	*	16	*	12	*	14
Chemical Oxygen Demand	mg/L	*	--	*	--	*	--	*	--
Chloride	mg/L	*	--	*	--	*	--	*	--
Iron, Dissolved	mg/L	*	--	*	--	*	--	*	--
Iron, Total	mg/L	*	--	*	--	*	0.11 B	*	--
Magnesium, Dissolved	mg/L	*	8.6	*	8.3	*	6.9	*	9.0
Manganese, Dissolved	mg/L	*	0.00054 J	*	--	*	--	*	--
Manganese, Total	mg/L	*	--	*	0.00056 J	*	0.018	*	0.00034 J
Nitrate (As N)	mg/L	*	0.41	*	0.42	*	0.10	*	0.36
Nitrate/Nitrite, Total	mg/L	*	--	*	--	*	--	*	--
Potassium, Dissolved	mg/L	*	0.59 J	*	0.63 J	*	0.84 J	*	0.59 J
Sodium, Dissolved	mg/L	*	5.0	*	5.0	*	5.5	*	5.6
Sulfate	mg/L	*	--	*	--	*	--	*	--
Total Dissolved Solids (TDS)	mg/L	*	100	*	100	*	82	*	89
Total Organic Carbon (TOC)	mg/L	*	--	*	--	*	--	*	--
Total Suspended Solids (TSS)	mg/L	*	--	*	--	*	--	*	--
Metals									
Antimony, Total	mg/L	*	--	*	--	*	0.00051 J	*	--
Arsenic, Total	mg/L	*	0.000205	*	0.000322	*	0.000413	*	0.0000996
Barium, Total	mg/L	*	0.0027	*	0.0034	*	0.0043	*	0.0033
Beryllium, Total	mg/L	*	--	*	--	*	0.00024 J	*	0.00014 J
Cadmium, Total	mg/L	*	--	*	--	*	--	*	--
Chromium, Total	mg/L	*	0.0019 J	*	0.0028 J	*	0.0076	*	0.0023 J
Cobalt, Total	mg/L	*	--	*	--	*	--	*	--
Copper, Total	mg/L	*	--	*	--	*	--	*	--
Lead, Total	mg/L	*	--	*	--	*	0.00018 J	*	--
Mercury, Total	mg/L	*	--	*	--	*	--	*	--
Nickel, Total	mg/L	*	--	*	--	*	0.0028 J	*	--
Selenium, Total	mg/L	*	--	*	--	*	--	*	--
Vanadium, Total	mg/L	*	0.0022	*	0.0034	*	0.0036	*	0.0041
Zinc, Total	mg/L	*	--	*	0.0023 J	*	--	*	--
Volatile Organic Compounds									
Acetone	ug/L	*	--	*	--	*	--	*	3.0 J
Carbon disulfide	ug/L	*	--	*	--	*	--	*	--
cis-1,2-Dichloroethene	ug/L	*	--	*	--	*	--	*	--
Methylene Chloride	ug/L	*	--	*	--	*	--	*	--
Toluene	ug/L	*	--	*	--	*	--	*	--
Trichloroethene	ug/L	*	--	*	--	*	--	*	--
Vinyl chloride	ug/L	*	--	*	--	*	--	*	--

Notes:

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

* = Only field parameters analyzed at upgradient wells during Semi-annual #1 event

CaCO₃ = Calcium carbonate

deg-C = Degrees Celcius

J = Concentration is estimated

umhos/cm = Microhms per centimeter

ug/L = Micrograms per liter

mg/L = Miligrams per liter

mV = Millivolts

N = Nitrogen

NTU = Nephelometric turbidity units

SU = Standard units

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

B = Analyte detected in sample blank

Bold = Analyte exceeds a water quality standard.

Table 4E. Detections and Field Measurements - Leachate and Leak Detection Locations
2019 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	L-INF 11/18/19	OBWL-TD 11/18/19	LP-LCD 5/30/2019	LP-LCD 11/13/2019
Field Parameter					
Dissolved Oxygen	mg/L	2.70	6.10	5.11	7.35
Oxidative Reduction Potential	mV	335.7	366.0	177.4	201.3
pH	SU	7.47	3.08	7.08	7.26
Specific Conductivity	umhos/cm	7,176	314	3,748	4,024
Temperature	Deg C	13.6	11.9	23.2	13.2
Turbidity	NTU	34.2	5.5	8.1	9.5
General Chemistry					
Alkalinity, Bicarbonate (As CaCO ₃)	mg/L	2,100	--	610	850
Alkalinity, Total (As CaCO ₃)	mg/L	2,100	--	610	850
Ammonia (as N)	mg/L	290	4.2	0.67	0.91
Biochemical Oxygen Demand	mg/L	11 H	--	--	--
Calcium, Dissolved	mg/L	120	15	110	110
Chemical Oxygen Demand	mg/L	520	26	140 B	140
Chloride	mg/L	1,500	--	630	620
Iron, Dissolved	mg/L	1.2	4.0	0.11 B	0.036 J
Iron, Total	mg/L	2.4	4.8	0.12 B	0.92 B
Magnesium, Dissolved	mg/L	100	3.6	65	70
Manganese, Dissolved	mg/L	2.1 B	0.55 B	0.24 B	0.77
Manganese, Total	mg/L	2.1	0.64	0.3 B	0.62
Nitrate (As N)	mg/L	--	0.18	19	10
Nitrate/Nitrite, Total	mg/L	0.24	0.2	19	10
Potassium, Dissolved	mg/L	140	1.5	73	78
Sodium, Dissolved	mg/L	1,100	5.6	590.0	630.0
Sulfate	mg/L	280	130	310	340
Total Dissolved Solids (TDS)	mg/L	4,000	170	2300 B	2600
Total Organic Carbon (TOC)	mg/L	160	3.7	43	43
Total Suspended Solids (TSS)	mg/L	--	4.4	--	--
Metals					
Antimony, Total	mg/L	0.00088 J	0.0096	0.0032	0.0035
Arsenic, Total	mg/L	0.0052	0.0046 J	0.010	0.0101
Barium, Total	mg/L	0.26	0.023	0.15	0.17
Beryllium, Total	mg/L	0.00011 J	0.0001 J	--	0.00026 J
Cadmium, Total	mg/L	--	--	--	0.00031
Chromium, Total	mg/L	0.0097	0.016	0.0028 J	0.0029 J
Cobalt, Total	mg/L	0.017	0.0032	0.007	0.011
Copper, Total	mg/L	0.0065	0.059	0.018	0.011
Lead, Total	mg/L	0.00025 J	0.00025 J	0.0017	0.0042
Mercury, Total	mg/L	--	--	--	--
Nickel, Total	mg/L	0.099	0.033	0.083 B	0.087
Selenium, Total	mg/L	0.00081 J	--	0.0014	0.00067 J
Vanadium, Total	mg/L	0.017	--	0.0053	0.0087
Zinc, Total	mg/L	0.0082	0.75	0.018	0.02
Volatile Organic Compounds					
Acetone	ug/L	--	3.7 J	--	--
Butyl alcohol, tert-	ug/L	350	59	--	--
Carbon disulfide	ug/L	--	--	0.76 J	--
Chloroform	ug/L	3.8 J	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--
Methylene Chloride	ug/L	26 B	--	--	2.2 J
p-Cymene	ug/L	--	1.1	--	--
Tetrahydrofuran	ug/L	81	4.7 J	--	--
Toluene	ug/L	--	--	--	--
Trichloroethene	ug/L	--	--	--	--
Vinyl chloride	ug/L	--	--	0.18 J	--

Notes:

CaCO₃ = Calcium carbonate

deg-C = Degrees Celcius

J = Concentration is estimated

umhos/cm = Microhms per centimeter

ug/L = Micrograms per liter

mg/L = Milligrams per liter

H = Analyzed beyond hold time

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
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	MW-15R 5/29/19	MW-34C 5/30/19	MW-42 5/29/19
Volatile Organic Compounds				
cis-1,2-Dichloroethene	µg/L	--	0.42 J	--
Toluene	µg/L	--	0.18 J B	--
Additional Parameters				
Mercury, Total	mg/L	--	0.00031	--

Notes:

Results presented are detections for the Appendix III parameters. Analytes by Appendix I or II are presented on Tables 4A, 4B, 4C, 4D, and 4E.

B = Analyte detected in sample blank

J = Concentration is estimated

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

Table 5. 2019 Groundwater and Leachate VOC Detections
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Parameter	Units	Event	Well Type	Well	Result
Acetone	ug/L	Q219	Compliance	MW-34C	4.2 J
			Compliance	MW-39	4.3 J
		Q419	Upgradient	MW-35	3.0 J
			System	OBWL-TD	3.7 J
Butyl alcohol, tert-	ug/L	Q419	System	OBWL-TD	59
			System	L-INF	350
Carbon disulfide	ug/L	Q219	System	LP-LCD	0.76 J
Chloroform	ug/L	Q419	System	L-INF	3.8 J
Methylene Chloride	ug/L	Q419	Performance	MW-19C	1.5
			Compliance	MW-43	0.69 J
			System	LP-LCD	2.2 J
			System	L-INF	26 B
p-Cymene	ug/L	Q419	System	OBWL-TD	1.1
Tetrahydrofuran	ug/L	Q419	System	L-INF	81
			System	OBWL-TD	4.7 J
Trichloroethene	ug/L	Q219	Performance	MW-19C	1.10
			Downgradient	MW-32	0.59 J
		Q419	Performance	MW-19C	1.0
			Downgradient	MW-32	0.47 J
Vinyl chloride	ug/L	Q219	System	LP-LCD	0.180 J
			Performance	MW-19C	0.026
			Compliance	MW-34C	0.043
			Compliance	MW-42	0.068
		Q419	Downgradient	MW-32	0.360
			Performance	MW-19C	0.046
			Compliance	MW-34C	0.028
			Compliance	MW-42	0.094
Downgradient	MW-32	0.200			

Notes:

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

B = Analyte detected in sample blank

Table 6A. Summary of Significant Parameter Trends by Well Type
 2019 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, Total Calcium, Dissolved Chloride Magnesium, 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 Total Organic Carbon Vanadium, Total
Downgradient Wells			
None	Vinyl Chloride	Arsenic, Total pH Specific Conductivity	Alkalinity, Bicarbonate Alkalinity, Total Ammonia (as N) Barium, Total Calcium, Dissolved Chloride Magnesium, Dissolved Sodium, Dissolved Specific Conductivity Sulfate Total Dissolved Solids Vanadium, Total

Table 6B. Summary of Trends in Groundwater (2005 - 2019)
 2019 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 2019

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

*trend status shown is based on most recent event with reported data, as shown

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:

	<u>Significant Increasing Trends</u>	<u>Significant Decreasing Trends</u>
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 - 2019)
 2019 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)		
	<u>Significant Increasing Trends</u>	<u>Significant Decreasing Trends</u>
Alkalinity, bicarbonate (as CaCO ₃)	MW-13B (graph 2) MW-35 (graph 12)	MW-15R (graph 3) MW-34A (graph 10) MW-34C (graph 11) MW-36A (graph 13) MW-42 (graph 15)
Alkalinity, total (as CaCO ₃)	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-33C (graph 73) MW-42 (graph 79)	MW-19C (graph 69)
Barium, total	None	MW-15R (graph 83)
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-34A (graph 138) MW-34C (graph 139) MW-36A (graph 141)

Table 6B. Summary of Trends in Groundwater (2005 - 2019)
 2019 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)		
	<u>Significant Increasing Trends</u>	<u>Significant Decreasing Trends</u>
Chloride	MW-39 (graph 158)	MW-13B (graph 146) MW-15R (graph 147) MW-16 (graph 148) MW-19C (graph 149) 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-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-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 - 2019)
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Trend Test B = all metals and groundwater quality parameters listed in Appendix I and Appendix II of WAC (173-351-990)		
	<u>Significant Increasing Trends</u>	<u>Significant Decreasing Trends</u>
Sodium, dissolved	None	MW-15R (graph 371) 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-33C (graph 393) MW-35 (graph 396)	MW-15R (graph 387) MW-19C (graph 389) MW-33A (graph 392) MW-34A (graph 394) MW-34C (graph 395)
Sulfate	None	MW-13A (graph 401) MW-13B (graph 402) MW-19C (graph 405) MW-32 (graph 407) 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	MW-34C (graph 475)
Vanadium, total	None	MW-34A (graph 490) MW-36A (graph 493)
Zinc, total	None	None

Table 7. November 2019 Prediction Limit Exceedances
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Well Type	Well Location	Date Sampled	Parameter	Units	Result	Prediction Limit		
Compliance	MW-15	11/11/2019	Barium, total	mg/L	0.0043	0.0043		
	MW-34A	11/11/2019	Sodium, dissolved	mg/L	9.4	7.7		
	MW-34C	11/11/2019	Alkalinity, bicarbonate (as cacO3)	mg/L	100	96		
			Alkalinity, total (as cacO3)	mg/L	100	96		
			Arsenic, total	ug/L	19.9	0.4784		
			Barium, total	mg/L	0.14	0.0043		
			Calcium, dissolved	mg/L	21	18		
			Chloride	mg/L	4.5	4.4		
			Copper, total	mg/L	0.0043	0.0021		
			Iron, total	mg/L	39	0.31		
			Manganese, total	mg/L	1.1	0.032		
			Sodium, dissolved	mg/L	9.8	7.7		
			Specific conductivity	mS/cm	0.223	0.18		
			MW-39	11/11/2019	Ammonia (as n)	mg/L	0.42	0.3
					Arsenic, total	ug/L	1.79	0.4784
	Barium, total	mg/L			0.014	0.0043		
	Chloride	mg/L			7.5	4.4		
	Cobalt, total	mg/L			0.0074	0.003		
	Iron, total	mg/L			37	0.31		
	Manganese, total	mg/L			0.47	0.032		
	Sodium, dissolved	mg/L			9.2	7.7		
	Specific conductivity	mS/cm			0.275	0.18		
	MW-42	11/11/2019			Alkalinity, bicarbonate (as cacO3)	mg/L	190	96
			Alkalinity, total (as cacO3)	mg/L	190	96		
			Ammonia (as n)	mg/L	3.7	0.3		
			Arsenic, total	ug/L	1.81	0.4784		
			Barium, total	mg/L	0.1	0.0043		
			Calcium, dissolved	mg/L	36	18		
			Chloride	mg/L	11	4.4		
			Iron, total	mg/L	23	0.31		
			Magnesium, dissolved	mg/L	14	11.23		
			Manganese, total	mg/L	4.1	0.032		
			Potassium, dissolved	mg/L	8.1	1.4		
			Sodium, dissolved	mg/L	18	7.7		
			Specific conductivity	mS/cm	0.482	0.18		
			Sulfate	mg/L	10	9.9		
	Total dissolved solids (tds)	mg/L	250	175				
	MW-43	11/13/2019	Barium, total	mg/L	0.0051	0.0043		
			Iron, total	mg/L	2.3	0.31		
			pH	S.U.	5.36	5.83 - 8.19		

Table 7. November 2019 Prediction Limit Exceedances
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Well Type	Well Location	Date Sampled	Parameter	Units	Result	Prediction Limit
Downgradient	MW-29A	11/13/2019	Arsenic, total	ug/L	1.89	0.4784
			Barium, total	mg/L	0.0068	0.0043
			Iron, total	mg/L	3.5	0.31
			Manganese, total	mg/L	1.2	0.032
	MW-32	11/13/2019	Alkalinity, bicarbonate (as caco3)	mg/L	170	96
			Alkalinity, total (as caco3)	mg/L	170	96
			Arsenic, total	ug/L	10.1	0.4784
			Barium, total	mg/L	0.0075	0.0043
			Calcium, dissolved	mg/L	39	18
			Chloride	mg/L	16	4.4
			Iron, total	mg/L	0.94	0.31
			Magnesium, dissolved	mg/L	19	11.2376
			Manganese, total	mg/L	3.3	0.032
			Sodium, dissolved	mg/L	14	7.7
			Specific conductivity	mS/cm	0.415	0.18
			Sulfate	mg/L	16	9.9
			Total dissolved solids (tds)	mg/L	260	175
	MW-33A	11/12/2019	Iron, total	mg/L	0.51	0.31
	MW-33C	11/12/2019	Arsenic, total	ug/L	2.68	0.4784
			Manganese, total	mg/L	0.18	0.032
Sulfate			mg/L	10	9.9	
MW-36A	11/11/2019	Arsenic, total	ug/L	0.507	0.4784	

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. 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary
2019 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County, Washington

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
	MW-15R	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-15R	Arsenic, total	10	100%	0.269	0.24	ug/L	LN	0.462	ug/L	No	No
	MW-15R	Iron, total	10	0%	0.06 (ND)	0.06	mg/L	B	0.30	mg/L	No	No
	MW-15R	Manganese, total	10	100%	0.0032	0.002	mg/L	LN	0.05	mg/L	No	Yes (▼)
	MW-15R	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-15R	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-15R	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-15R	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-15R	Ammonia as N	10	0%	0.03 (ND)	0.03	mg/L	B	0.19	mg/L	No	No
	MW-34A	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-34A	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-34A	Arsenic, total	10	100%	0.488	0.470	ug/L	N	0.462	ug/L	Yes	No
	MW-34A	Iron, total	10	30%	0.18	0.18	mg/L	A	0.30	mg/L	No	No
	MW-34A	Manganese, total	10	90%	0.0047	0.0020	mg/L	Z	0.05	mg/L	No	No
	MW-34A	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-34A	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-34A	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-34A	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-34A	Ammonia as N	10	20%	0.035	0.035	mg/L	A	0.19	mg/L	No	No
	MW-34C	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-34C	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-34C	Arsenic, total	10	100%	30.7	32.7	ug/L	LN	0.462	ug/L	Yes	No
	MW-34C	Iron, total	10	100%	39	78	mg/L	LN	0.30	mg/L	Yes	No
	MW-34C	Manganese, total	10	100%	5.3	3.0	mg/L	LN	0.05	mg/L	Yes	No
	MW-34C	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-34C	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-34C	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34C	Vinyl Chloride	10	100%	0.064	0.05	ug/L	LN	0.2	ug/L	No	Yes (▼)	
MW-34C	Ammonia as N	10	20%	0.034	0.034	mg/L	A	0.19	mg/L	No	No	

Table 8. 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary
 2019 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	10	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-39	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-39	Arsenic, total	10	100%	2.98	2.09	ug/L	Z	0.462	ug/L	Yes	No
	MW-39	Iron, total	10	100%	44	38.0	mg/L	Z	0.30	mg/L	Yes	No
	MW-39	Manganese, total	10	100%	0.66	0.50	mg/L	Z	0.05	mg/L	Yes	No
	MW-39	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-39	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-39	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-39	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-39	Ammonia as N	10	100%	0.65	0.53	mg/L	Z	0.19	mg/L	Yes	No
	MW-42	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-42	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-42	Arsenic, total	10	100%	1.84	1.79	ug/L	Z	0.462	ug/L	Yes	Yes (▲)
	MW-42	Iron, total	10	100%	26	24.4	mg/L	LN	0.30	mg/L	Yes	No
	MW-42	Manganese, total	10	100%	4.4	4.1	mg/L	LN	0.05	mg/L	Yes	Yes (▼)
	MW-42	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-42	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-42	Trichloroethene	10	20%	0.58	0.58	ug/L	A	1.0	ug/L	No	No
	MW-42	Vinyl Chloride	10	80%	0.094	0.08	ug/L	LN	0.2	ug/L	No	No
	MW-42	Ammonia as N	10	100%	8.4	5.5	mg/L	Z	0.19	mg/L	Yes	No
	MW-43	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-43	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-43	Arsenic, total	10	70%	0.108	0.073	ug/L	LN	0.462	ug/L	No	No
	MW-43	Iron, total	10	100%	3.5	2.23	mg/L	N	0.30	mg/L	Yes	No
	MW-43	Manganese, total	10	100%	0.11	0.08	mg/L	LN	0.05	mg/L	Yes	No
	MW-43	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-43	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-43	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-43	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-43	Ammonia as N	10	40%	0.052	0.052	mg/L	A	0.19	mg/L	No	Yes (▼)

Table 8. 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary
 2019 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	2.12	ug/L	LN	0.462	ug/L	Yes	No
	MW-29A	Iron, total	6	100%	4.2	4.12	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	10	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-32	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-32	Arsenic, total	10	100%	11.2	10.57	ug/L	LN	0.462	ug/L	Yes	No
	MW-32	Iron, total	10	100%	0.94	0.79	mg/L	LN	0.30	mg/L	Yes	No
	MW-32	Manganese, total	10	100.0%	3.3	2.4	mg/L	Z	0.05	mg/L	Yes	No
	MW-32	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-32	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-32	Trichloroethene	10	60%	0.71	0.58	ug/L	LN	1.0	ug/L	No	No
	MW-32	Vinyl Chloride	10	100%	0.37	0.33	ug/L	LN	0.2	ug/L	Yes	Yes (▼)
	MW-32	Ammonia as N	10	60%	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	0.509	ug/L	Z	0.462	ug/L	Yes	No
	MW-33A	Iron, total	6	100%	2.5	2.2	mg/L	N	0.30	mg/L	Yes	No
	MW-33A	Manganese, total	6	100%	0.028	0.044	mg/L	LN	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	33%	0.13	0.13	mg/L	A	0.19	mg/L	No	No

Table 8. 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary
2019 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	6	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-33C	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-33C	Arsenic, total	6	100%	2.88	2.80	ug/L	LN	0.462	ug/L	Yes	Yes (▲)
	MW-33C	Iron, total	6	100%	0.11	0.11	mg/L	LN	0.30	mg/L	No	No
	MW-33C	Manganese, total	6	100%	0.18	0.17	mg/L	Z	0.05	mg/L	Yes	No
	MW-33C	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-33C	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-33C	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-33C	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-33C	Ammonia as N	6	17%	0.04	0.04	mg/L	A	0.19	mg/L	No	No
	MW-36A	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50.0	ug/L	No	No
	MW-36A	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
	MW-36A	Arsenic, total	6	100.0%	0.616	0.596	ug/L	LN	0.462	ug/L	Yes	No
	MW-36A	Iron, total	6	50%	0.17	0.17	mg/L	A	0.30	mg/L	No	No
	MW-36A	Manganese, total	6	83%	0.0028	0.003	mg/L	LN	0.05	mg/L	No	No
	MW-36A	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35.0	ug/L	No	No
	MW-36A	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50.0	ug/L	No	No
	MW-36A	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
	MW-36A	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.2	ug/L	No	No
	MW-36A	Ammonia as N	6	17%	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 2019; 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 r

A** = MTCASat 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

A*** = MTCASat 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 MTCASat since neither normal nor lognormal distribution can be determined.

Table 9. Groundwater Quality Criteria and Site-Specific Cleanup Level Exceedances
2019 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, Total (mg/L)	Manganese, Total (mg/L)	TCE (µg/L)	Vinyl Chloride (µg/L)	
WAC 173-200		6.5< >8.5	10	0.00005	0.3	0.05	3	0.02	
Primary Federal MCL		--	--	0.01	--	--	5	2	
Secondary Federal MCL		6.5< >8.5	--	--	0.3	0.05	--	--	
Site-specific MTCA Cleanup Levels		--	0.19	0.000462	--	--	1	0.2	
Well, Location, and Sample Events									
Upgradient	MW-13A	SA #1	--	NA	NA	NA	NA	NA	NA
		SA #2	--	--	0.000205	--	--	--	--
	MW-13B	SA #1	--	NA	NA	NA	NA	NA	NA
		SA #2	--	--	0.000322	--	--	--	--
	MW-16	SA #1	5.98	NA	NA	NA	NA	NA	NA
		SA #2	6.17	--	0.000413	--	--	--	--
MW-35	SA #1	--	NA	NA	NA	NA	NA	NA	
	SA #2	--	--	0.0000996	--	--	--	--	
MW-19C	SA #1	--	0.47	0.00261	--	1.2 B	1.1 B	0.026	
	SA #2	--	0.48	0.00300	--	1.2	--	0.046	
Compliance Monitoring	MW-15R	SA #1	6.25	--	0.000228	--	--	--	
		SA #2	6.37	--	0.000198	--	--	--	
	MW-34A	SA #1	5.72	--	0.000449	--	--	--	
		SA #2	5.96	--	0.000441	--	--	--	
	MW-34C	SA #1	6.38	--	0.00305	3.2 B	1.0 B	--	0.043
		SA #2	--	--	0.0199	39 B	1.1	--	0.028
	MW-39	SA #1	5.72	0.47	0.00298	44 B	0.45 B	--	--
		SA #2	6.32	0.42	0.00179	37 B	0.47	--	--
	MW-42	SA #1	--	4.0	0.00164	23 B	3.9 B	--	0.068
		SA #2	--	3.7	0.00181	23 B	4.1	--	0.094
MW-43	SA #1	5.58	--	--	0.62 B	--	--	--	
	SA #2	5.36	--	0.0000514	2.3 B	--	--	--	
Downgradient Monitoring	MW-29A	SA #1	6.12	--	0.00186	4.2 B	1.4 B	--	--
		SA #2	6.02	--	0.00189	3.5 B	1.2	--	--
	MW-32	SA #1	--	--	0.00947	0.72 B	2.1 B	--	0.36
		SA #2	--	--	0.0101	0.94 B	3.3	--	0.20
	MW-33A	SA #1	--	--	0.000349	1.6 B	--	--	--
		SA #2	--	--	0.000216	0.51 B	--	--	--
	MW-33C	SA #1	--	--	0.00288	--	0.17 B	--	--
		SA #2	--	--	0.00268	--	0.18	--	--
	MW-36A	SA #1	5.90	--	0.000561	--	--	--	--
		SA #2	5.96	--	0.000507	--	--	--	--

Notes:

SA #1 = Semi-annual Event No. 1

SA #2 = Semi-annual Event No. 2

mg N/L = milligrams of Nitrogen per liter

mg/L = milligrams per liter

SU = standard units

µg/L = micrograms per liter

TCE = Trichloroethene

B = estimated value due to potential blank contribution

NA = upgradient monitoring wells were only sampled for Appendix II field parameters during Semi-annual No. 1 Event

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 Groundwater

Quality Criteria

0.0014 = exceeds Federal MCLs, Site-specific MTCA Cleanup Levels,

and WAC 173-200 Criteria

Table 10. Cumulative 2019 Leak Detection System Volumes
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Date	Total Volume (Gals)	Comments
1/31/2019	50	Pumped dry.
2/28/2019	5	
3/31/2019	10	
4/30/2019	20	
5/31/2019	0	LP-LCD sample collected by SCS on May 30, 2019.
6/30/2019	190	Pumped dry.
7/31/2019	25	
8/31/2019	20	
9/30/2019	0	
10/31/2019	315	Pumped dry.
11/30/2019	0	LP-LCD sample collected by SCS on November 13, 2019.
12/31/2019	270	Pumped dry.
TOTAL	905	Volume for period between 1/1/2019 through 12/31/2019.

Notes:

Table 11A. Landfill Gas Measurement Results - Third Quarter 2019
2019 Annual Monitoring Report
Olympic View Sanitary Landfill, Kitsap County Washington

Waste Management Incorporated												
Instrument Readings							Comments					
Location Reference Designation	Date	Time	Pressure (in H ₂ O)	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	8/5/19	12:34	0.02	0.00	10.80	7.70			NA	NA	NA	Note 4
GP-8	8/5/19	12:22	-0.03	0.00	4.40	11.10			NA	NA	NA	Note 4
GP-9S	8/5/19	14:18	-0.05	0.00	1.60	21.70						
GP-9D	8/5/19	14:25	0.00	0.00	1.10	21.70			NA	NA	NA	Note 4
GP-10S	8/5/19	14:07	-0.03	0.00	0.60	22.50						
GP-10D	8/5/19	14:14	-0.05	0.00	0.50	21.80			NA	NA	NA	Note 4
GP-11S	8/5/19	13:56	-0.05	0.00	2.70	20.60						
GP-11D	8/5/19	14:02	0.00	0.00	1.30	21.70			NA	NA	NA	Note 4
GP-12S	8/5/19	13:36	-0.01	0.00	1.10	19.70						
GP-12M	8/5/19	13:42	-0.01	0.00	1.10	20.60						
GP-12D	8/5/19	13:51	-0.01	0.00	0.80	19.70			NA	NA	NA	Note 4
GP-13S	8/5/19	13:18	-0.01	0.00	3.70	18.60						
GP-13M	8/5/19	13:23	0.02	0.00	3.40	18.00						
GP-13D	8/5/19	13:30	0.00	0.00	3.00	19.70			NA	NA	NA	Note 4
GP-14	8/5/19	13:13	0.06	0.00	7.50	7.10			NA	NA	NA	Note 4
GP-15	8/5/19	13:05	0.08	2.20	9.00	0.00			NA	NA	NA	Note 4
GP-16	8/5/19	12:59	0.00	0.00	3.00	19.50			NA	NA	NA	Note 4
Onsite Building Interiors:												
SH-SS	8/27/19	14:13	--	0.00	0.10	20.50						
SH-NS	8/27/19	14:15	--	0.00	0.00	20.80						
SH-IN	8/27/19	14:18	--	0.00	0.00	21.10						
SS-WH	--	--	--	--	--	--						Note 5
EL-SH	7/11/19	13:25	--	0.00	0.10	20.40						
TL-OF	8/27/19	13:31	--	0.00	0.10	20.90						
Weather Conditions												
Monitoring Date:	7/11, 8/5 & 8/27 of 2019				Sky Cover:	Party Cloudy						
Monitored By:	P. Bannister (Aspect)				Wind/Rain/Snow:	0						
Instrument:	GEM 2NAV				Temperature (°F):	85						
Calibration Date:	7/11, 8/5 & 8/27 of 2019				Preceding 24-hr Barometric Trend:	Steady						
Notes:	<ol style="list-style-type: none"> 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	SH-SS = Scale House - South Side Exterior				Depressed O ₂ < 20.3% vol.							
CO ₂ = Carbon Dioxide	SH-NS = Scale House - North Side Exterior				Detected CO ₂ > 0.3 % vol.							
O ₂ = Oxygen	SH-IN = Scale House - Office Interior				Detected CH ₄ > 0.3 % vol.							
GP = Gas Probe	SS-WH = South Slope Well House											
S = Shallow Monitoring Zone	EL-SH = Electrical Shed											
M = Middle Monitoring Zone	TL-OF = Office											
D = Deep Monitoring Zone	-- = Measurements not taken											
TOP = From Top of Pipe	NA = Not Applicable											

Table 11B. Landfill Gas Measurement Results - Fourth Quarter 2019
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County Washington

Waste Management Incorporated												
Instrument Readings							Comments					
Location Reference Designation	Date	Time	Pressure (in H ₂ O)	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	11/14/19	9:32	0.02	0.00	10.90	5.60			15.2	4.6	92.2%	
GP-8	11/14/19	9:23	-0.02	0.00	6.30	8.90			17.4	4.6	92.6%	
GP-9S	11/14/19	9:55	0.05	0.00	2.30	19.30						
GP-9D	11/14/19	10:05	0.04	0.00	1.50	19.80			DRY	5.0	100.0%	
GP-10S	11/14/19	10:17	0.05	0.00	1.10	20.70						
GP-10D	11/14/19	10:26	0.11	0.00	0.80	20.40			DRY	5.0	100.0%	
GP-11S	11/14/19	10:36	0.08	0.00	2.90	18.90						
GP-11D	11/14/19	10:45	0.09	0.00	2.70	19.30			DRY	5.0	100.0%	
GP-12S	11/14/19	10:55	0.12	0.00	1.60	18.90						
GP-12M	11/14/19	11:03	0.11	0.00	1.50	19.40						
GP-12D	11/14/19	11:18	0.11	0.00	1.50	17.60			50.2	4.8	96.0%	
GP-13S	11/14/19	11:39	0.18	0.00	4.30	17.60						
GP-13M	11/14/19	11:47	0.30	0.00	4.00	17.50						
GP-13D	11/14/19	12:03	0.30	0.00	3.80	17.50			53.2	8.0	80.2%	
GP-14	11/14/19	12:12	0.17	0.00	8.60	5.00			DRY	5.0	100.0%	
GP-15	11/14/19	12:22	0.24	0.60	11.20	0.10			DRY	5.0	100.0%	
GP-16	11/14/19	9:43	0.03	0.00	4.10	17.30			DRY	5.0	100.0%	
Onsite Building Interiors:												
SH-SS	11/14/19	11:26	--	0.00	0.10	21.60						
SH-NS	11/14/19	11:28	--	0.00	0.10	21.60						
SH-IN	11/14/19	11:32	--	0.00	0.10	21.70						
SS-WH	11/14/19	12:34	--	0.00	0.10	21.80						
EL-SH	11/14/19	12:41	--	0.00	0.10	21.80						
TL-OF	11/14/19	12:46	--	0.00	0.10	21.90						
Monitoring Date:			11/14/19			Weather Conditions			Sky Cover: Cloudy			
Monitored By:			P. Bannister (Aspect)			Wind/Rain/Snow:			Moderate Wind			
Instrument:			GEM 2NAV			Temperature (°F):			46			
Calibration Date:			11/14/19			Preceding 24-hr Barometric Trend:			Decreasing			
Notes:												
1. Measurement for spike concentrations of CH ₄ and CO ₂ 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				SH-SS = Scale House - South Side Exterior				Depressed O ₂ < 20.3% vol.				
CO ₂ = Carbon Dioxide				SH-NS = Scale House - North Side Exterior				Detected CO ₂ > 0.3 % vol.				
O ₂ = Oxygen				SH-IN = Scale House - Office Interior				Detected CH ₄ > 0.3 % vol.				
GP = Gas Probe				SS-WH = South Slope Well House								
S = Shallow Monitoring Zone				EL-SH = Electrical Shed								
M = Middle Monitoring Zone				TL-OF = Office								
D = Deep Monitoring Zone				-- = Measurements not taken								
TOP = From Top of Pipe				NA = Not Applicable								

Table 11B. Landfill Gas Measurement Results - Fourth Quarter 2019
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County Washington

Waste Management Incorporated												
Instrument Readings							Comments					
Location Reference Designation	Date	Time	Pressure (in H ₂ O)	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	11/14/19	9:32	0.02	0.00	10.90	5.60			15.2	4.6	92.2%	
GP-8	11/14/19	9:23	-0.02	0.00	6.30	8.90			17.4	4.6	92.6%	
GP-9S	11/14/19	9:55	0.05	0.00	2.30	19.30						
GP-9D	11/14/19	10:05	0.04	0.00	1.50	19.80			DRY	5.0	100.0%	
GP-10S	11/14/19	10:17	0.05	0.00	1.10	20.70						
GP-10D	11/14/19	10:26	0.11	0.00	0.80	20.40			DRY	5.0	100.0%	
GP-11S	11/14/19	10:36	0.08	0.00	2.90	18.90						
GP-11D	11/14/19	10:45	0.09	0.00	2.70	19.30			DRY	5.0	100.0%	
GP-12S	11/14/19	10:55	0.12	0.00	1.60	18.90						
GP-12M	11/14/19	11:03	0.11	0.00	1.50	19.40						
GP-12D	11/14/19	11:18	0.11	0.00	1.50	17.60			50.2	4.8	96.0%	
GP-13S	11/14/19	11:39	0.18	0.00	4.30	17.60						
GP-13M	11/14/19	11:47	0.30	0.00	4.00	17.50						
GP-13D	11/14/19	12:03	0.30	0.00	3.80	17.50			53.2	8.0	80.2%	
GP-14	11/14/19	12:12	0.17	0.00	8.60	5.00			DRY	5.0	100.0%	
GP-15	11/14/19	12:22	0.24	0.60	11.20	0.10			DRY	5.0	100.0%	
GP-16	11/14/19	9:43	0.03	0.00	4.10	17.30			DRY	5.0	100.0%	
Onsite Building Interiors:												
SH-SS	11/14/19	11:26	--	0.00	0.10	21.60						
SH-NS	11/14/19	11:28	--	0.00	0.10	21.60						
SH-IN	11/14/19	11:32	--	0.00	0.10	21.70						
SS-WH	11/14/19	12:34	--	0.00	0.10	21.80						
EL-SH	11/14/19	12:41	--	0.00	0.10	21.80						
TL-OF	11/14/19	12:46	--	0.00	0.10	21.90						
Monitoring Date: 11/14/19			Weather Conditions			Sky Cover: Cloudy						
Monitored By: P. Bannister (Aspect)			Wind/Rain/Snow:			Moderate Wind						
Instrument: GEM 2NAV			Temperature (°F):			46						
Calibration Date: 11/14/19			Preceding 24-hr Barometric Trend:			Decreasing						
Notes:												
1. Measurement for spike concentrations of CH ₄ and CO ₂ 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 O ₂ < 20.3% vol. Detected CO ₂ > 0.3 % vol. Detected CH ₄ > 0.3 % vol.												

Table 12. Landfill Gas Monitoring Results - 2019
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

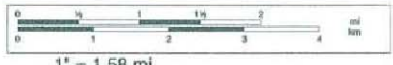
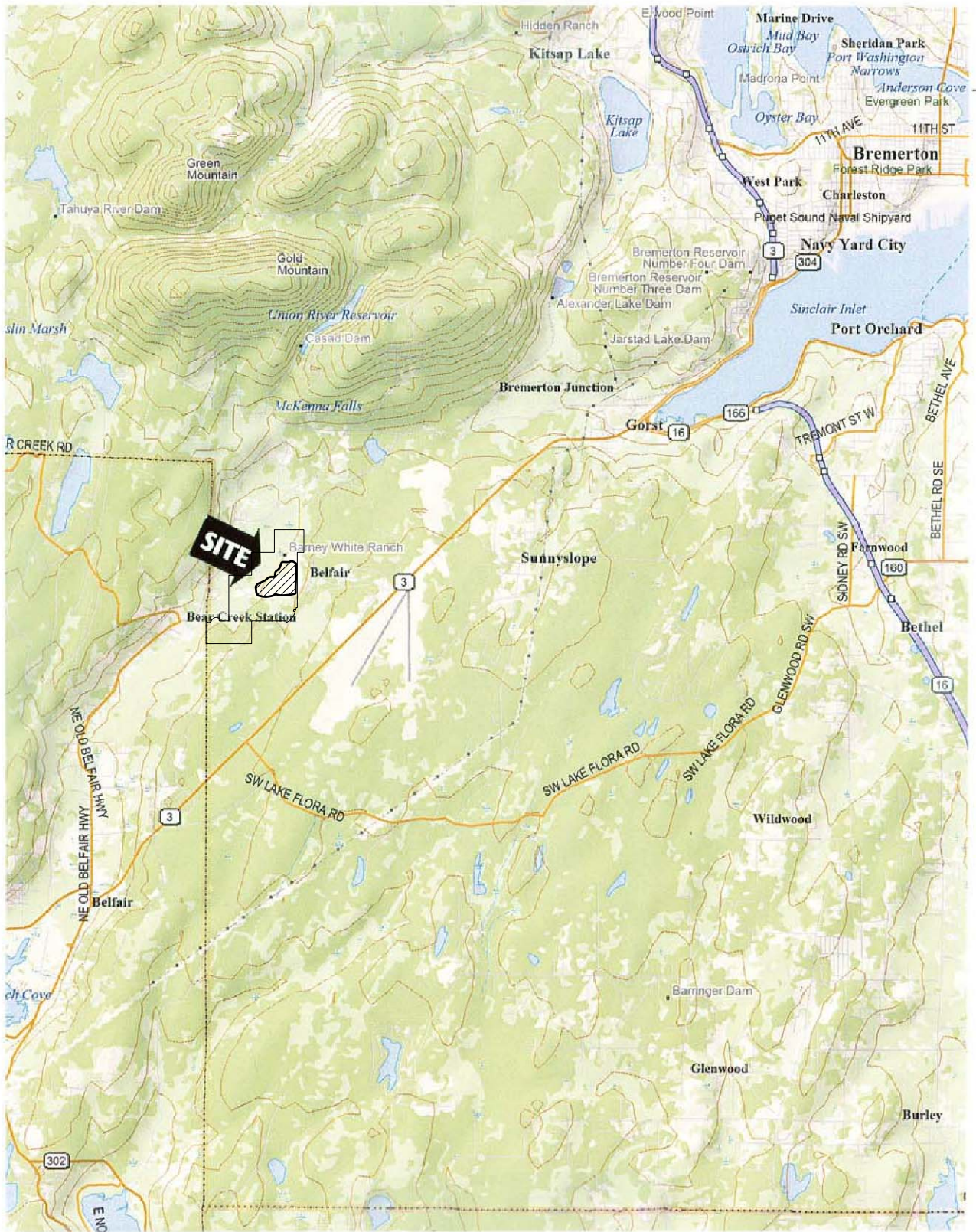
Location	Date	Pressure (in. H ₂ O)	CH ₄ (% vol.)	CO ₂ (% vol.)	O ₂ (% vol.)
GP-7	3/28/2019	--	0.0	6.5	5.5
	4/22/2019	0.03	0.0	7.7	6.3
	8/5/2019	0.02	0.0	10.8	7.7
	11/14/2019	0.02	0.0	10.9	5.6
GP-8	3/28/2019	-0.02	0.0	2.9	12.1
	4/22/2019	0.02	0.0	3.1	11.7
	8/5/2019	-0.03	0.0	4.4	11.1
	11/14/2019	-0.02	0.0	6.3	8.9
GP-9S	3/28/2019	0.06	0.0	2.1	19.3
	4/22/2019	0.08	0.0	2.2	19.7
	8/5/2019	-0.05	0.0	1.6	21.7
	11/14/2019	0.05	0.0	2.3	19.3
GP-9D	3/28/2019	0.07	0.0	1.7	19.2
	4/22/2019	0.06	0.0	1.8	19.9
	8/5/2019	0.00	0.0	1.1	21.7
	11/14/2019	0.04	0.0	1.5	19.8
GP-10S	3/28/2019	0.12	0.0	0.7	20.6
	4/22/2019	--	--	--	--
	8/5/2019	-0.03	0.0	0.6	22.5
	11/14/2019	0.05	0.0	1.1	20.7
GP-10D	3/28/2019	0.10	0.0	0.8	19.1
	4/22/2019	--	--	--	--
	8/5/2019	-0.05	0.0	0.5	21.8
	11/14/2019	0.11	0.0	0.8	20.4
GP-11S	3/28/2019	0.14	0.0	2.5	18.9
	4/22/2019	0.08	0.0	3.0	19.1
	8/5/2019	-0.05	0.0	2.7	20.6
	11/14/2019	0.08	0.0	2.9	18.9
GP-11D	3/28/2019	0.18	0.0	0.7	21.0
	4/22/2019	0.10	0.0	0.7	21.5
	8/5/2019	0.00	0.0	1.3	21.7
	11/14/2019	0.09	0.0	2.7	19.3
GP-12S	3/28/2019	0.18	0.0	0.9	20.6
	4/22/2019	0.01	0.0	0.9	21.1
	8/5/2019	-0.01	0.0	1.1	19.7
	11/14/2019	0.12	0.0	1.6	18.9
GP-12M	3/28/2019	0.18	0.0	0.9	20.6
	4/22/2019	0.03	0.0	1.2	20.9
	8/5/2019	-0.01	0.0	1.1	20.6
	11/14/2019	0.11	0.0	1.5	19.4
GP-12D	3/28/2019	0.12	0.0	0.9	19.1
	4/22/2019	0.02	0.0	0.9	20.1
	8/5/2019	-0.01	0.0	0.8	19.7
	11/14/2019	0.11	0.0	1.5	17.6

Table 12. Landfill Gas Monitoring Results - 2019
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Location	Date	Pressure (in. H ₂ O)	CH ₄ (% vol.)	CO ₂ (% vol.)	O ₂ (% vol.)
GP-13S	3/28/2019	--	0.0	3.6	17.5
	6/24/2019	-0.01	0.0	4.0	17.6
	8/5/2019	-0.01	0.0	3.7	18.6
	11/14/2019	0.18	0.0	4.3	17.6
GP-13M	3/28/2019	--	0.0	3.6	17.4
	6/24/2019	0.18	0.0	3.5	17.1
	8/5/2019	0.02	0.0	3.4	18.0
	11/14/2019	0.30	0.0	4.0	17.5
GP-13D	3/28/2019	--	0.0	1.9	19.6
	6/24/2019	0.18	0.0	2.8	18.2
	8/5/2019	0.00	0.0	3.0	19.7
	11/14/2019	0.30	0.0	3.8	17.5
GP-14	3/28/2019	--	0.0	4.2	8.3
	6/24/2019	-0.08	0.0	6.5	5.7
	8/5/2019	0.06	0.0	7.5	7.1
	11/14/2019	0.17	0.0	8.6	5.0
GP-15	3/28/2019	--	0.0	0.2	21.6
	5/9/2019	0.00	0.0	0.1	20.1
	8/5/2019	0.08	2.2	9.0	0.0
	11/14/2019	0.24	0.6	11.2	0.1
GP-16	3/28/2019	--	0.0	2.1	19.2
	6/24/2019	-0.06	0.0	2.8	18.7
	8/5/2019	0.00	0.0	3.0	19.5
	11/14/2019	0.03	0.0	4.1	17.3

Figures





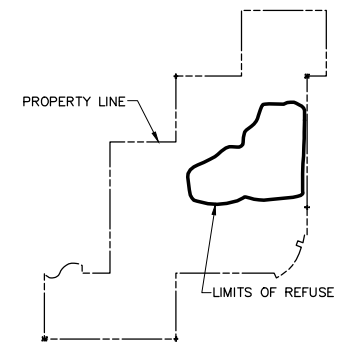
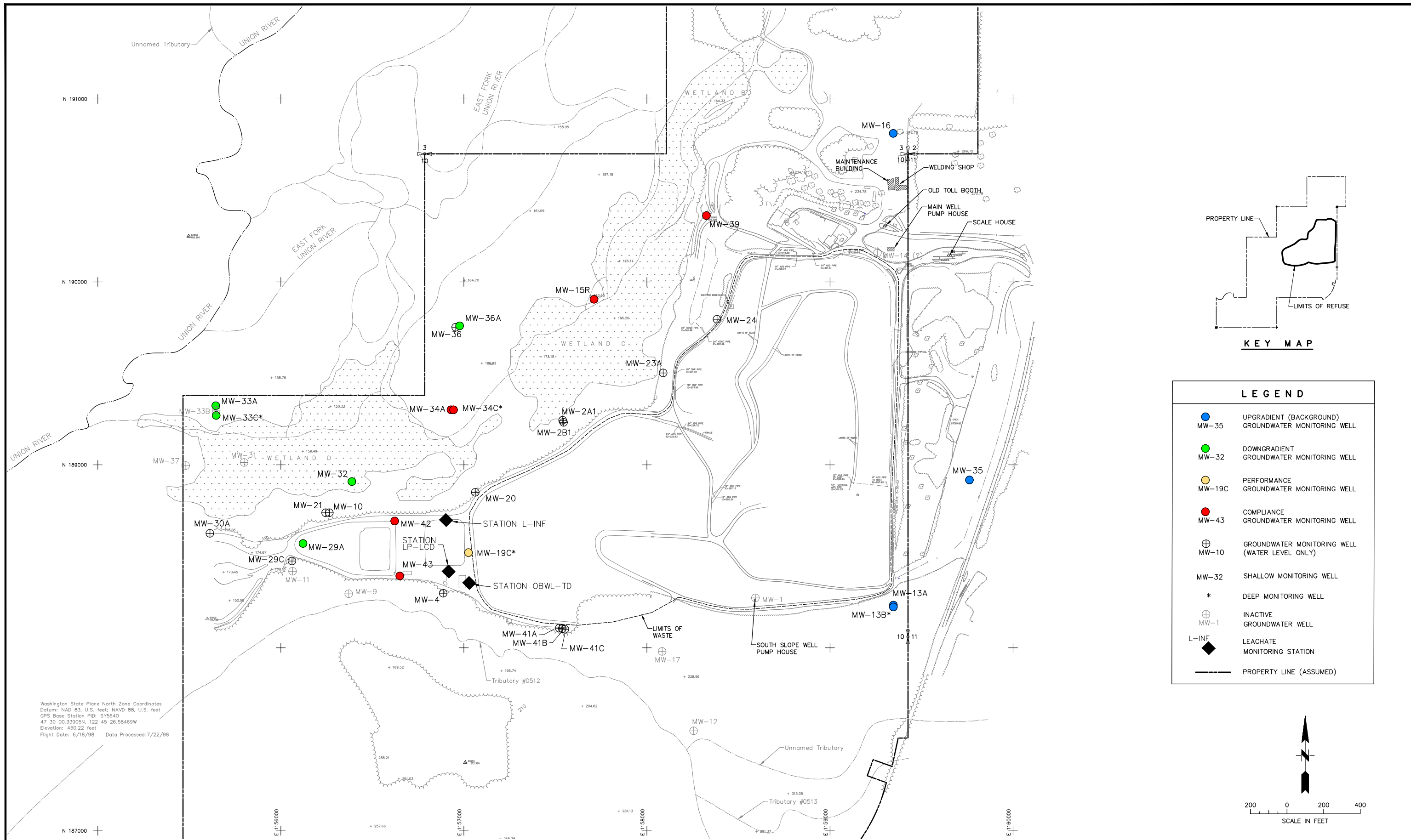
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 Bellevue, Washington 98005
 (425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.23	DES BY L.L.
SCALE 1:100,000	CHK BY D.V.
CAD FILE FIGURE 1	APP BY G.H.

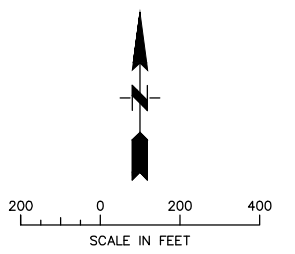
SITE LOCATION MAP
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE FEBRUARY 2020
FIGURE 1



KEY MAP

LEGEND	
	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL MW-35
	DOWNGRADIENT GROUNDWATER MONITORING WELL MW-32
	PERFORMANCE GROUNDWATER MONITORING WELL MW-19C
	COMPLIANCE GROUNDWATER MONITORING WELL MW-43
	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY) MW-10
	SHALLOW MONITORING WELL MW-32
	DEEP MONITORING WELL *
	INACTIVE GROUNDWATER WELL MW-1
	LEACHATE MONITORING STATION L-INF
	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

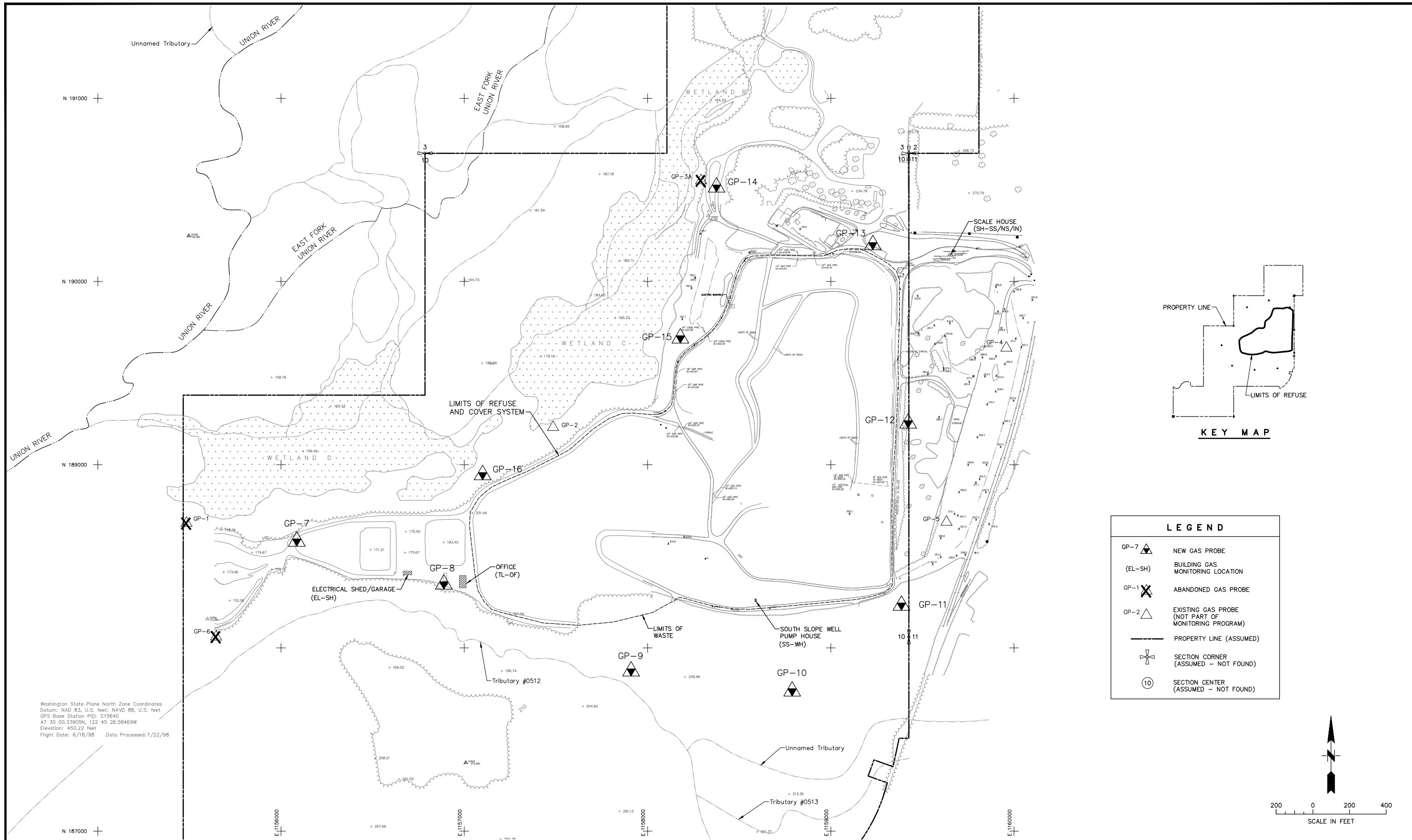
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PROJECT NO. 04204027.23
 SCALE AS SHOWN
 CAD FILE FIGURE 1

DES BY S.G.
 CHK BY D.V.
 APP BY G.H.

GROUNDWATER MONITORING WELL NETWORK
 AND LEACHATE MONITORING LOCATIONS
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE FEBRUARY 2020
 FIGURE 2



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

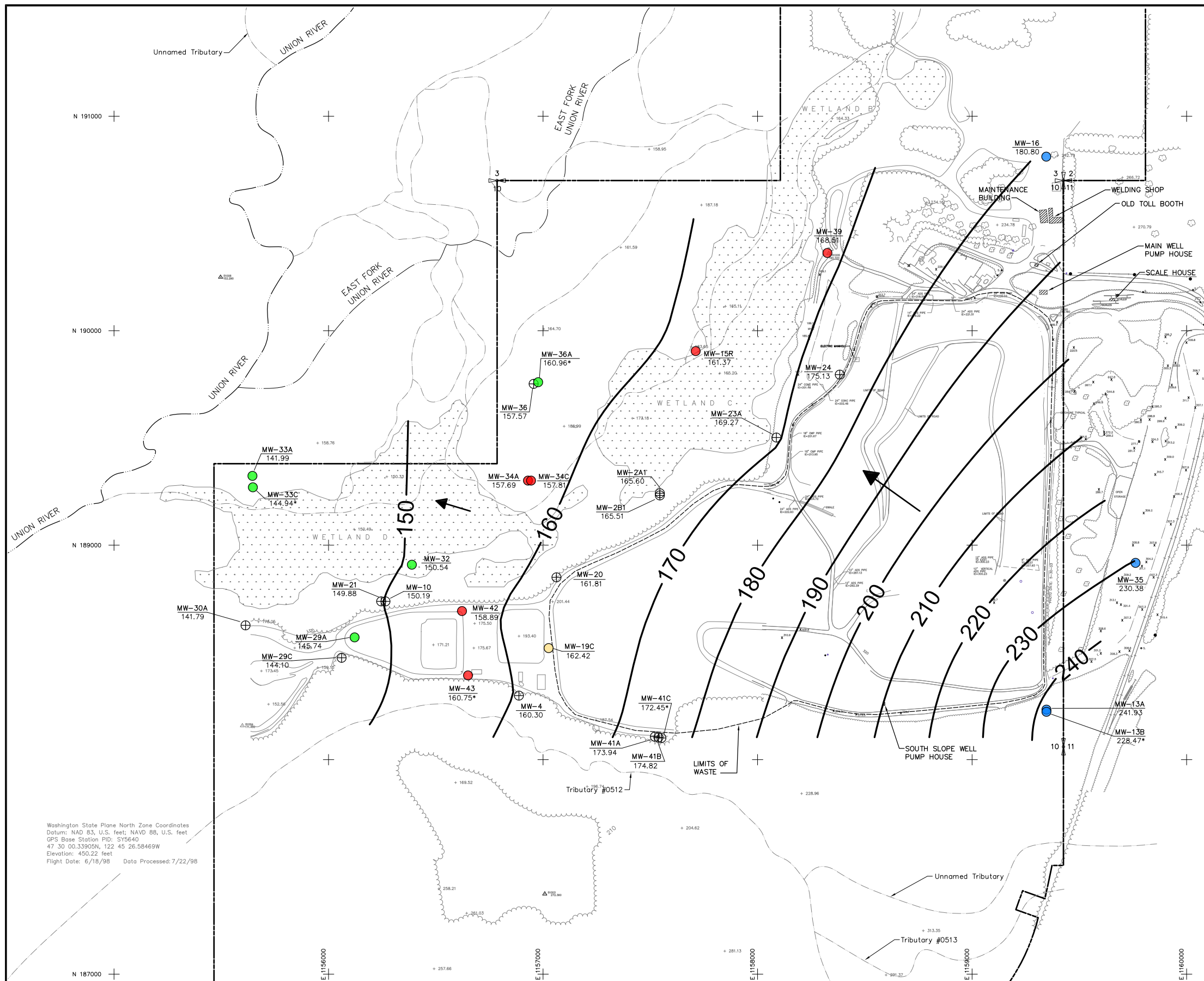
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 (425) 746-4600 FAX: (425) 746-6747

PROJECT NO. 04204027.23
 SCALE AS SHOWN
 CAD FILE FIGURE 3

DES BY T.M.
 CHK BY L.L.
 APP BY D.V.

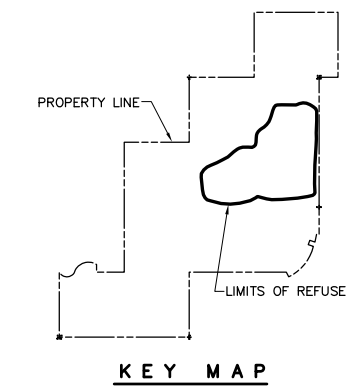
SUBSURFACE GAS MIGRATION MONITORING PROBES
 AND BUILDING MONITORING LOCATIONS
 OLYMPIC VIEW SANITARY LANDFILL
 PORT ORCHARD, WASHINGTON

DATE FEBRUARY 2020
 FIGURE 3



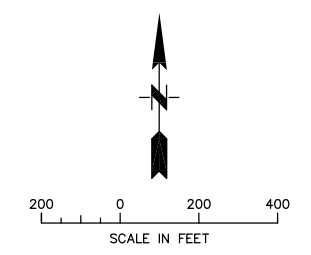
Note:
 Water level contours were generated using depth to water and reference elevation data from wells screened between 89 and 200 ft-msl. The water level elevations for the following locations have not been used for contouring.

- Wells MW-13, MW-13B, MW-19D, MW-23C, MW-30B, MW-33C, MW-34B, MW-40C, and MW-41C have screen elevations outside the 89 to 200 ft-msl range.



LEGEND	
	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
	DOWNGRADIENT GROUNDWATER MONITORING WELL
	PERFORMANCE GROUNDWATER MONITORING WELL
	COMPLIANCE GROUNDWATER MONITORING WELL
	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
	MONITORING WELL WATER LEVEL ELEVATION, FT-MSL
	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: SY9640
 47 30 00.33905N, 122 45 26.58469W
 Elevation: 450.22 feet
 Flight Date: 6/18/98 Data Processed: 7/22/98

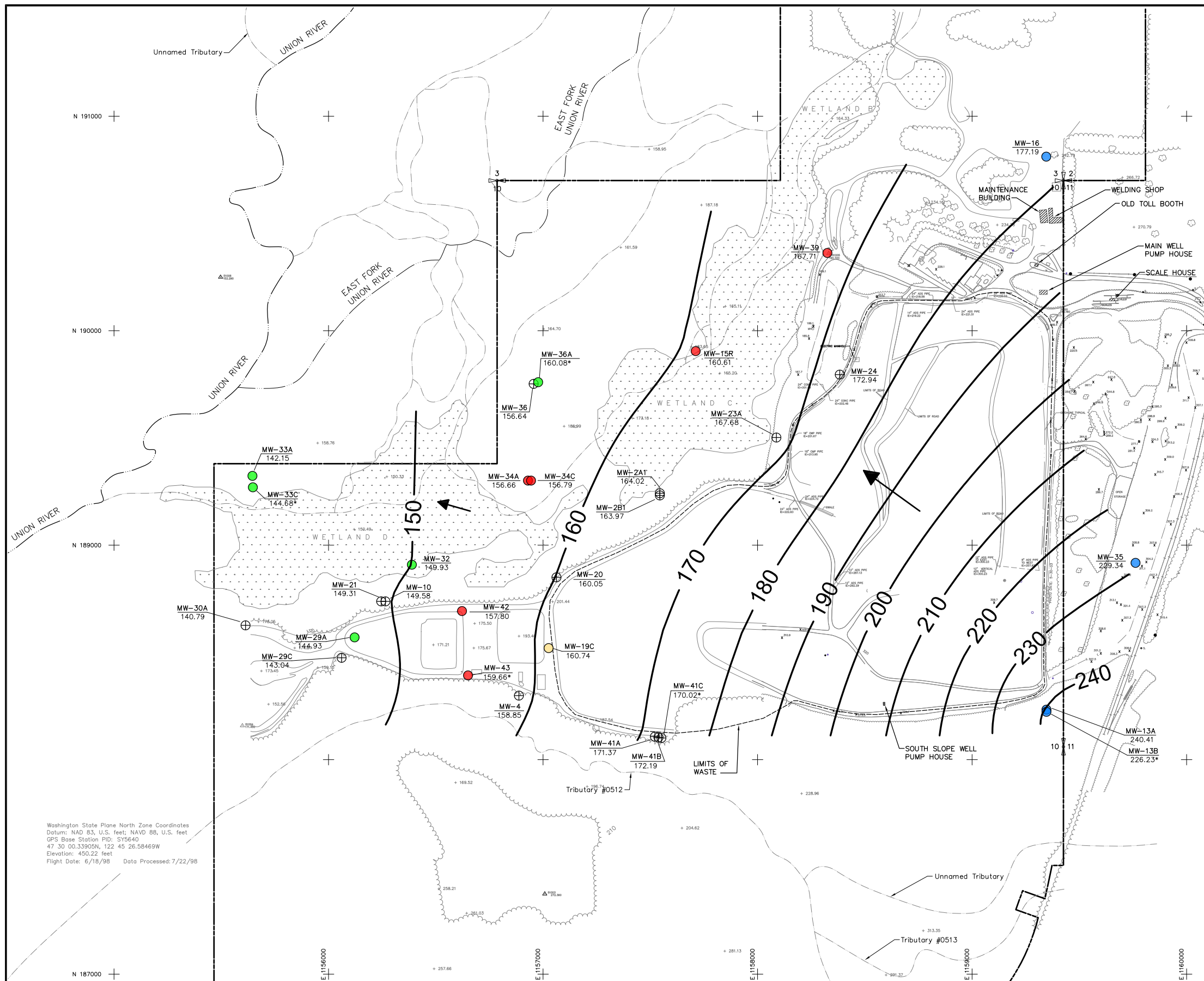


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PROJECT NO.	04204027.23	DES BY	S.G.
SCALE	AS SHOWN	CHK BY	D.V.
CAD FILE	FIGURE 4A	APP BY	G.H.

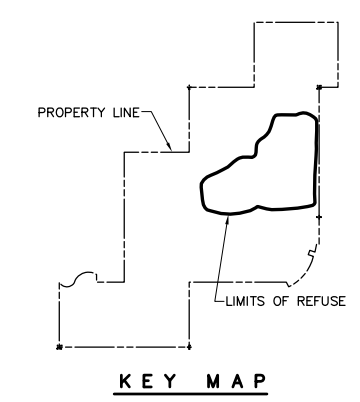
WATER LEVEL CONTOUR MAP
 MAY 2019
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE
 FEBRUARY 2020
 FIGURE
4A



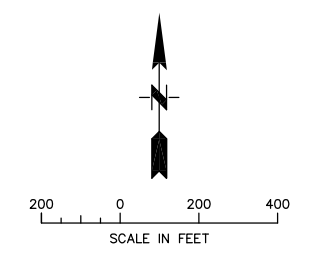
Note:
 Water level contours were generated using depth to water and reference elevation data from wells screened between 89 and 200 ft-msl. The water level elevations for the following locations have not been used for contouring.

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



LEGEND	
	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
	DOWNGRADIENT GROUNDWATER MONITORING WELL
	PERFORMANCE GROUNDWATER MONITORING WELL
	COMPLIANCE GROUNDWATER MONITORING WELL
	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
	MONITORING WELL WATER LEVEL ELEVATION, FT-MSL
	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: SY9640
 47 30 00.33905N, 122 45 26.58469W
 Elevation: 450.22 feet
 Flight Date: 6/18/98 Data Processed: 7/22/98



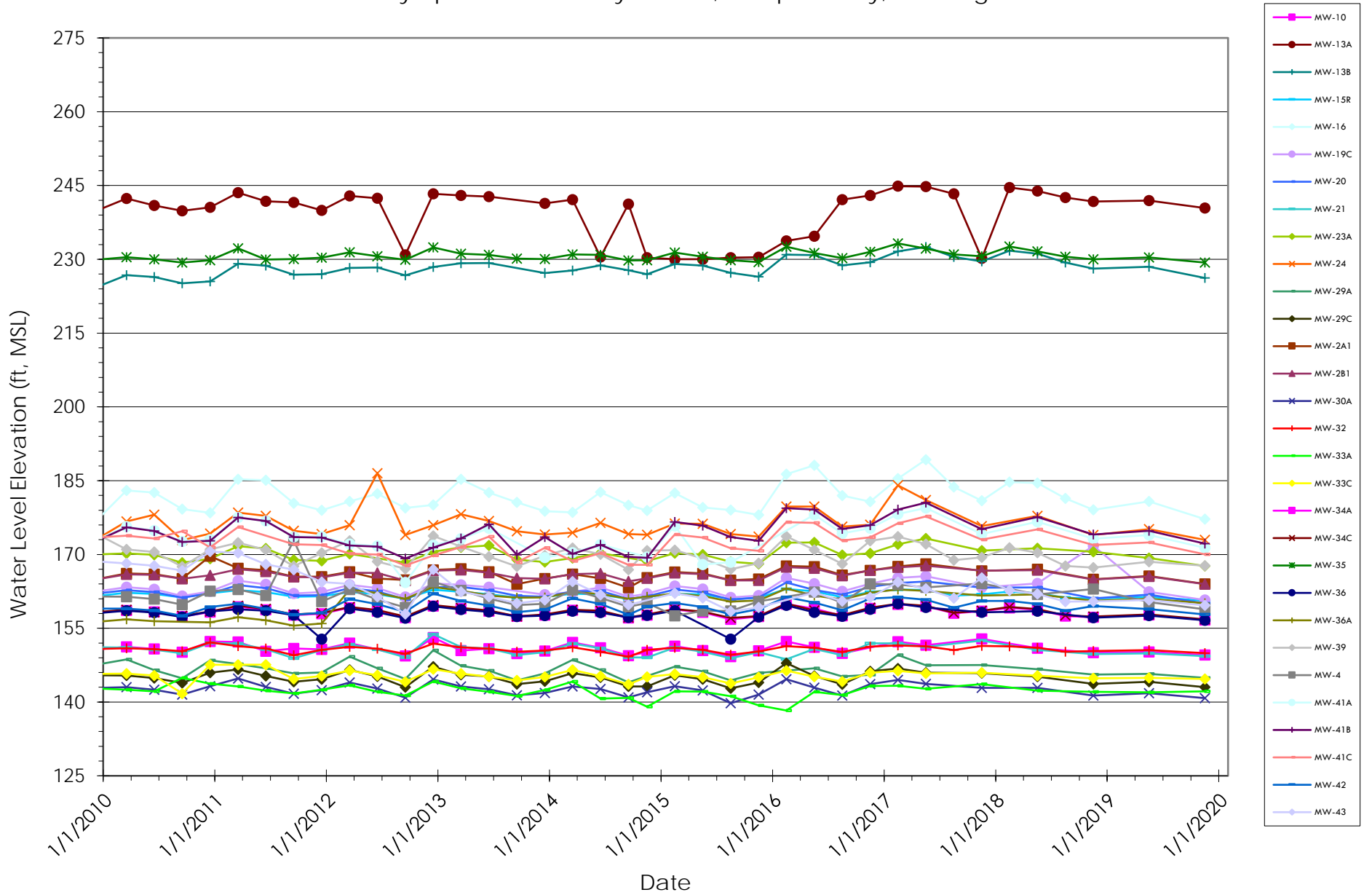
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PROJECT NO.	04204027.23	DES BY	S.G.
SCALE	AS SHOWN	CHK BY	D.V.
CAD FILE	FIGURE 4B	APP BY	G.H.

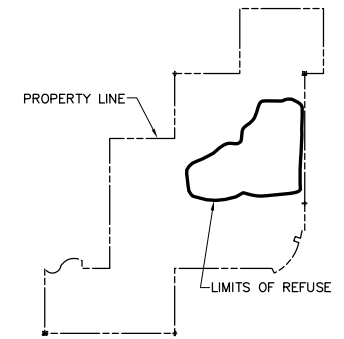
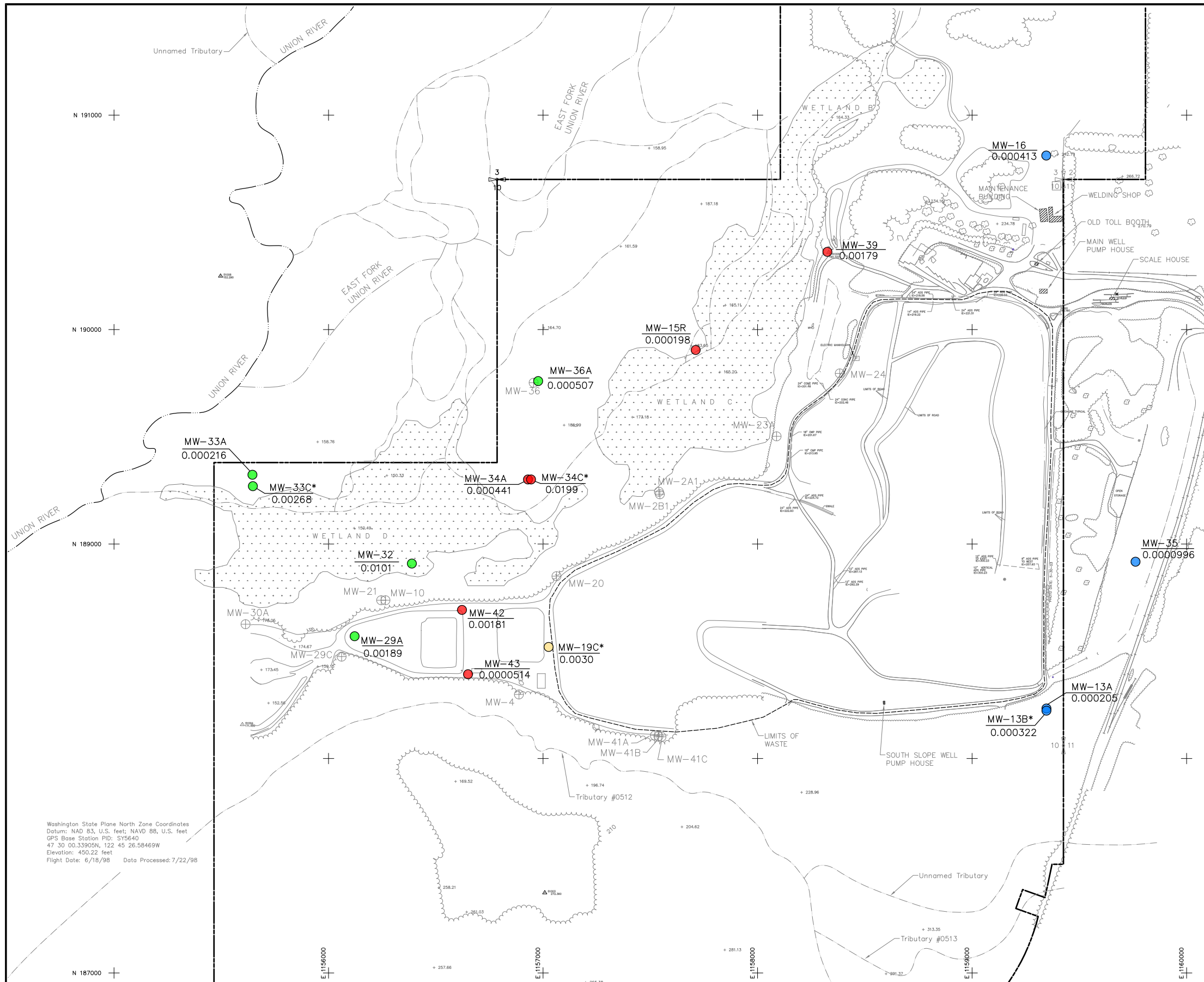
WATER LEVEL CONTOUR MAP
 NOVEMBER 2019
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE
 FEBRUARY 2020
 FIGURE
4B

Figure 5. Historical Groundwater Elevations
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

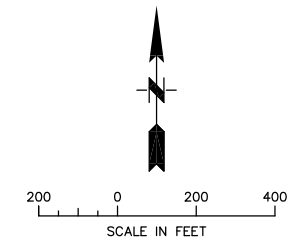


NOTES : Performance Well MW-19C and Downgradient Wells MW-29A, MW-33A, MW-33C and MW-36A are only sampled semi-annually and shown as NS when not sampled.



KEY MAP

LEGEND	
	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
	DOWNGRADIENT GROUNDWATER MONITORING WELL
	PERFORMANCE GROUNDWATER MONITORING WELL
	COMPLIANCE GROUNDWATER MONITORING WELL
	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
	SHALLOW MONITORING WELL ARSENIC, TOTAL (mg/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: S79640
 47 30 00.33905N, 122 45 26.58469W
 Elevation: 450.22 feet
 Flight Date: 6/18/98 Data Processed: 7/22/98

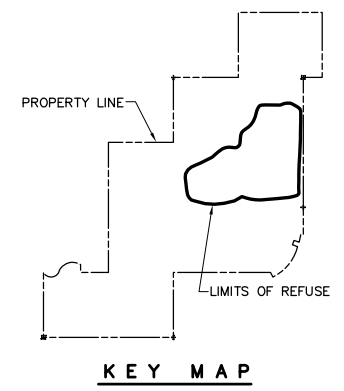
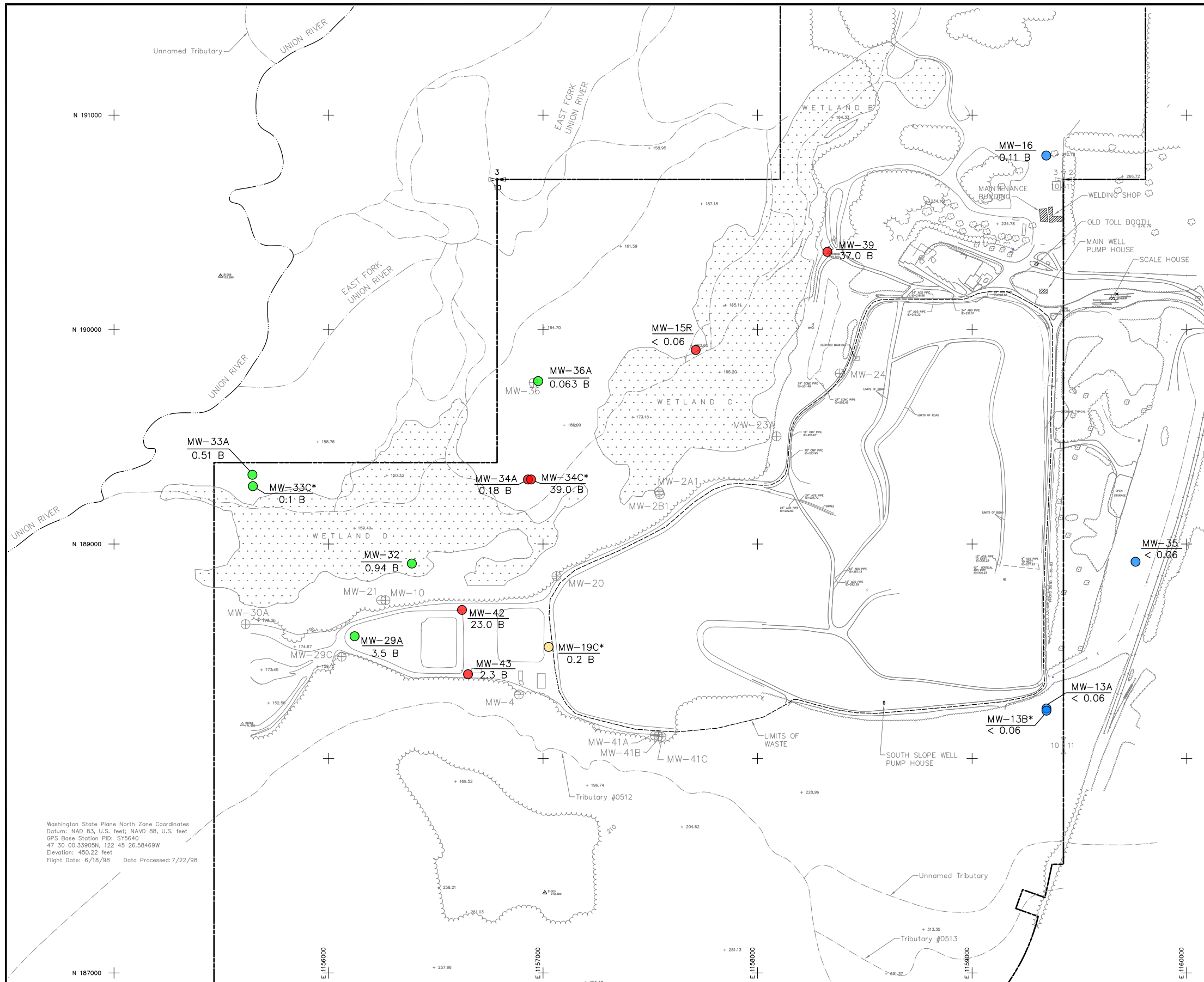
SCS ENGINEERS
 Environmental Consultants and Contractors
 2405 140th Avenue NE, Suite 107
 Bellevue, Washington 98005
 (425) 746-4600 FAX: (425) 746-6747

PROJECT NO.	04204027.23	DES BY	S.G.
SCALE	AS SHOWN	CHK BY	D.V.
CAD FILE	FIGURE 6A	APP BY	G.H.

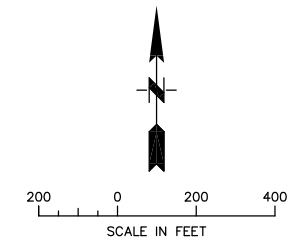
TOTAL ARSENIC CONCENTRATION MAP
 NOVEMBER 2019
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE
 FEBRUARY 2020
 FIGURE
6A

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.



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)
<u>MW-32</u> 0.94 B	<u>SHALLOW MONITORING WELL</u> IRON, TOTAL (mg/L)
*	DEEP MONITORING WELL
---	PROPERTY LINE (ASSUMED)
B	COMPOUND WAS FOUND IN THE BLANK AND THE SAMPLE
NS	NOT SAMPLED



Washington State Plane North Zone Coordinates
 Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
 GPS Base Station PID: SY9640
 47 30 00.33905N, 122 45 26.58469W
 Elevation: 450.22 feet
 Flight Date: 6/18/98 Data Processed: 7/22/98

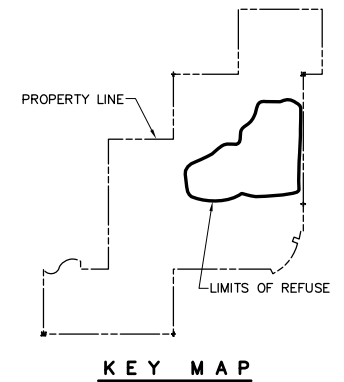
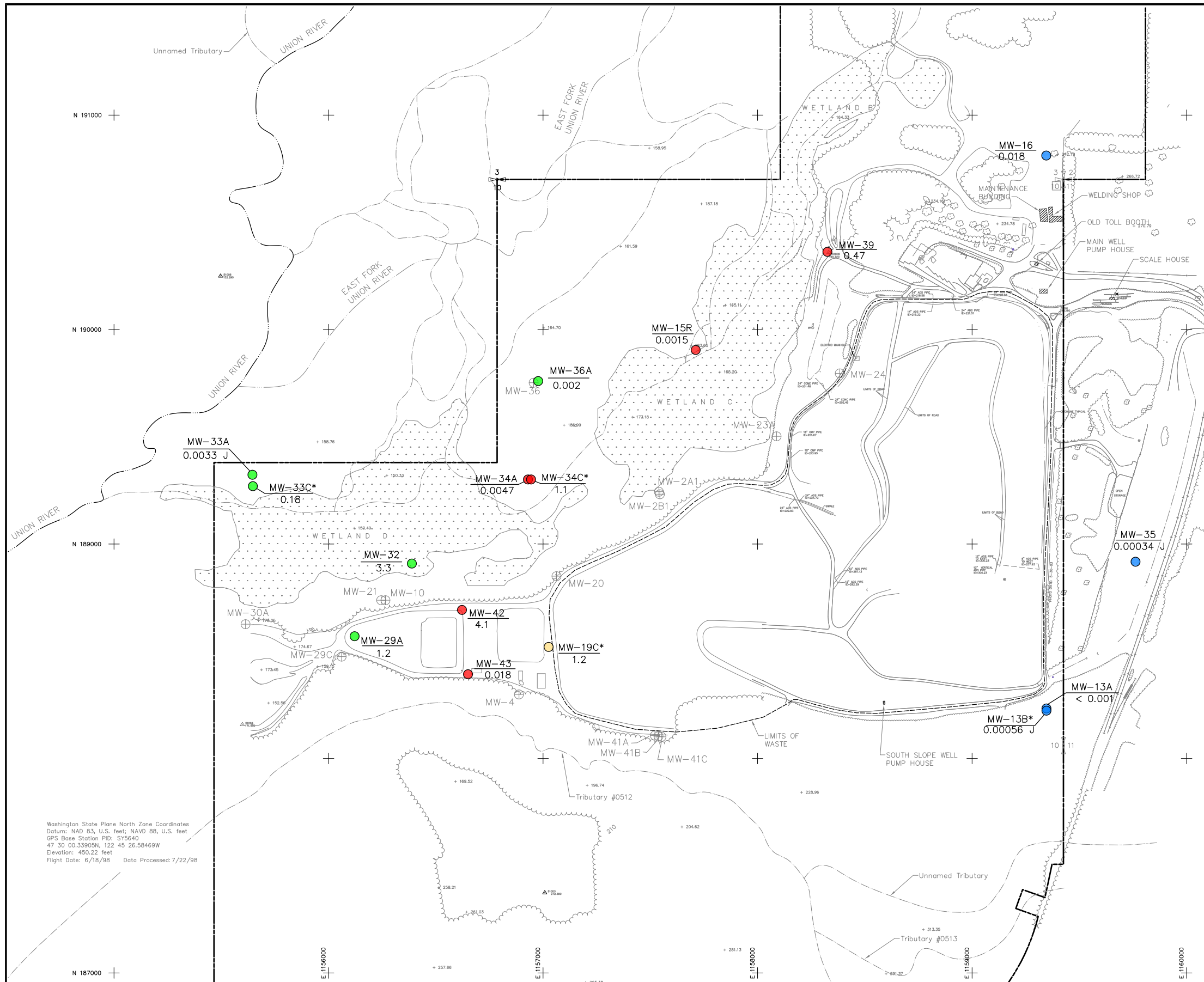
SCS ENGINEERS
 Environmental Consultants and Contractors
 2405 140th Avenue NE, Suite 107
 Bellevue, Washington 98005
 (425) 746-4600 FAX: (425) 746-6747

PROJECT NO.	04204027.23	DES BY	S.G.
SCALE	AS SHOWN	CHK BY	D.V.
CAD FILE	FIGURE 6B	APP BY	G.H.

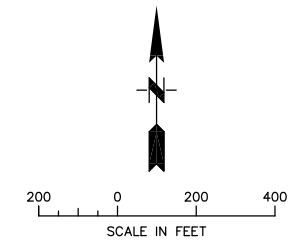
TOTAL IRON CONCENTRATION MAP
 NOVEMBER 2019
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE	FEBRUARY 2020
FIGURE	6B

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.



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)
<u>MW-32</u> 3.3	SHALLOW MONITORING WELL MANGANESE, TOTAL (mg/L)
*	DEEP MONITORING WELL
---	PROPERTY LINE (ASSUMED)
J	RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE
NS	NOT SAMPLED



Washington State Plane North Zone Coordinates
 Datum: NAD 83, U.S. feet; NAVD 88, U.S. feet
 GPS Base Station PID: S79640
 47 30 00.33905N, 122 45 26.58469W
 Elevation: 450.22 feet
 Flight Date: 6/18/98 Data Processed: 7/22/98

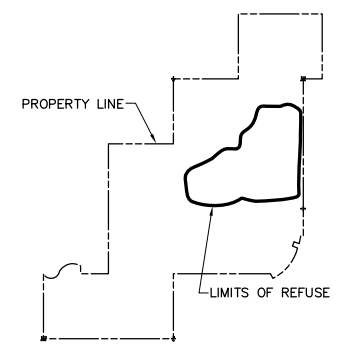
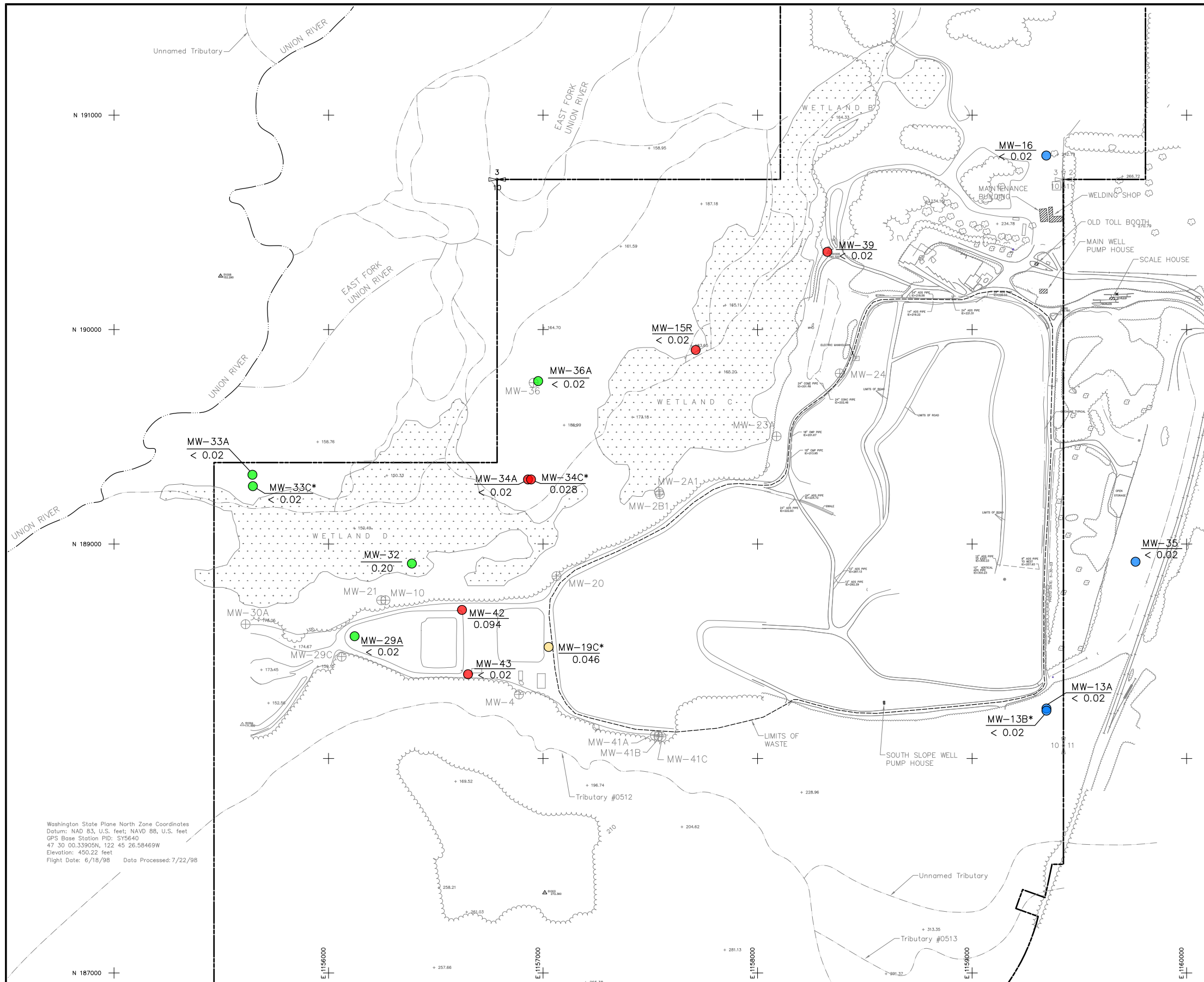
SCS ENGINEERS
 Environmental Consultants and Contractors
 2405 140th Avenue NE, Suite 107
 Bellevue, Washington 98005
 (425) 746-4600 FAX: (425) 746-6747

PROJECT NO.	04204027.23	DES BY	S.G.
SCALE	AS SHOWN	CHK BY	D.V.
CAD FILE	FIGURE 6C	APP BY	G.H.

TOTAL MANGANESE CONCENTRATION MAP
 NOVEMBER 2019
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

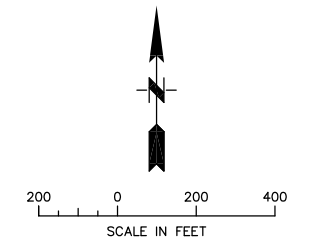
DATE
 FEBRUARY 2020
 FIGURE
6C

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	
	UPGRADIENT (BACKGROUND) GROUNDWATER MONITORING WELL
	DOWNGRADIENT GROUNDWATER MONITORING WELL
	PERFORMANCE GROUNDWATER MONITORING WELL
	COMPLIANCE GROUNDWATER MONITORING WELL
	GROUNDWATER MONITORING WELL (WATER LEVEL ONLY)
	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: SY9640
 47 30 00.33905N, 122 45 26.58469W
 Elevation: 450.22 feet
 Flight Date: 6/18/98 Data Processed: 7/22/98

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

PROJECT NO.	04204027.23	DES BY	S.G.
SCALE	AS SHOWN	CHK BY	D.V.
CAD FILE	FIGURE 6D	APP BY	G.H.

VINYL CHLORIDE CONCENTRATION MAP
 NOVEMBER 2019
 OLYMPIC VIEW SANITARY LANDFILL
 KITSAP COUNTY, WASHINGTON

DATE	FEBRUARY 2020
FIGURE	6D

Figure 7. Leachate Generation (2007 - 2019)
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

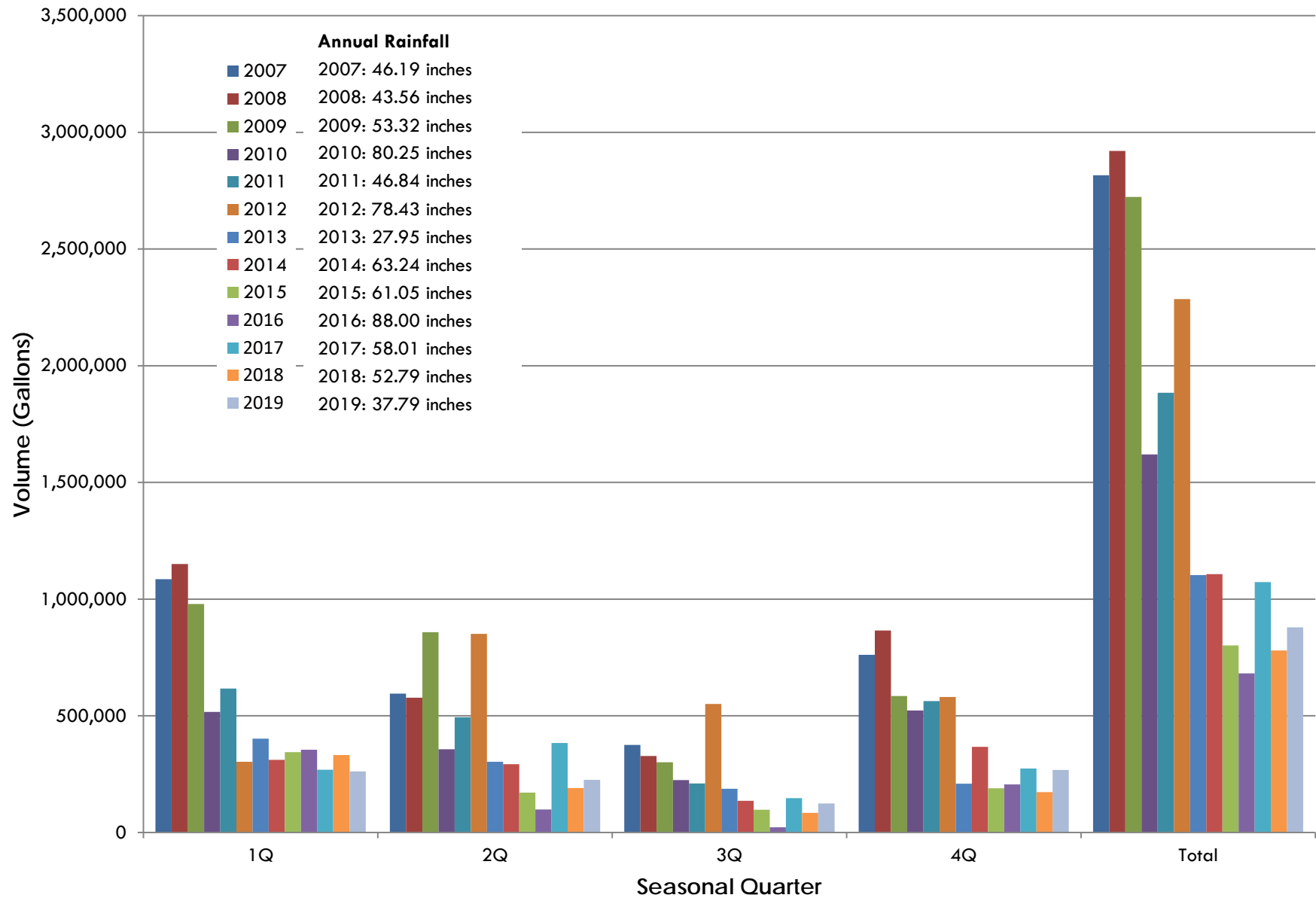
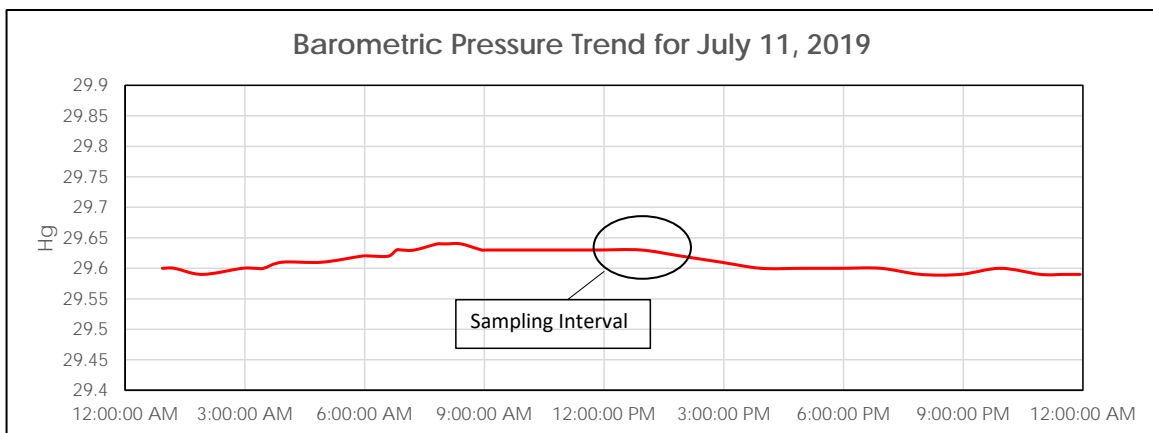
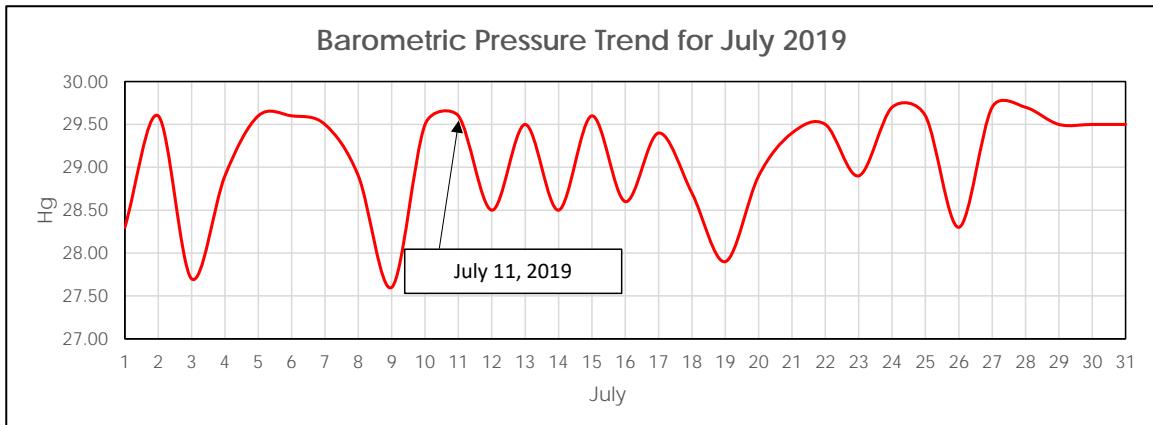


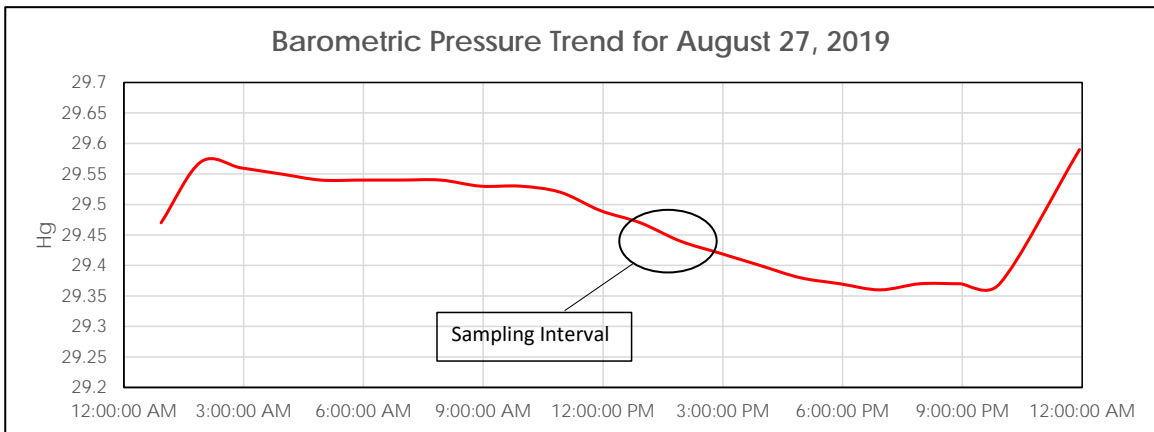
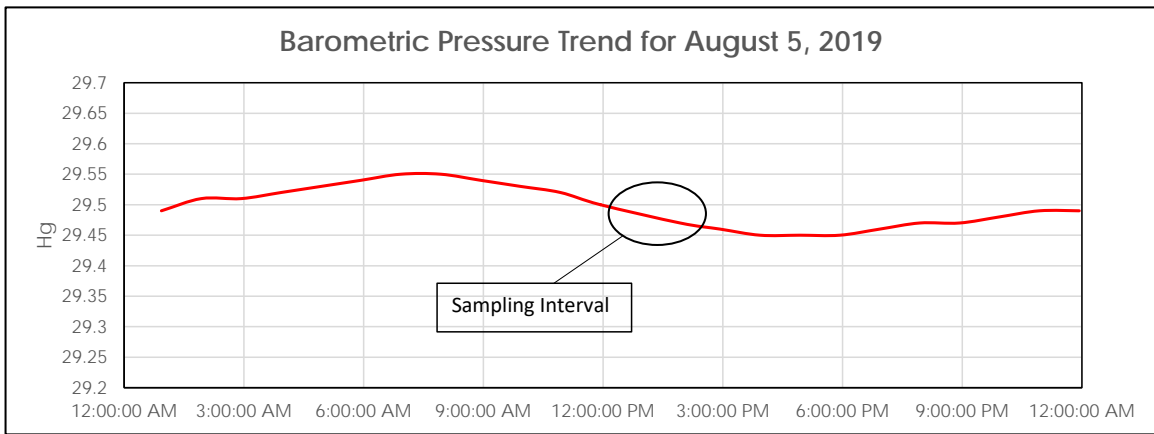
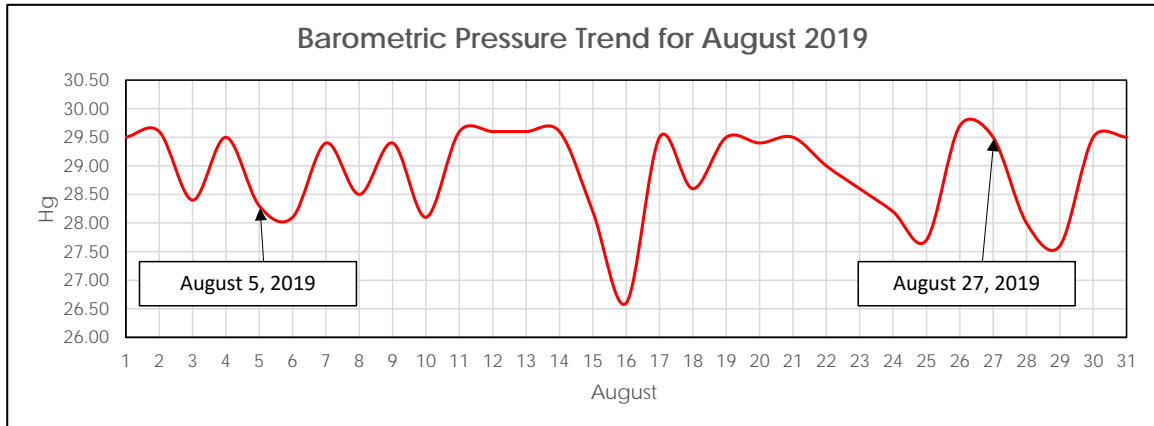
Figure 8A. Barometric Pressure during LFG Migration Monitoring - Third Quarter 2019
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington



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

Data Sources: <https://www.wunderground.com/history/monthly/us/wa/port-orchard/KPWT/date/2019-7>

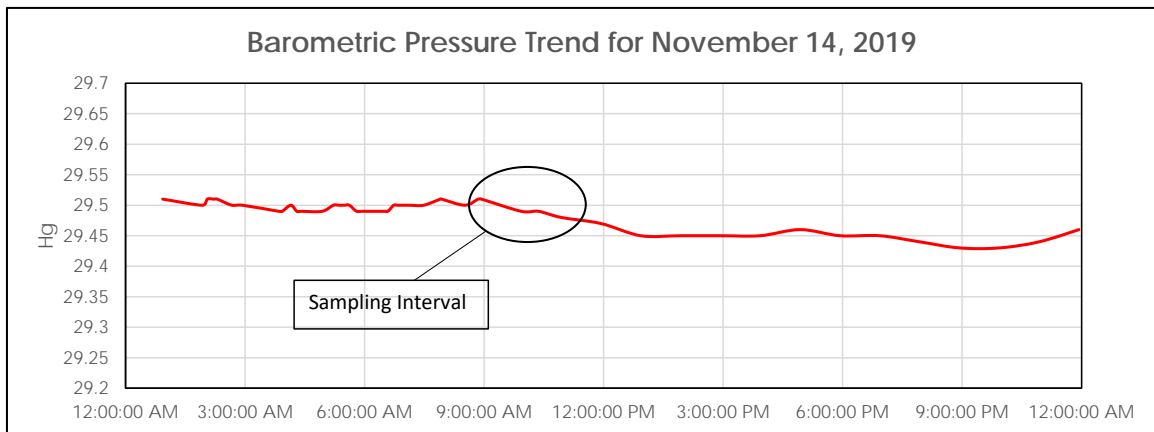
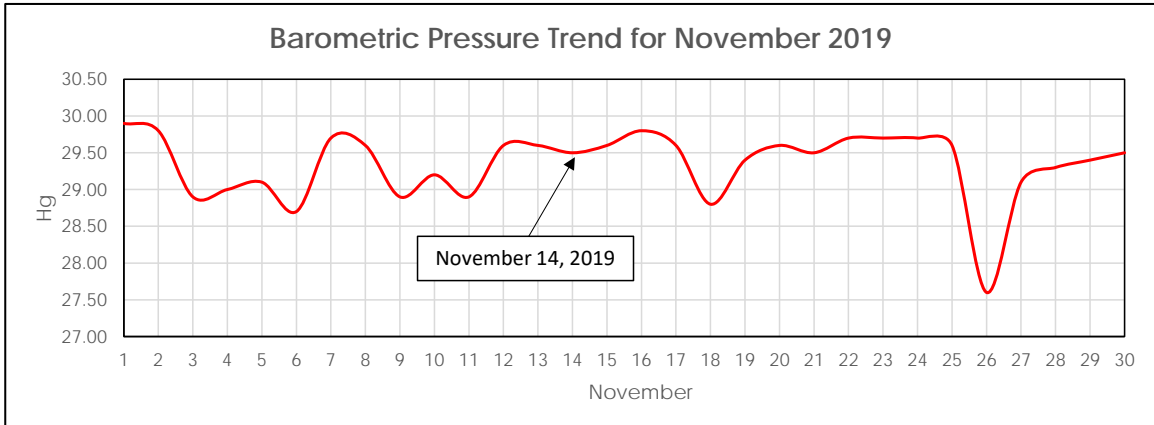
Figure 8A. Barometric Pressure during LFG Migration Monitoring - Third Quarter 2019
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington



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


Data Sources: <https://www.wunderground.com/history/monthly/us/wa/port-orchard/KPWT/date/2019-8>

Figure 8B. Barometric Pressure during LFG Migration Monitoring - Fourth Quarter 2019
 2019 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/daily/us/wa/port-orchard/KPWT/date/2019-11-14>



Appendix A
November 2019 Field Documentation



November 14, 2019
File No. 04204027.22

Subject: **2019 Semi-Annual #2 Compliance Monitoring Event
Olympic View Sanitary Landfill, Kitsap County, Washington**

NOTES/SAMPLE DECODING:

Event Dates: November 11-13, 2019

Field Staff: Sam Graber

- The gate code to access the site is: 72369
- This event served as the second semi-annual sampling event.
- A new dedicated pump was deployed at MW-39.
- Duplicate samples were collected at MW-42 (DUP 1) and MW-19C (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	Sample Number	Well ID
11/11/19	1119-01	MW-34C
11/11/19	1119-02	MW-34A
11/11/19	1119-03	MW-36A
11/11/19	1119-04	MW-15R
11/11/19	1119-05	MW-13A
11/11/19	1119-06	MW-13B
11/12/19	1119-07	MW-35
11/12/19	1119-08	MW-16
11/12/19	1119-09	MW-39
11/12/19	1119-10	MW-33A
11/12/19	1119-11	MW-33C
11/12/19	1119-12	MW-42
11/12/19	1119-13	MW-42 (DUP-1)
11/13/19	1119-14	MW-43
11/13/19	1119-15	MW-29A
11/13/19	1119-16	MW-32
11/13/19	1119-17	MW-19C
11/13/19	1119-18	MW-19C (DUP-2)

11/13/19	1119-19	LP-LCD
11/18/19	1119-20	L-INF*
11/18/19	1119-21	OBWL-TD*

Notes:

* = L-INF and OBWL-TD samples were collected by Aspect Consulting.

FIELD INFORMATION FORM



Site Name: mm 346 OUSC
 Site No.: 005 L 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
11/11/19	10:25	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
 Purging Device: C A-Submersible Pump D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: _____ C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other _____
 Sample Tube Type: D A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

WELL DATA

Well Elevation (at TOC) _____ (ft/msl) Depth to Water (DTW) (from TOC) 4310 (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	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
110:25	390	5.912	2228	12.74		1152	2194.7	
110:30		6.311	2228	12.99		1070	2221.9	
110:33		6.318	2227	12.98		1057	1719.7	
110:36		6.415	2226	12.97		1043	1141.0	
110:39		6.510	2226	12.95		1045	1111.5	
110:42		6.513	2227	12.98	1770	1036	910.9	
110:45		6.515	2225	12.96		1050	737	
110:48		6.517	2226	12.95	2980	1032	668	
110:51		6.518	2223	12.92	2950	1032	628	

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, Temp. -, Turbidity -, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW Stabilize

FIELD DATA

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 DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: DTW
11/11/19	6.58	223	12.92	2350	032	628	4310

Sample Appearance: Slightly orange Odor: - Color: Cloudy Other: -
 Weather Conditions (required daily, or as conditions change): Direction/Speed: - Outlook: partly cloudy Precipitation: Y or N

FIELD COMMENTS

Specific Comments (including purge/well volume calculations if required):
8/7/55 psi

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

11/11/19 Sam Orab [Signature] SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



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): 11/11/19 PURGE TIME (2400 Hr Clock): 11:20 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons): ACTUAL VOL PURGED (Gallons): WELL VOLS PURGED:

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: or N
 Purging Device: C A-Submersible Pump D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 4129 (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	pH (std)	Conductance (SC/EC) (μmhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
		<u>11120</u>	<u>300</u>	<u>6.34</u>	<u>11916</u>	<u>12.00</u>		<u>13.01</u>	
	<u>11125</u>		<u>6.08</u>	<u>11812</u>	<u>11.96</u>		<u>11.45</u>	<u>11775</u>	
	<u>11128</u>		<u>6.03</u>	<u>11715</u>	<u>11.94</u>		<u>11.49</u>	<u>11858</u>	
	<u>11131</u>		<u>5.98</u>	<u>11711</u>	<u>11.91</u>		<u>11.52</u>	<u>11932</u>	
	<u>11134</u>		<u>5.97</u>	<u>11713</u>	<u>11.95</u>		<u>11.38</u>	<u>11993</u>	
	<u>11137</u>		<u>5.97</u>	<u>11715</u>	<u>11.99</u>		<u>11.28</u>	<u>21047</u>	
	<u>11140</u>		<u>5.96</u>	<u>11714</u>	<u>11.98</u>	<u>3.63</u>	<u>11.35</u>	<u>21098</u>	<u>4140</u>

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, DO +/- 10%, eH/ORP +/- 25 mV, DTW 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): 111119 pH (std): 5.96 CONDUCTANCE (umhos/cm @ 25°C): 1174 TEMP. (°C): 11.98 TURBIDITY (ntu): 3.63 DO (mg/L-ppm): 1.35 eH/ORP (mV): 21098 Other: DTW
 Units: 4129
 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 Precipitation: Y or N
 Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS
9/6/40 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/11/19 Sam Graber [Signature] SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: DU5C
 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): 11/11/19
 PURGE TIME (2400 Hr Clock): 12:13
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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: or
 Purging Device: C A-Submersible Pump D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder Pump F-Dipper/Bottle
 Filter Device: or 0.45 μ or μ (circle or fill in)
 Filter Type: A A-In-line Disposable C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 32.60 (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)
		<u>12:13</u>	<u>300</u>	<u>6.00</u>	<u>1130</u>	<u>19.50</u>		<u>13.50</u>	<u>284.8</u>
	<u>12:18</u>		<u>5.97</u>	<u>1129</u>	<u>19.42</u>		<u>13.39</u>	<u>286.4</u>	
	<u>12:21</u>		<u>5.96</u>	<u>1128</u>	<u>19.37</u>		<u>13.14</u>	<u>286.7</u>	
	<u>12:24</u>		<u>5.96</u>	<u>1128</u>	<u>19.37</u>		<u>13.17</u>	<u>287.3</u>	
	<u>12:27</u>		<u>5.95</u>	<u>1128</u>	<u>19.41</u>		<u>12.64</u>	<u>288.1</u>	
	<u>12:30</u>		<u>5.95</u>	<u>1128</u>	<u>19.52</u>		<u>13.33</u>	<u>287.2</u>	<u>33.45</u>
	<u>12:33</u>		<u>5.96</u>	<u>1128</u>	<u>19.50</u>	<u>12.09</u>	<u>12.80</u>	<u>286.5</u>	

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): 11/11/19 pH (std): 5.96 CONDUCTANCE (umhos/cm @ 25°C): 128 TEMP. (°C): 19.50 TURBIDITY (ntu): 2.09 DO (mg/L-ppm): 2.80 eH/ORP (mV): 286.5 Other: DTW
 Units: 32.60

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).

Sample Appearance: Clear Odor: 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):

FIELD COMMENTS
9/6/35 ps.
DTW @ MW-36 32.75

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/11/19 Sam Gruber [Signature] SCS
 Date Name Signature Company

FIELD INFORMATION FORM



Site Name: 05C
 Site No.: 111119
 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): 11 11 19
 PURGE TIME (2400 Hr Clock): 1305
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons): _____
 ACTUAL VOL PURGED (Gallons): _____
 WELL VOLS PURGED: _____

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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: _____ C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other _____
 Sample Tube Type: D A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) _____ (ft/msl) Depth to Water (DTW) (from TOC) 2005 (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)
<u>13:05</u>	<u>380</u>	<u>6.27</u>	<u>1165</u>	<u>19.85</u>		<u>13.57</u>	<u>2196.9</u>	
<u>13:10</u>		<u>6.32</u>	<u>1166</u>	<u>19.79</u>		<u>11.34</u>	<u>2193.5</u>	
<u>13:13</u>		<u>6.35</u>	<u>1165</u>	<u>19.81</u>		<u>11.22</u>	<u>2191.0</u>	
<u>13:16</u>		<u>6.36</u>	<u>1165</u>	<u>19.82</u>		<u>11.15</u>	<u>2188.5</u>	
<u>13:19</u>		<u>6.36</u>	<u>1165</u>	<u>19.78</u>		<u>10.67</u>	<u>2185.8</u>	
<u>13:22</u>		<u>6.37</u>	<u>1165</u>	<u>19.76</u>		<u>10.62</u>	<u>2183.5</u>	
<u>13:25</u>		<u>6.37</u>	<u>1165</u>	<u>19.75</u>	<u>1.22</u>	<u>10.73</u>	<u>2181.8</u>	<u>2025</u>

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: - Turbidity: - D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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: <u>DTW</u>
<u>11 11 19</u>	<u>6.37</u>	<u>165</u>	<u>19.75</u>	<u>1.22</u>	<u>10.73</u>	<u>2181.8</u>	<u>2005</u>

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: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
9/6/25 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/11/19 Sam Barber _____ _____

Date Name Signature Company

FIELD INFORMATION FORM



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
9	4 1 0	: 2 0			

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 D-Bailer
 B-Peristaltic Pump E-Piston Pump

Sampling Device: C C-QED Bladder Pump F-Dipper/Bottle

X-Other:

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

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

WELL DATA

Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 4833 (ft) Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (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) (umhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
14:10	1"	6.718	11710	19.71		1850	3059	
14:15	2"	6.613	11712	19.34		1750	3056	
14:18	3"	6.616	11710	19.32		1737	3056	
14:21	4"	6.619	11710	19.29		1728	3056	
14:24		6.710	11710	19.27		1724	3059	
14:27		6.711	1169	19.27		1719	3061	
14:30		6.712	1169	19.24	118	1717	3063	48.45

Suggested range for 3 consec. readings or note Permit/State requirements:

+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize
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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: <u>DTW</u>
111119	6.72	169	9.24	118	7.17	3063	48.33

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.)

Sample Appearance: clear Odor: Color: 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):

FIELD COMMENTS

10/5/45 psi

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

11/11/19 Sam Graber SCS

 Date Name Signature Company

FIELD INFORMATION FORM



Site Name: 0JSL
 Site No.: 111119 1448 20
 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): 11/11/19
 PURGE TIME (2400 Hr Clock): 1448
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons): _____
 ACTUAL VOL PURGED (Gallons): _____
 WELL VOLs PURGED: _____

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 D-Bailer
 B-Peristaltic Pump E-Piston Pump
 Sampling Device: C C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): _____ (ft/msl) Depth to Water (DTW) (from TOC): 6243 (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 (g/min)	pH (std)	Conductance (SC/EC) (umhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
14:48	300	6.75	1175	19.97		1850	307.1	
14:53		6.66	1176	19.80		1664	308.14	
14:56		6.81	1176	19.77		1726	303.8	
14:59		6.89	1175	19.73		1738	301.1	
15:02		6.96	1175	19.71		1747	299.4	
15:05		6.99	1176	19.71		1750	299.0	
15:08	V	7.03	1175	19.66	1.03	1753	298.6	62.6

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 11/11/19
 pH (std): 7.03
 CONDUCTANCE (umhos/cm @ 25°C): 1175
 TEMP. (°C): 9.66
 TURBIDITY (ntu): 1.03
 DO (mg/L-ppm): 7.53
 eH/ORP (mV): 298.6
 Other: DTW
 Units: _____
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: - Precipitation: Y or N

FIELD COMMENTS
10.5/4.5/45 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/11/19 Sam Graber _____ scs
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 0V5C
 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): 11 12 19
 PURGE TIME (2400 Hr Clock): 8:50
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: _____ C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other _____
 Sample Tube Type: D A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 73 35 (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.

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (umhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
18:510	200	7.516	11613	10.32		18.5	32311	
18:515		6.112	11616	19.91		16.81	31186	
18:518		6.216	11615	19.83		16.86	31197	
19:011		6.313	11613	19.85		17.06	32116	
19:014		6.414	11613	19.81		17.10	32219	
19:017		6.513	11613	19.75		17.11	32418	
19:110	↓	6.611	11616	19.73	1.21	17.09	32617	73.40

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, Temp. --, Turbidity --, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW 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.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L - ppm)	eH/ORP (mV)	Other: <u>LTN</u>
11 12 19	6.61	166	9.73	1.21	7.09	3267	73.35

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).

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):
11/11/80 psi Trace particulates in water

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/12/19 Sam G/abr _____ SCS
 Date Name Signature Company

FIELD INFORMATION FORM



Site Name: OVSL
 Site No.:
 Sample Point: MW-116
 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: 11/2/19 (MM DD YY)
 PURGE TIME: 1000 (2400 Hr Clock)
 ELAPSED HRS: 20 (hrs:min)
 WATER VOL IN CASING: (Gallons)
 ACTUAL VOL PURGED: (Gallons)
 WELL VOLs PURGED:

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: or
 Purging Device: C A-Submersible Pump D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder Pump F-Dipper/Bottle
 Filter Device: or 0.45 μ or μ (circle or fill in)
 Filter Type: A A-In-line Disposable C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl)
 Depth to Water (DTW) (from TOC): 62.82 (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	pH (std)	Conductance (SC/EC) (μmhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1101010	390	6.168	1137	19.02		18.50	336.0	
1101015		6.133	1135	18.96		17.14	345.7	
1101018		6.124	1136	18.96		17.14	347.1	
1101111		6.121	1136	18.95		17.12	347.4	
1101114		6.118	1137	18.95		17.05	347.5	
1101117		6.117	1135	18.94		17.05	347.5	
1101210		6.117	1136	18.95	12.11	17.03	347.4	

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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/Std. 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: <u>DTW</u>
11/2/19	6.117	136	8.95	2.11	7.03	347.4	62.82

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/Std.)

Sample Appearance: Clear Odor: - Color: - 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):
9/6/50 psi
* Hit bottom

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/2/19 Sam Graber [Signature] OVSL
 Date Name Signature Company

FIELD INFORMATION FORM



Site Name: 0VSL
 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): 11 12 19
 PURGE TIME (2400 Hr Clock): 1450
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLS PURGED:

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: or
 Purging Device: C A-Submersible Pump D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder Pump F-Dipper/Bottle
 Filter Device: or 0.45 μ or μ (circle or fill in)
 Filter Type: A A-In-line Disposable C-Vacuum
 B-Pressure X-Other:
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 2963 (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 (g/min)	pH (std)	Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
		1450	300	6.17	487			16.09	1207
	1455	1	6.12	487	11.63		0.50	-36	
	1458	1	6.14	484	11.63		0.35	-197	
	1501	1	6.15	481	11.67		0.30	-249	
	1504	1	6.15	483	11.67		0.28	-279	
	1507	1	6.16	482	11.63		0.26	-306	
	1510	✓	6.16	482	11.69	3.52	0.26	-328	29.71

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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: <u>DTW</u>
11 12 19	6.66	482	11.69	3.52	0.26	-328	Units: <u>29.63</u>

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: - Precipitation: Y or N
 Specific Comments (including purge/well volume calculations if required): Dup 1 taken @ 1530

FIELD COMMENTS
9/6/40 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11, 12, 19 Sam Graber [Signature] SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: OU5C
 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): 11/13/19
 PURGE TIME (2400 Hr Clock): 9:10
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Yols 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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: _____ C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other _____
 Sample Tube Type: D A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): _____ (ft/msl) Depth to Water (DTW) (from TOC): 2676 (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)
		<u>9:10</u>	<u>300</u>	<u>4.93</u>	<u>161</u>	<u>110.06</u>		<u>13.92</u>	<u>3156</u>
	<u>9:15</u>		<u>5.05</u>	<u>160</u>	<u>110.04</u>		<u>12.40</u>	<u>3189</u>	
	<u>9:18</u>		<u>5.14</u>	<u>160</u>	<u>110.04</u>		<u>12.28</u>	<u>3194</u>	
	<u>9:21</u>		<u>5.21</u>	<u>159</u>	<u>110.03</u>		<u>12.15</u>	<u>3213</u>	
	<u>9:24</u>		<u>5.27</u>	<u>157</u>	<u>110.03</u>		<u>12.09</u>	<u>3215</u>	
	<u>9:27</u>		<u>5.31</u>	<u>158</u>	<u>110.05</u>		<u>12.05</u>	<u>3215</u>	
	<u>9:30</u>	<u>Y</u>	<u>5.316</u>	<u>156</u>	<u>110.03</u>	<u>5.41</u>	<u>12.00</u>	<u>3205</u>	<u>2676</u>

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.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: <u>ORP</u>
<u>11/13/19</u>	<u>5.36</u>	<u>56</u>	<u>10.03</u>	<u>5.41</u>	<u>2.00</u>	<u>3205</u>	<u>2676</u>

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 orange Odor: Color: Other:
 Weather Conditions (required daily, or as conditions change): _____ Direction/Speed: Outlook: Precipitation: Y or N

FIELD COMMENTS
9/6/230 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/13/19 Sam Graber _____ SCS

 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 005L

Site No.: [][][][][][][][][][][][][][][][]

Sample Point: LP-LC0

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
--------------------------	-------------------------------	--------------------------	----------------------------------	--------------------------------	---------------------

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 D-Bailer
 B-Peristaltic Pump E-Piston Pump

Sampling Device: [][] C-QED Bladder Pump F-Dipper/Bottle

X-Other: [][][][] Sample Tube Type: [][] A-Teflon C-PVC X-Other: [][][]

[][] B-Stainless Steel D-Polypropylene

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) (umhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
14:00	1 st	7.26	4024	13.19	9.54	7.35	2013	
	2 nd							
	3 rd							
	4 th							

Suggested range for 3 consec. readings or note Permit/State requirements:

pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: Stabilize

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
111319	7.26	4024	13.19	9.54	7.35	2013	

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: [][][] 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):

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
<u>11/13/19</u>	<u>Sam Gatar</u>	<u>[Signature]</u>	<u>SCS</u>

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

FIELD INFORMATION FORM



Site Name: OU52
 Site No.:
 Sample Point: L-ENF

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
111819					

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 A-Submersible Pump D-Bailer
 B-Peristaltic Pump E-Piston Pump
 Sampling Device: B C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other _____
 A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

Sample Tube Type: _____

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) (μ mhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:51	0.2 1 st	7.04 1 st	6997	13.5	34.1	4.69	424.7	/
12:54	2 nd	7.42 2 nd	7175	13.6	31.6	1.8	389.8	/
12:57	3 rd	7.45 3 rd	7178	13.6	35.2	2.4	361.6	/
	4 th							

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: Stabilize

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: _____
111819	7.47	7176	13.6	34.2	2.7	387	338.7

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: clw Odor: slight fermentation Color: lt. brown Other: _____

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

FIELD COMMENTS

Specific Comments (including purge/well volume calculations if required):
Suspended flocules ~ 1mm
Sample time 1300

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

11, 18 19 David Urrah David Urrah Aspect Consultants

Date Name Signature Company

FIELD INFORMATION FORM



Site Name: OUSL
 Site No.:
 Sample Point: O3WLT 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): 11/18/19
 PURGE TIME (2400 Hr Clock):
 ELAPSED HRS (hrs:min):
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLS PURGED:

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 A-Submersible Pump D-Bailer
 Sampling Device: B B-Peristaltic Pump E-Piston Pump
 X-Other: _____ C-QED Bladder Pump F-Dipper/Bottle
 Filter Device: or N 0.45 μ or _____ μ (circle or fill in)
 Filter Type: _____ A-In-line Disposable C-Vacuum
 B-Pressure X-Other _____
 Sample Tube Type: _____ A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): _____ (ft/msl) Depth to Water (DTW) (from TOC): 8.25 (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) (umhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
		<u>11:19</u>	<u>0.2</u> 1 st	<u>3.26</u> 1 st	<u>321.4</u> 1 st	<u>11.8</u>	<u>8.4</u>	<u>8.98</u>	<u>104.2</u>
	<u>11:22</u>	2 nd	<u>3.13</u> 2 nd	<u>308.1</u> 2 nd	<u>11.9</u>	<u>5.7</u>	<u>8.0</u>	<u>124.0</u>	<u>8.3</u>
	<u>11:25</u>	3 rd	<u>3.08</u> 3 rd	<u>309.1</u> 3 rd	<u>11.9</u>	<u>5.3</u>	<u>7.3</u>	<u>186.9</u>	<u>8.3</u>
	<u>11:28</u>	4 th	<u>3.11</u> 4 th	<u>314.7</u> 4 th	<u>11.9</u>	<u>5.5</u>	<u>6.5</u>	<u>296.6</u>	<u>8.3</u>
	<u>11:31</u>		<u>3.10</u>	<u>313.9</u>	<u>11.9</u>		<u>6.3</u>	<u>346.9</u>	<u>8.3</u>
	<u>11:34</u>								

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, Temp. --, Turbidity --, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW 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): 11/18/19 pH (std): 3.08 CONDUCTANCE (umhos/cm @ 25°C): 314.0 TEMP. (°C): 11.9 TURBIDITY (ntu): DO (mg/L - ppm): 6.1 eH/ORP (mV): 366.0 Other: _____ Units: _____
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: Still Outlook: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
Sample Time 11:35

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/18/19 David Ursh David Ursh Aspent Consulting
 Date Name Signature Company

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

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	11/11/19				
Time	930				
Weather (sky or precip. temp)	cloudy				
Type of Calibration	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1431	4.39	6.65		
Post Cal Reading	1413	4.01	7.00	8.5	
Discrepancy	No				
Calib. Successful?	yes				
Calibration by	SEB				
Instrument Type, ID	MP20 /	YSI 556		MicoTPW / HACH2000	
Calibration Location	OUSA				

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

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM


Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	11/12/19				
Time	800				
Weather (sky or precip, temp)	Rainy				
Type of Calibration	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1381	4.21	6.52		
Post Cal Reading	1417	4.01	7.00	8.5	
Discrepancy	No				
Calib. Successful?	Yes				
Calibration by	SES				
Instrument Type, ID	MP20	/	YSI 556	MicoTPW / HACH2000	
Calibration Location	OVS				

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

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	11/13/19				
Time	8:15				
Weather (sky or precip, temp)	cloudy				
Type of Calibration	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	4.51	6.50		
Post Cal Reading	1413	4.01	7.00	8.8	
Discrepancy	No				
Calib. Successful?	yes				
Calibration by	seb				
Instrument Type, ID	MP20 / YSI 556	MicoTPW / HACH2000			
Calibration Location	DUSC				

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



Appendix B

November 2019 Data Validation & Analytical Data Reports



**DATA VALIDATION REPORT – OLYMPIC VIEW SANITARY LANDFILL
2019 – SEMI-ANNUAL EVENT NO.2**

Project Details

Project No.	04204027.22	Site Name	Olympic View Sanitary Landfill
Data Validator	Travis Berndahl	Data Level	Level II
Date	1/16/2019	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)
280-130756-1	No Comments	TestAmerica, Denver CO
280-130796-1	No Comments	TestAmerica, Denver CO
280-130884-1	No Comments	TestAmerica, Denver CO
280-130886-1	No Comments	TestAmerica, Denver CO
280-131057-1	BOD analyzed past 48-hour holding time.	TestAmerica, Denver CO

Analytical Summary

Sample Group	Analyses					
	Qtrly General Chemistry ¹	Qtrly Metals	Qtrly VOCs	TSS	BOD/COD	App III Analytes ²
280-130756-1	X	X	X	X	--	--
280-130796-1	X	X	X	X	--	--
280-130884-1	X	X	X	X	--	--
280-130886-1	X	X	X	--	X	--
280-131057-1	X	X	X	X	X	--

¹ General Chemistry (NO₃, Cl, SO₄, NH₄, Alkalinity, Bicarbonate, TDS, TOC)

² WAC 173-351-990 App. III - VOCs, Metals, Pesticides/Herbicides, PCBs, SVOCs, Sulfide, Cyanide

Laboratory Quality Assurance Samples

Lab QA Samples	Notes	Comments
Surrogates/Organics	See case narrative.	(280-130756-1,280-130796-1,280-130884-1,280-130886-1, 280-131057-1)The analytes Acrolein, Acrylonitrile, and 2-chloroethyl vinyl ether cannot be reliably quantitated in acid preserved samples. Therefore, the reporting limits for these analytes are not reliable or defensible. (280-130886-1) Sample LP-LCD diluted due to foamy matrix, RLs elevated. All data acceptable and/or within established control limits. (280-131057-1) Elevated RLs provided for 8260 analysis in leachate samples.
MB	See case narrative.	(280-130756-1, 280-130886-1) Chloroform Method 8260B and Total Iron Method 6010D were detected in the Method Blank below the project established reporting limits. No corrective action taken for any values below requested reporting limits. (280-130796-1, 280-130884-1) Total Iron Method 6010D were detected in the Method Blank below the project established reporting limits. No corrective action taken for any values below requested reporting limits.
DUP	See case narrative.	All data acceptable and/or within established control limits.

Lab QA Samples	Notes	Comments
LCS/LCSD	See case narrative.	(280-130884-1,280-130886-1)) Method 8260C recoveries for 2-Butanone (MEK) and Tetrahydrofuran were above control limits. Corrective action was deemed unnecessary. (280-130884-1) Method 8260C RPD outside QC control limits for Isobutanol. Corrective action was deemed unnecessary.
MS/MSD	See case narrative.	All data acceptable and/or within established control limits.
General Chemistry	See case narrative.	All data acceptable and/or within established control limits.
Metals	See case narrative.	(280-130886-1) Method 6020B Continuing Calibration Verification was above control limits for Total Beryllium. Corrective action was deemed unnecessary.

Field Quality Assurance Samples

Field QA Samples	Sample Group	Analytes	Notes
Trip Blank	280-131057-1	Tetrahydrofuran, Methylene Chloride	Tetrahydrofuran also detected in OBWL-TD at similar level. Result may be result of field or laboratory contamination.

Detailed Field Replicate Evaluation

Analyte	Units	MW-42	MW-42 (DUP-1)	RPD (%)	MW-19C	MW-19C (DUP-2)	RPD (%)
Alkalinity, Bicarbonate (As CaCO ₃)	mg/L	190	190	0.00	77	78	0.32
Alkalinity, Total (As CaCO ₃)	mg/L	190	190	0.00	77	78	0.32
Ammonia (as N)	mg/L	3.7	3.7	0.00	0.48	0.48	0.00
Barium, Total	mg/L	0.1	0.1	0.00	0.004	0.0041	0.62
Calcium, Dissolved	mg/L	36	33	2.17	14	14	0.00
Chloride	mg/L	11	11	0.00	NA	NA	NA
Chromium, Total	mg/L	0.00052 J	0.00056 J	1.85	NA	NA	NA
Cobalt, Total	mg/L	0.0016 J	0.0015 J	1.61	NA	NA	NA
Iron, Dissolved	mg/L	23	22	1.11	0.12	0.13	2.00
Iron, Total	mg/L	23 B	24 B	1.06	0.2 B	0.21 B	1.22
Lead, Total*	mg/L	NA	NA	NA	0.001 U	0.00035 J	24.07
Magnesium, Dissolved	mg/L	14	13	1.85	7.3	7.3	0.00
Manganese, Dissolved	mg/L	4.1	3.9	1.25	1.2	1.1	2.17
Manganese, Total	mg/L	4.1	4.1	0.00	1.2	1.1	2.17
Methylene Chloride	ug/L	NA	NA	NA	1.5	0.6 J	21.43
Nickel, Total	mg/L	0.0015 J	0.0014 J	1.72	NA	NA	NA
Potassium, Dissolved	mg/L	8.1	7.5	1.92	1.2	1.2	0.00
Sodium, Dissolved	mg/L	18	17	1.43	5.7	5.7	0.00
Sulfate	mg/L	10	10	0.00	NA	NA	NA
Total Dissolved Solids (TDS)	mg/L	250	230	2.08	100	100	0.00
Total Organic Carbon (TOC)	mg/L	5.6	5.6	0.00	NA	NA	NA
Total Suspended Solids (TSS)	mg/L	6.8	19	23.64	NA	NA	NA
Trichloroethene	ug/L	NA	NA	NA	1	1.1	2.38
Vanadium, Total	mg/L	0.0012 J	0.002	12.50	NA	NA	NA
Vinyl chloride	ug/L	0.094	0.092	0.54	0.046	0.045	0.55

* 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.	280-130756-1,280-130796-1, 280-130884-1, 280-130886- 1, 280-131057-1
E	Result exceeded calibration range.	280-130796-1
H	Sample was prepared or analyzed past specified holding time	280-131057-1
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	280-130756-1,280-130796-1, 280-130884-1, 280-130886- 1, 280-131057-1
L	A negative instrument reading had an absolute value greater than the reporting limit.	280-130756-1
F1	MS and/or MSD Recovery is outside acceptance limits.	280-130756-1,280-130796-1, 280-130884-1, 280-130886- 1, 280-131057-1
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.	280-130756-1,280-130796-1, 280-130884-1, 280-130886- 1, 280-131057-1
*	LCS or LCSD is outside acceptance limits.	280-130796-1, 280-130884-1
*	RPD of the LCS and LCSD exceeds the control limits	280-130796-1, 280-131057-1
^	Instrument related QC is outside control limits.	280-130886-1, 280-131057-1

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.

ANALYTICAL REPORT

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

Laboratory Job ID: 280-130756-1

Client Project/Site: WA02|Olympic View Sanitary LF - GW

For:

Waste Management
2615 Davis Street
San Leandro, California 94577

Attn: Mr. Patrick Madej



Authorized for release by:
12/16/2019 5:11:55 PM

Betsy Sara, Project Manager II
(303)736-0189
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Definitions/Glossary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
L	A negative instrument reading had an absolute value greater than the reporting limit

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Job ID: 280-130756-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF - GW

Report Number: 280-130756-1

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

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

Sample Receiving

The samples were received on 11/12/2019; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.3° C and 2.7° C.

Holding Times

All holding times were within established control limits.

Method Blanks

Chloroform Method 8260B and Total Iron Method 6010D 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.

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)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) for Method 8260C SIM, however, an LCS/LCSD pair was analyzed to demonstrate method precision and accuracy.

The percent recoveries and/or relative percent difference of the MS/MSD performed on a sample from another client were outside control limits for Dissolved Manganese Method 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.

Sample MW-34C was selected to fulfill the laboratory batch quality control requirements for Method 300.0. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Sulfate 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.

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Job ID: 280-130756-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

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

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-34C

Lab Sample ID: 280-130756-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.028		0.020	0.0040	ug/L	1		8260C SIM	Total/NA
Cobalt, Total	0.0018	J	0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	39	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	21		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.52		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	9.1		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.97	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	9.8		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.14		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Beryllium, Total	0.00015	J	0.0010	0.000080	mg/L	1		6020B	Total Recoverable
Copper, Total	0.0043		0.0020	0.00056	mg/L	1		6020B	Total Recoverable
Lead, Total	0.00023	J	0.0010	0.00018	mg/L	1		6020B	Total Recoverable
Manganese, Total	1.1		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.00069	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0023		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Zinc, Total	0.0027	J	0.0050	0.0020	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.45		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	4.5		3.0	3.0	mg/L	1		300.0	Total/NA
Ammonia (as N)	0.031		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	100		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	100		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	160		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	140		5.6	5.6	mg/L	1		SM 2540D	Total/NA
Total Organic Carbon - Average	1.3		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Depth to water	43.10				ft	1		Field Sampling	Total/NA
Specific Conductivity	223				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.32				mg/L	1		Field Sampling	Total/NA
eH	62.8				millivolts	1		Field Sampling	Total/NA
Turbidity	285.0				NTU	1		Field Sampling	Total/NA
Temperature	12.92				Degrees C	1		Field Sampling	Total/NA
pH	6.58				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-34A

Lab Sample ID: 280-130756-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Total	0.18	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	15		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	7.6		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.75	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	9.4		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0040		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0029	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-34A (Continued)

Lab Sample ID: 280-130756-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese, Total	0.0047		0.0010	0.00031	mg/L	1		6020B	Total
Nickel, Total	0.0026	J	0.0040	0.00030	mg/L	1		6020B	Total
Vanadium, Total	0.0036		0.0020	0.0012	mg/L	1		6020B	Total
Manganese, Dissolved	0.00069	J	0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	3.6		3.0	3.0	mg/L	1		300.0	Total/NA
Nitrate as N	0.68		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	80		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	80		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	110		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	41.29				ft	1		Field Sampling	Total/NA
Specific Conductivity	174				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	1.35				mg/L	1		Field Sampling	Total/NA
eH	209.8				millivolts	1		Field Sampling	Total/NA
Turbidity	3.63				NTU	1		Field Sampling	Total/NA
Temperature	11.98				Degrees C	1		Field Sampling	Total/NA
pH	5.96				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-36A

Lab Sample ID: 280-130756-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Total	0.063	B	0.060	0.022	mg/L	1		6010D	Total
Calcium, Dissolved	9.1		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.030	J	0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	6.3		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.86	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	6.1		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0024		0.0010	0.00029	mg/L	1		6020B	Total
Chromium, Total	0.0091		0.0030	0.00050	mg/L	1		6020B	Total
Manganese, Total	0.0020		0.0010	0.00031	mg/L	1		6020B	Total
Nickel, Total	0.0015	J	0.0040	0.00030	mg/L	1		6020B	Total
Vanadium, Total	0.0014	J	0.0020	0.0012	mg/L	1		6020B	Total
Manganese, Dissolved	0.00083	J	0.0010	0.00031	mg/L	1		6020B	Dissolved
Nitrate as N	0.79		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	56		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	56		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	88		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	32.60				ft	1		Field Sampling	Total/NA
Specific Conductivity	128				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	2.80				mg/L	1		Field Sampling	Total/NA
eH	286.5				millivolts	1		Field Sampling	Total/NA
Turbidity	2.09				NTU	1		Field Sampling	Total/NA
Temperature	9.50				Degrees C	1		Field Sampling	Total/NA
pH	5.96				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-15R

Lab Sample ID: 280-130756-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium, Dissolved	13		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	8.8		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.87	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.1		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0043		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.0015		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0012	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0012	J	0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.0016		0.0010	0.00031	mg/L	1		6020B	Dissolved
Nitrate as N	0.23		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	76		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	76		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	98		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	20.05				ft	1		Field Sampling	Total/NA
Specific Conductivity	165				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.73				mg/L	1		Field Sampling	Total/NA
eH	281.8				millivolts	1		Field Sampling	Total/NA
Turbidity	1.22				NTU	1		Field Sampling	Total/NA
Temperature	9.75				Degrees C	1		Field Sampling	Total/NA
pH	6.37				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-13A

Lab Sample ID: 280-130756-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium, Dissolved	15		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	8.6		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.59	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.0		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0027		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0019	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0022		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.00054	J	0.0010	0.00031	mg/L	1		6020B	Dissolved
Nitrate as N	0.41		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	82		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	82		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	48.33				ft	1		Field Sampling	Total/NA
Specific Conductivity	169				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	7.17				mg/L	1		Field Sampling	Total/NA
eH	306.3				millivolts	1		Field Sampling	Total/NA
Turbidity	1.18				NTU	1		Field Sampling	Total/NA
Temperature	9.24				Degrees C	1		Field Sampling	Total/NA
pH	6.72				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-13B

Lab Sample ID: 280-130756-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium, Dissolved	16		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	8.3		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.63	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.0		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0034		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0028	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.00056	J	0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0034		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Zinc, Total	0.0023	J	0.0050	0.0020	mg/L	1		6020B	Total Recoverable
Nitrate as N	0.42		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	83		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	83		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	62.43				ft	1		Field Sampling	Total/NA
Specific Conductivity	175				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	7.53				mg/L	1		Field Sampling	Total/NA
eH	298.6				millivolts	1		Field Sampling	Total/NA
Turbidity	1.03				NTU	1		Field Sampling	Total/NA
Temperature	9.66				Degrees C	1		Field Sampling	Total/NA
pH	7.03				SU	1		Field Sampling	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-130756-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010D	Metals (ICP)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
350.1	Nitrogen, Ammonia	MCAWW	TAL DEN
353.2	Nitrate	EPA	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL DEN
Field Sampling	Field Sampling	EPA	TAL DEN
Subcontract	Total Arsenic (ARI)	None	SC0056
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
5030C	Purge and Trap	SW846	TAL BUF

Protocol 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.
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-130756-1	MW-34C	Water	11/11/19 10:51	11/12/19 10:35	
280-130756-2	MW-34A	Water	11/11/19 11:40	11/12/19 10:35	
280-130756-3	MW-36A	Water	11/11/19 12:33	11/12/19 10:35	
280-130756-4	MW-15R	Water	11/11/19 13:25	11/12/19 10:35	
280-130756-5	MW-13A	Water	11/11/19 14:30	11/12/19 10:35	
280-130756-6	MW-13B	Water	11/11/19 15:08	11/12/19 10:35	
280-130756-7	TRIP BLANK	Water	11/11/19 15:08	11/12/19 10:35	

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.028		0.020	0.0040	ug/L			11/19/19 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	93		50 - 150					11/19/19 16:14	1
TBA-d9 (Surr)	79		50 - 150					11/19/19 16:14	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 16:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		50 - 150					11/19/19 16:39	1
TBA-d9 (Surr)	76		50 - 150					11/19/19 16:39	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 17:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		50 - 150					11/19/19 17:03	1
TBA-d9 (Surr)	78		50 - 150					11/19/19 17:03	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 17:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		50 - 150					11/19/19 17:28	1
TBA-d9 (Surr)	80		50 - 150					11/19/19 17:28	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 17:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		50 - 150					11/19/19 17:52	1
TBA-d9 (Surr)	82		50 - 150					11/19/19 17:52	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 18:16	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		50 - 150		11/19/19 18:16	1
TBA-d9 (Surr)	86		50 - 150		11/19/19 18:16	1

Client Sample ID: TRIP BLANK
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		50 - 150		11/19/19 18:40	1
TBA-d9 (Surr)	86		50 - 150		11/19/19 18:40	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/19 19:57	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/19 19:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/19 19:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/17/19 19:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/19 19:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/19 19:57	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/19 19:57	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/17/19 19:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 19:57	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/19 19:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 19:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/17/19 19:57	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/19 19:57	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/17/19 19:57	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/17/19 19:57	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/19 19:57	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/17/19 19:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/19 19:57	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/17/19 19:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/17/19 19:57	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/17/19 19:57	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/17/19 19:57	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/17/19 19:57	1
1,4-Dioxane	ND		40	9.3	ug/L			11/17/19 19:57	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/17/19 19:57	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/19 19:57	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/17/19 19:57	1
2-Hexanone	ND		5.0	1.2	ug/L			11/17/19 19:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/19 19:57	1
Acetone	ND		10	3.0	ug/L			11/17/19 19:57	1
Acetonitrile	ND		15	4.9	ug/L			11/17/19 19:57	1
Acrolein	ND		20	0.91	ug/L			11/17/19 19:57	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/19 19:57	1
Benzene	ND		1.0	0.41	ug/L			11/17/19 19:57	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		1.0	0.80	ug/L			11/17/19 19:57	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/17/19 19:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/17/19 19:57	1
Bromoform	ND		1.0	0.26	ug/L			11/17/19 19:57	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/19 19:57	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/17/19 19:57	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/17/19 19:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/19 19:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/19 19:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/19 19:57	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/17/19 19:57	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/19 19:57	1
Chloroform	ND		1.0	0.34	ug/L			11/17/19 19:57	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/19 19:57	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/17/19 19:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/19 19:57	1
Cyclohexane	ND		1.0	0.18	ug/L			11/17/19 19:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/17/19 19:57	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/19 19:57	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/19 19:57	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/17/19 19:57	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/17/19 19:57	1
Ethyl ether	ND		1.0	0.72	ug/L			11/17/19 19:57	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/17/19 19:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/19 19:57	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/17/19 19:57	1
Hexane	ND		10	0.40	ug/L			11/17/19 19:57	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/19 19:57	1
Isobutanol	ND		25	4.8	ug/L			11/17/19 19:57	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/17/19 19:57	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/17/19 19:57	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/19 19:57	1
Methyl acetate	ND		2.5	1.3	ug/L			11/17/19 19:57	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/17/19 19:57	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/17/19 19:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/19 19:57	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/19 19:57	1
Naphthalene	ND		1.0	0.43	ug/L			11/17/19 19:57	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/17/19 19:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/17/19 19:57	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/17/19 19:57	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/19 19:57	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/17/19 19:57	1
p-Cymene	ND		1.0	0.31	ug/L			11/17/19 19:57	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/17/19 19:57	1
Styrene	ND		1.0	0.73	ug/L			11/17/19 19:57	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/17/19 19:57	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/17/19 19:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/19 19:57	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/17/19 19:57	1
Toluene	ND		1.0	0.51	ug/L			11/17/19 19:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/19 19:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/19 19:57	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/19 19:57	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/19 19:57	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/19 19:57	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/19 19:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/19 19:57	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/17/19 19:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/17/19 19:57	1
4-Bromofluorobenzene (Surr)	97		73 - 120		11/17/19 19:57	1
Toluene-d8 (Surr)	88		80 - 120		11/17/19 19:57	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/19 19:33	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/19 19:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/19 19:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/17/19 19:33	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/19 19:33	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/19 19:33	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/19 19:33	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/17/19 19:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 19:33	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/19 19:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 19:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/17/19 19:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/19 19:33	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/17/19 19:33	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/17/19 19:33	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/19 19:33	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/17/19 19:33	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/19 19:33	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/17/19 19:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/17/19 19:33	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/17/19 19:33	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/17/19 19:33	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/17/19 19:33	1
1,4-Dioxane	ND		40	9.3	ug/L			11/17/19 19:33	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/17/19 19:33	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/19 19:33	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/17/19 19:33	1
2-Hexanone	ND		5.0	1.2	ug/L			11/17/19 19:33	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/19 19:33	1
Acetone	ND		10	3.0	ug/L			11/17/19 19:33	1
Acetonitrile	ND		15	4.9	ug/L			11/17/19 19:33	1
Acrolein	ND		20	0.91	ug/L			11/17/19 19:33	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/19 19:33	1
Benzene	ND		1.0	0.41	ug/L			11/17/19 19:33	1
Bromobenzene	ND		1.0	0.80	ug/L			11/17/19 19:33	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/17/19 19:33	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/17/19 19:33	1
Bromoform	ND		1.0	0.26	ug/L			11/17/19 19:33	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/19 19:33	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/17/19 19:33	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/17/19 19:33	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/19 19:33	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/19 19:33	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/19 19:33	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/17/19 19:33	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/19 19:33	1
Chloroform	ND		1.0	0.34	ug/L			11/17/19 19:33	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/19 19:33	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/17/19 19:33	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/19 19:33	1
Cyclohexane	ND		1.0	0.18	ug/L			11/17/19 19:33	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/17/19 19:33	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/19 19:33	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/19 19:33	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/17/19 19:33	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/17/19 19:33	1
Ethyl ether	ND		1.0	0.72	ug/L			11/17/19 19:33	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/17/19 19:33	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/19 19:33	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/17/19 19:33	1
Hexane	ND		10	0.40	ug/L			11/17/19 19:33	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/19 19:33	1
Isobutanol	ND		25	4.8	ug/L			11/17/19 19:33	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/17/19 19:33	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/17/19 19:33	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/19 19:33	1
Methyl acetate	ND		2.5	1.3	ug/L			11/17/19 19:33	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/17/19 19:33	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/17/19 19:33	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/19 19:33	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/19 19:33	1
Naphthalene	ND		1.0	0.43	ug/L			11/17/19 19:33	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/17/19 19:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/17/19 19:33	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/17/19 19:33	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/19 19:33	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/17/19 19:33	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Cymene	ND		1.0	0.31	ug/L			11/17/19 19:33	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/17/19 19:33	1
Styrene	ND		1.0	0.73	ug/L			11/17/19 19:33	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/17/19 19:33	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/17/19 19:33	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/19 19:33	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/17/19 19:33	1
Toluene	ND		1.0	0.51	ug/L			11/17/19 19:33	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/19 19:33	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/19 19:33	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/19 19:33	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/19 19:33	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/19 19:33	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/19 19:33	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/19 19:33	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/17/19 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/17/19 19:33	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/17/19 19:33	1
Toluene-d8 (Surr)	89		80 - 120		11/17/19 19:33	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/19 19:10	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/19 19:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/19 19:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/17/19 19:10	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/19 19:10	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/19 19:10	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/19 19:10	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/17/19 19:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 19:10	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/19 19:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 19:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/17/19 19:10	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/19 19:10	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/17/19 19:10	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/17/19 19:10	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/19 19:10	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/17/19 19:10	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/19 19:10	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/17/19 19:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/17/19 19:10	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/17/19 19:10	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/17/19 19:10	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/17/19 19:10	1
1,4-Dioxane	ND		40	9.3	ug/L			11/17/19 19:10	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/17/19 19:10	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/19 19:10	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/17/19 19:10	1
2-Hexanone	ND		5.0	1.2	ug/L			11/17/19 19:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/19 19:10	1
Acetone	ND		10	3.0	ug/L			11/17/19 19:10	1
Acetonitrile	ND		15	4.9	ug/L			11/17/19 19:10	1
Acrolein	ND		20	0.91	ug/L			11/17/19 19:10	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/19 19:10	1
Benzene	ND		1.0	0.41	ug/L			11/17/19 19:10	1
Bromobenzene	ND		1.0	0.80	ug/L			11/17/19 19:10	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/17/19 19:10	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/17/19 19:10	1
Bromoform	ND		1.0	0.26	ug/L			11/17/19 19:10	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/19 19:10	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/17/19 19:10	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/17/19 19:10	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/19 19:10	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/19 19:10	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/19 19:10	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/17/19 19:10	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/19 19:10	1
Chloroform	ND		1.0	0.34	ug/L			11/17/19 19:10	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/19 19:10	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/17/19 19:10	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/19 19:10	1
Cyclohexane	ND		1.0	0.18	ug/L			11/17/19 19:10	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/17/19 19:10	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/19 19:10	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/19 19:10	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/17/19 19:10	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/17/19 19:10	1
Ethyl ether	ND		1.0	0.72	ug/L			11/17/19 19:10	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/17/19 19:10	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/19 19:10	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/17/19 19:10	1
Hexane	ND		10	0.40	ug/L			11/17/19 19:10	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/19 19:10	1
Isobutanol	ND		25	4.8	ug/L			11/17/19 19:10	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/17/19 19:10	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/17/19 19:10	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/19 19:10	1
Methyl acetate	ND		2.5	1.3	ug/L			11/17/19 19:10	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/17/19 19:10	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/17/19 19:10	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/19 19:10	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/19 19:10	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.43	ug/L			11/17/19 19:10	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/17/19 19:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/17/19 19:10	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/17/19 19:10	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/19 19:10	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/17/19 19:10	1
p-Cymene	ND		1.0	0.31	ug/L			11/17/19 19:10	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/17/19 19:10	1
Styrene	ND		1.0	0.73	ug/L			11/17/19 19:10	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/17/19 19:10	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/17/19 19:10	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/19 19:10	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/17/19 19:10	1
Toluene	ND		1.0	0.51	ug/L			11/17/19 19:10	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/19 19:10	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/19 19:10	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/19 19:10	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/19 19:10	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/19 19:10	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/19 19:10	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/19 19:10	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Hexachloroethane TIC</i>	<i>ND</i>		<i>ug/L</i>			<i>67-72-1</i>		<i>11/17/19 19:10</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>104</i>		<i>77 - 120</i>		<i>11/17/19 19:10</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>98</i>		<i>73 - 120</i>		<i>11/17/19 19:10</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>90</i>		<i>80 - 120</i>		<i>11/17/19 19:10</i>	<i>1</i>

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/19 18:46	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/19 18:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/19 18:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/17/19 18:46	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/19 18:46	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/19 18:46	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/19 18:46	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/17/19 18:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 18:46	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/19 18:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 18:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/17/19 18:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/19 18:46	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/17/19 18:46	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/17/19 18:46	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/19 18:46	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/17/19 18:46	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/19 18:46	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/17/19 18:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/17/19 18:46	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/17/19 18:46	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/17/19 18:46	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/17/19 18:46	1
1,4-Dioxane	ND		40	9.3	ug/L			11/17/19 18:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/17/19 18:46	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/19 18:46	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/17/19 18:46	1
2-Hexanone	ND		5.0	1.2	ug/L			11/17/19 18:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/19 18:46	1
Acetone	ND		10	3.0	ug/L			11/17/19 18:46	1
Acetonitrile	ND		15	4.9	ug/L			11/17/19 18:46	1
Acrolein	ND		20	0.91	ug/L			11/17/19 18:46	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/19 18:46	1
Benzene	ND		1.0	0.41	ug/L			11/17/19 18:46	1
Bromobenzene	ND		1.0	0.80	ug/L			11/17/19 18:46	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/17/19 18:46	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/17/19 18:46	1
Bromoform	ND		1.0	0.26	ug/L			11/17/19 18:46	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/19 18:46	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/17/19 18:46	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/17/19 18:46	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/19 18:46	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/19 18:46	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/19 18:46	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/17/19 18:46	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/19 18:46	1
Chloroform	ND		1.0	0.34	ug/L			11/17/19 18:46	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/19 18:46	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/17/19 18:46	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/19 18:46	1
Cyclohexane	ND		1.0	0.18	ug/L			11/17/19 18:46	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/17/19 18:46	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/19 18:46	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/19 18:46	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/17/19 18:46	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/17/19 18:46	1
Ethyl ether	ND		1.0	0.72	ug/L			11/17/19 18:46	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/17/19 18:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/19 18:46	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/17/19 18:46	1
Hexane	ND		10	0.40	ug/L			11/17/19 18:46	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/19 18:46	1
Isobutanol	ND		25	4.8	ug/L			11/17/19 18:46	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/17/19 18:46	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/17/19 18:46	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/19 18:46	1
Methyl acetate	ND		2.5	1.3	ug/L			11/17/19 18:46	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/17/19 18:46	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/17/19 18:46	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/19 18:46	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/19 18:46	1
Naphthalene	ND		1.0	0.43	ug/L			11/17/19 18:46	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/17/19 18:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/17/19 18:46	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/17/19 18:46	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/19 18:46	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/17/19 18:46	1
p-Cymene	ND		1.0	0.31	ug/L			11/17/19 18:46	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/17/19 18:46	1
Styrene	ND		1.0	0.73	ug/L			11/17/19 18:46	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/17/19 18:46	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/17/19 18:46	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/19 18:46	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/17/19 18:46	1
Toluene	ND		1.0	0.51	ug/L			11/17/19 18:46	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/19 18:46	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/19 18:46	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/19 18:46	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/19 18:46	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/19 18:46	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/19 18:46	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/19 18:46	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/17/19 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/17/19 18:46	1
4-Bromofluorobenzene (Surr)	95		73 - 120		11/17/19 18:46	1
Toluene-d8 (Surr)	89		80 - 120		11/17/19 18:46	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/19 18:22	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/19 18:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/19 18:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/17/19 18:22	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/19 18:22	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/19 18:22	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/19 18:22	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/17/19 18:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 18:22	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/19 18:22	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 18:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/17/19 18:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/19 18:22	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/17/19 18:22	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/17/19 18:22	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/19 18:22	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/17/19 18:22	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/19 18:22	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/17/19 18:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/17/19 18:22	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/17/19 18:22	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/17/19 18:22	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/17/19 18:22	1
1,4-Dioxane	ND		40	9.3	ug/L			11/17/19 18:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/17/19 18:22	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/19 18:22	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/17/19 18:22	1
2-Hexanone	ND		5.0	1.2	ug/L			11/17/19 18:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/19 18:22	1
Acetone	ND		10	3.0	ug/L			11/17/19 18:22	1
Acetonitrile	ND		15	4.9	ug/L			11/17/19 18:22	1
Acrolein	ND		20	0.91	ug/L			11/17/19 18:22	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/19 18:22	1
Benzene	ND		1.0	0.41	ug/L			11/17/19 18:22	1
Bromobenzene	ND		1.0	0.80	ug/L			11/17/19 18:22	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/17/19 18:22	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/17/19 18:22	1
Bromoform	ND		1.0	0.26	ug/L			11/17/19 18:22	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/19 18:22	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/17/19 18:22	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/17/19 18:22	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/19 18:22	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/19 18:22	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/19 18:22	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/17/19 18:22	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/19 18:22	1
Chloroform	ND		1.0	0.34	ug/L			11/17/19 18:22	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/19 18:22	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/17/19 18:22	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/19 18:22	1
Cyclohexane	ND		1.0	0.18	ug/L			11/17/19 18:22	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/17/19 18:22	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/19 18:22	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/19 18:22	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/17/19 18:22	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/17/19 18:22	1
Ethyl ether	ND		1.0	0.72	ug/L			11/17/19 18:22	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/17/19 18:22	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/19 18:22	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/17/19 18:22	1
Hexane	ND		10	0.40	ug/L			11/17/19 18:22	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/19 18:22	1
Isobutanol	ND		25	4.8	ug/L			11/17/19 18:22	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/17/19 18:22	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/17/19 18:22	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/19 18:22	1
Methyl acetate	ND		2.5	1.3	ug/L			11/17/19 18:22	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/17/19 18:22	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/17/19 18:22	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/19 18:22	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/19 18:22	1
Naphthalene	ND		1.0	0.43	ug/L			11/17/19 18:22	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/17/19 18:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/17/19 18:22	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/17/19 18:22	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/19 18:22	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/17/19 18:22	1
p-Cymene	ND		1.0	0.31	ug/L			11/17/19 18:22	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/17/19 18:22	1
Styrene	ND		1.0	0.73	ug/L			11/17/19 18:22	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/17/19 18:22	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/17/19 18:22	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/19 18:22	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/17/19 18:22	1
Toluene	ND		1.0	0.51	ug/L			11/17/19 18:22	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/19 18:22	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/19 18:22	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/19 18:22	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/19 18:22	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/19 18:22	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/19 18:22	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/19 18:22	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Hexachloroethane TIC</i>	<i>ND</i>		<i>ug/L</i>			<i>67-72-1</i>		<i>11/17/19 18:22</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>106</i>		<i>77 - 120</i>		<i>11/17/19 18:22</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>100</i>		<i>73 - 120</i>		<i>11/17/19 18:22</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>92</i>		<i>80 - 120</i>		<i>11/17/19 18:22</i>	<i>1</i>

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 20:49	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 20:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 20:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 20:49	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 20:49	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 20:49	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 20:49	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 20:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 20:49	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 20:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 20:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 20:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 20:49	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 20:49	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 20:49	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 20:49	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 20:49	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 20:49	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 20:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 20:49	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 20:49	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 20:49	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 20:49	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 20:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 20:49	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 20:49	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 20:49	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 20:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 20:49	1
Acetone	ND		10	3.0	ug/L			11/15/19 20:49	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 20:49	1
Acrolein	ND		20	0.91	ug/L			11/15/19 20:49	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 20:49	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 20:49	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 20:49	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 20:49	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 20:49	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 20:49	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 20:49	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 20:49	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 20:49	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 20:49	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 20:49	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 20:49	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 20:49	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 20:49	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 20:49	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 20:49	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 20:49	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 20:49	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 20:49	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 20:49	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 20:49	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 20:49	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 20:49	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 20:49	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 20:49	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 20:49	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 20:49	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 20:49	1
Hexane	ND		10	0.40	ug/L			11/15/19 20:49	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 20:49	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 20:49	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 20:49	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 20:49	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 20:49	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 20:49	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 20:49	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 20:49	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 20:49	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 20:49	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 20:49	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 20:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 20:49	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 20:49	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 20:49	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 20:49	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 20:49	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 20:49	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 20:49	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 20:49	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 20:49	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 20:49	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 20:49	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 20:49	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 20:49	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 20:49	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 20:49	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 20:49	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 20:49	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 20:49	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 20:49	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Hexachloroethane TIC</i>	<i>ND</i>		<i>ug/L</i>			<i>67-72-1</i>		<i>11/15/19 20:49</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>100</i>		<i>77 - 120</i>		<i>11/15/19 20:49</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>100</i>		<i>73 - 120</i>		<i>11/15/19 20:49</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>101</i>		<i>80 - 120</i>		<i>11/15/19 20:49</i>	<i>1</i>

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TRIP BLANK

Date Collected: 11/11/19 15:08

Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 21:12	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 21:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 21:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 21:12	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 21:12	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 21:12	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 21:12	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 21:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 21:12	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 21:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 21:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 21:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 21:12	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 21:12	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 21:12	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 21:12	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 21:12	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 21:12	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 21:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 21:12	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 21:12	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 21:12	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 21:12	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 21:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 21:12	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 21:12	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 21:12	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 21:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 21:12	1
Acetone	ND		10	3.0	ug/L			11/15/19 21:12	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 21:12	1
Acrolein	ND		20	0.91	ug/L			11/15/19 21:12	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 21:12	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 21:12	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 21:12	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 21:12	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 21:12	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 21:12	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 21:12	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 21:12	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 21:12	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 21:12	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 21:12	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 21:12	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 21:12	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 21:12	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 21:12	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 21:12	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 21:12	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: TRIP BLANK

Date Collected: 11/11/19 15:08

Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 21:12	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 21:12	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 21:12	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 21:12	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 21:12	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 21:12	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 21:12	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 21:12	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 21:12	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 21:12	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 21:12	1
Hexane	ND		10	0.40	ug/L			11/15/19 21:12	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 21:12	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 21:12	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 21:12	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 21:12	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 21:12	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 21:12	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 21:12	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 21:12	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 21:12	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 21:12	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 21:12	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 21:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 21:12	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 21:12	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 21:12	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 21:12	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 21:12	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 21:12	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 21:12	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 21:12	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 21:12	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 21:12	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 21:12	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 21:12	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 21:12	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 21:12	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 21:12	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 21:12	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 21:12	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 21:12	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 21:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/15/19 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/15/19 21:12	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/15/19 21:12	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: TRIP BLANK
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-7
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		11/15/19 21:12	1

Method: 6010D - Metals (ICP) - Total Recoverable

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	0.0018	J	0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:29	1
Iron, Total	39	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 13:58	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:51	1
Iron, Total	0.18	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:10	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:53	1
Iron, Total	0.063	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:13	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:56	1
Iron, Total	ND		0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:15	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:59	1
Iron, Total	ND		0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:28	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:01	1
Iron, Total	ND		0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:30	1

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	21		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 15:36	1
Iron, Dissolved	0.52		0.060	0.022	mg/L		11/21/19 08:05	11/21/19 15:36	1
Magnesium, Dissolved	9.1		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 15:36	1
Potassium, Dissolved	0.97	J	1.0	0.24	mg/L		11/21/19 08:05	11/21/19 15:36	1
Sodium, Dissolved	9.8		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 15:36	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	15		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 15:38	1
Iron, Dissolved	ND		0.060	0.022	mg/L		11/21/19 08:05	11/21/19 15:38	1
Magnesium, Dissolved	7.6		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 15:38	1
Potassium, Dissolved	0.75	J	1.0	0.24	mg/L		11/21/19 08:05	11/21/19 15:38	1
Sodium, Dissolved	9.4		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 15:38	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	9.1		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 15:41	1
Iron, Dissolved	0.030	J	0.060	0.022	mg/L		11/21/19 08:05	11/21/19 15:41	1
Magnesium, Dissolved	6.3		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 15:41	1
Potassium, Dissolved	0.86	J	1.0	0.24	mg/L		11/21/19 08:05	11/21/19 15:41	1
Sodium, Dissolved	6.1		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 15:41	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	13		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 15:43	1
Iron, Dissolved	ND		0.060	0.022	mg/L		11/21/19 08:05	11/21/19 15:43	1
Magnesium, Dissolved	8.8		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 15:43	1
Potassium, Dissolved	0.87	J	1.0	0.24	mg/L		11/21/19 08:05	11/21/19 15:43	1
Sodium, Dissolved	5.1		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 15:43	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	15		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 15:46	1
Iron, Dissolved	ND		0.060	0.022	mg/L		11/21/19 08:05	11/21/19 15:46	1
Magnesium, Dissolved	8.6		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 15:46	1
Potassium, Dissolved	0.59	J	1.0	0.24	mg/L		11/21/19 08:05	11/21/19 15:46	1
Sodium, Dissolved	5.0		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 15:46	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	16		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 15:49	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 6010D - Metals (ICP) - Dissolved (Continued)

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	ND		0.060	0.022	mg/L		11/21/19 08:05	11/21/19 15:49	1
Magnesium, Dissolved	8.3		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 15:49	1
Potassium, Dissolved	0.63	J	1.0	0.24	mg/L		11/21/19 08:05	11/21/19 15:49	1
Sodium, Dissolved	5.0		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 15:49	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 15:12	1
Barium, Total	0.14		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 15:12	1
Beryllium, Total	0.00015	J	0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 15:12	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 15:12	1
Chromium, Total	ND		0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 15:12	1
Copper, Total	0.0043		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 15:12	1
Lead, Total	0.00023	J	0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 15:12	1
Manganese, Total	1.1		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:12	1
Nickel, Total	0.00069	J	0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 15:12	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 15:12	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 15:12	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 15:12	1
Vanadium, Total	0.0023		0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 19:23	1
Zinc, Total	0.0027	J	0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 15:12	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 15:16	1
Barium, Total	0.0040		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 15:16	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 15:16	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 15:16	1
Chromium, Total	0.0029	J	0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 15:16	1
Copper, Total	ND		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 15:16	1
Lead, Total	ND		0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 15:16	1
Manganese, Total	0.0047		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:16	1
Nickel, Total	0.0026	J	0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 15:16	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 15:16	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 15:16	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 15:16	1
Vanadium, Total	0.0036		0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 19:27	1
Zinc, Total	ND		0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 15:16	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 15:43	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Total	0.0024		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 15:43	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 15:43	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 15:43	1
Chromium, Total	0.0091		0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 15:43	1
Copper, Total	ND		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 15:43	1
Lead, Total	ND		0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 15:43	1
Manganese, Total	0.0020		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:43	1
Nickel, Total	0.0015	J	0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 15:43	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 15:43	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 15:43	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 15:43	1
Vanadium, Total	0.0014	J	0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 19:54	1
Zinc, Total	ND		0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 15:43	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 15:47	1
Barium, Total	0.0043		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 15:47	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 15:47	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 15:47	1
Chromium, Total	ND		0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 15:47	1
Copper, Total	ND		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 15:47	1
Lead, Total	ND		0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 15:47	1
Manganese, Total	0.0015		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:47	1
Nickel, Total	0.0012	J	0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 15:47	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 15:47	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 15:47	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 15:47	1
Vanadium, Total	0.0012	J	0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 19:57	1
Zinc, Total	ND		0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 15:47	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 15:51	1
Barium, Total	0.0027		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 15:51	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 15:51	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 15:51	1
Chromium, Total	0.0019	J	0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 15:51	1
Copper, Total	ND		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 15:51	1
Lead, Total	ND		0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 15:51	1
Manganese, Total	ND		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:51	1
Nickel, Total	ND		0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 15:51	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 15:51	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 15:51	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 15:51	1
Vanadium, Total	0.0022		0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 20:01	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc, Total	ND		0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 15:51	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 15:55	1
Barium, Total	0.0034		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 15:55	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 15:55	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 15:55	1
Chromium, Total	0.0028	J	0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 15:55	1
Copper, Total	ND		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 15:55	1
Lead, Total	ND		0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 15:55	1
Manganese, Total	0.00056	J	0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:55	1
Nickel, Total	ND		0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 15:55	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 15:55	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 15:55	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 15:55	1
Vanadium, Total	0.0034		0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 20:05	1
Zinc, Total	0.0023	J	0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 15:55	1

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

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.45		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:20	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.00069	J	0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:24	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.00083	J	0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:27	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.0016		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:31	1

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Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.00054	J	0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:34	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 15:38	1

General Chemistry

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.5		3.0	3.0	mg/L			12/05/19 15:13	1
Sulfate	ND	F1	5.0	5.0	mg/L			12/05/19 15:13	1
Ammonia (as N)	0.031		0.030	0.030	mg/L			11/19/19 11:26	1
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	100		10	10	mg/L			11/15/19 18:23	1
Alkalinity, Bicarbonate (As CaCO3)	100		10	10	mg/L			11/15/19 18:23	1
Total Dissolved Solids (TDS)	160		5.0	5.0	mg/L			11/13/19 08:19	1
Total Suspended Solids	140		5.6	5.6	mg/L			11/13/19 12:01	1
Total Organic Carbon - Average	1.3		1.0	1.0	mg/L			12/04/19 23:59	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.6		3.0	3.0	mg/L			12/05/19 16:27	1
Sulfate	ND		5.0	5.0	mg/L			12/05/19 16:27	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:28	1
Nitrate as N	0.68		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	80		10	10	mg/L			11/15/19 18:07	1
Alkalinity, Bicarbonate (As CaCO3)	80		10	10	mg/L			11/15/19 18:07	1
Total Dissolved Solids (TDS)	110		5.0	5.0	mg/L			11/13/19 08:19	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/13/19 12:01	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 00:14	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/05/19 16:46	1
Sulfate	ND		5.0	5.0	mg/L			12/05/19 16:46	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:30	1
Nitrate as N	0.79		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	56		10	10	mg/L			11/15/19 18:02	1
Alkalinity, Bicarbonate (As CaCO3)	56		10	10	mg/L			11/15/19 18:02	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

General Chemistry (Continued)

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	88		5.0	5.0	mg/L			11/13/19 08:19	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/13/19 12:01	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 00:28	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/05/19 17:05	1
Sulfate	ND		5.0	5.0	mg/L			12/05/19 17:05	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:32	1
Nitrate as N	0.23		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	76		10	10	mg/L			11/15/19 17:58	1
Alkalinity, Bicarbonate (As CaCO3)	76		10	10	mg/L			11/15/19 17:58	1
Total Dissolved Solids (TDS)	98		5.0	5.0	mg/L			11/13/19 08:19	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/13/19 12:01	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 01:12	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/05/19 17:24	1
Sulfate	ND		5.0	5.0	mg/L			12/05/19 17:24	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:40	1
Nitrate as N	0.41		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	82		10	10	mg/L			11/15/19 17:53	1
Alkalinity, Bicarbonate (As CaCO3)	82		10	10	mg/L			11/15/19 17:53	1
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L			11/13/19 08:19	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/13/19 12:01	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 01:27	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/05/19 17:42	1
Sulfate	ND		5.0	5.0	mg/L			12/05/19 17:42	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:58	1
Nitrate as N	0.42		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	83		10	10	mg/L			11/15/19 17:48	1
Alkalinity, Bicarbonate (As CaCO3)	83		10	10	mg/L			11/15/19 17:48	1
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L			11/13/19 08:19	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/13/19 12:01	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 01:42	1

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: Field Sampling - Field Sampling

Client Sample ID: MW-34C
Date Collected: 11/11/19 10:51
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-1
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	43.10				ft			11/11/19 11:51	1
Specific Conductivity	223				umhos/cm			11/11/19 11:51	1
Dissolved Oxygen	0.32				mg/L			11/11/19 11:51	1
eH	62.8				millivolts			11/11/19 11:51	1
Turbidity	285.0				NTU			11/11/19 11:51	1
Temperature	12.92				Degrees C			11/11/19 11:51	1
pH	6.58				SU			11/11/19 11:51	1

Client Sample ID: MW-34A
Date Collected: 11/11/19 11:40
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	41.29				ft			11/11/19 12:40	1
Specific Conductivity	174				umhos/cm			11/11/19 12:40	1
Dissolved Oxygen	1.35				mg/L			11/11/19 12:40	1
eH	209.8				millivolts			11/11/19 12:40	1
Turbidity	3.63				NTU			11/11/19 12:40	1
Temperature	11.98				Degrees C			11/11/19 12:40	1
pH	5.96				SU			11/11/19 12:40	1

Client Sample ID: MW-36A
Date Collected: 11/11/19 12:33
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	32.60				ft			11/11/19 13:33	1
Specific Conductivity	128				umhos/cm			11/11/19 13:33	1
Dissolved Oxygen	2.80				mg/L			11/11/19 13:33	1
eH	286.5				millivolts			11/11/19 13:33	1
Turbidity	2.09				NTU			11/11/19 13:33	1
Temperature	9.50				Degrees C			11/11/19 13:33	1
pH	5.96				SU			11/11/19 13:33	1

Client Sample ID: MW-15R
Date Collected: 11/11/19 13:25
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	20.05				ft			11/11/19 14:25	1
Specific Conductivity	165				umhos/cm			11/11/19 14:25	1
Dissolved Oxygen	0.73				mg/L			11/11/19 14:25	1
eH	281.8				millivolts			11/11/19 14:25	1
Turbidity	1.22				NTU			11/11/19 14:25	1
Temperature	9.75				Degrees C			11/11/19 14:25	1
pH	6.37				SU			11/11/19 14:25	1

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	48.33				ft			11/11/19 15:30	1
Specific Conductivity	169				umhos/cm			11/11/19 15:30	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: Field Sampling - Field Sampling (Continued)

Client Sample ID: MW-13A
Date Collected: 11/11/19 14:30
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-5
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Oxygen	7.17				mg/L			11/11/19 15:30	1
eH	306.3				millivolts			11/11/19 15:30	1
Turbidity	1.18				NTU			11/11/19 15:30	1
Temperature	9.24				Degrees C			11/11/19 15:30	1
pH	6.72				SU			11/11/19 15:30	1

Client Sample ID: MW-13B
Date Collected: 11/11/19 15:08
Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-6
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	62.43				ft			11/11/19 16:08	1
Specific Conductivity	175				umhos/cm			11/11/19 16:08	1
Dissolved Oxygen	7.53				mg/L			11/11/19 16:08	1
eH	298.6				millivolts			11/11/19 16:08	1
Turbidity	1.03				NTU			11/11/19 16:08	1
Temperature	9.66				Degrees C			11/11/19 16:08	1
pH	7.03				SU			11/11/19 16:08	1

Surrogate Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (77-120)	BFB (73-120)	TOL (80-120)
280-130756-1	MW-34C	105	97	88
280-130756-2	MW-34A	105	99	89
280-130756-3	MW-36A	104	98	90
280-130756-4	MW-15R	104	95	89
280-130756-5	MW-13A	106	100	92
280-130756-6	MW-13B	100	100	101
280-130756-7	TRIP BLANK	100	101	101
480-162356-O-4 MS	Matrix Spike	113	110	103
480-162356-O-4 MSD	Matrix Spike Duplicate	103	104	95
480-162651-D-2 MS	Matrix Spike	100	103	102
480-162651-D-2 MSD	Matrix Spike Duplicate	101	103	101
LCS 480-504811/5	Lab Control Sample	101	102	101
LCS 480-504974/6	Lab Control Sample	98	102	90
MB 480-504811/7	Method Blank	102	100	100
MB 480-504974/8	Method Blank	104	101	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DBFM (50-150)	TBA (50-150)
280-130756-1	MW-34C	93	79
280-130756-2	MW-34A	96	76
280-130756-3	MW-36A	96	78
280-130756-4	MW-15R	96	80
280-130756-5	MW-13A	99	82
280-130756-6	MW-13B	99	86
280-130756-7	TRIP BLANK	101	86
LCS 480-505396/6	Lab Control Sample	99	79
LCSD 480-505396/7	Lab Control Sample Dup	98	76
MB 480-505396/9	Method Blank	91	79

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TBA = TBA-d9 (Surr)

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-504811/7
Matrix: Water
Analysis Batch: 504811

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 19:54	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 19:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 19:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 19:54	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 19:54	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 19:54	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 19:54	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 19:54	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 19:54	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 19:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 19:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 19:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 19:54	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 19:54	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 19:54	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 19:54	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 19:54	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 19:54	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 19:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 19:54	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 19:54	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 19:54	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 19:54	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 19:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 19:54	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 19:54	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 19:54	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 19:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 19:54	1
Acetone	ND		10	3.0	ug/L			11/15/19 19:54	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 19:54	1
Acrolein	ND		20	0.91	ug/L			11/15/19 19:54	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 19:54	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 19:54	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 19:54	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 19:54	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 19:54	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 19:54	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 19:54	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 19:54	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 19:54	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 19:54	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 19:54	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 19:54	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 19:54	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 19:54	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 19:54	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 19:54	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: MB 480-504811/7
Matrix: Water
Analysis Batch: 504811

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 19:54	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 19:54	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 19:54	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 19:54	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 19:54	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 19:54	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 19:54	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 19:54	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 19:54	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 19:54	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 19:54	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 19:54	1
Hexane	ND		10	0.40	ug/L			11/15/19 19:54	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 19:54	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 19:54	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 19:54	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 19:54	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 19:54	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 19:54	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 19:54	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 19:54	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 19:54	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 19:54	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 19:54	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 19:54	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 19:54	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 19:54	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 19:54	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 19:54	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 19:54	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 19:54	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 19:54	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 19:54	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 19:54	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 19:54	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 19:54	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 19:54	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 19:54	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 19:54	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 19:54	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 19:54	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 19:54	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 19:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 19:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/15/19 19:54	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/15/19 19:54	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: MB 480-504811/7
Matrix: Water
Analysis Batch: 504811

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)		100		80 - 120		11/15/19 19:54	1

Lab Sample ID: LCS 480-504811/5
Matrix: Water
Analysis Batch: 504811

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	27.8		ug/L		111	80 - 120
1,1,1-Trichloroethane	25.0	28.2		ug/L		113	73 - 126
1,1,2,2-Tetrachloroethane	25.0	26.6		ug/L		107	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	30.4		ug/L		122	61 - 148
1,1,2-Trichloroethane	25.0	27.1		ug/L		108	76 - 122
1,1-Dichloroethane	25.0	26.0		ug/L		104	77 - 120
1,1-Dichloroethene	25.0	28.6		ug/L		114	66 - 127
1,1-Dichloropropene	25.0	27.6		ug/L		111	72 - 122
1,2,3-Trichlorobenzene	25.0	26.4		ug/L		105	75 - 123
1,2,3-Trichloropropane	25.0	26.4		ug/L		106	68 - 122
1,2,4-Trichlorobenzene	25.0	26.5		ug/L		106	79 - 122
1,2,4-Trimethylbenzene	25.0	26.6		ug/L		107	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	28.3		ug/L		113	56 - 134
1,2-Dibromoethane (EDB)	25.0	27.3		ug/L		109	77 - 120
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	25.3		ug/L		101	75 - 120
1,2-Dichloropropane	25.0	26.1		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	25.0	26.9		ug/L		108	77 - 121
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	77 - 120
1,3-Dichloropropane	25.0	26.5		ug/L		106	75 - 120
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	80 - 120
1,4-Dioxane	500	536		ug/L		107	50 - 150
2,2-Dichloropropane	25.0	29.1		ug/L		116	63 - 136
2-Butanone (MEK)	125	128		ug/L		103	57 - 140
2-Chloroethyl vinyl ether	25.0	28.0		ug/L		112	70 - 129
2-Hexanone	125	131		ug/L		105	65 - 127
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		105	71 - 125
Acetone	125	125		ug/L		100	56 - 142
Acrolein	125	130		ug/L		104	52 - 143
Acrylonitrile	250	264		ug/L		106	63 - 125
Benzene	25.0	26.1		ug/L		104	71 - 124
Bromobenzene	25.0	26.6		ug/L		106	78 - 120
Bromochloromethane	25.0	26.7		ug/L		107	72 - 130
Bromodichloromethane	25.0	25.9		ug/L		104	80 - 122
Bromoform	25.0	30.2		ug/L		121	61 - 132
Bromomethane	25.0	27.3		ug/L		109	55 - 144
Butyl alcohol, tert-	250	284		ug/L		114	75 - 125
Carbon disulfide	25.0	28.1		ug/L		113	59 - 134
Carbon tetrachloride	25.0	29.0		ug/L		116	72 - 134
Chlorobenzene	25.0	26.4		ug/L		106	80 - 120
Chloroethane	25.0	24.5		ug/L		98	69 - 136

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: LCS 480-504811/5

Matrix: Water

Analysis Batch: 504811

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	25.0	26.6		ug/L		107	73 - 127
Chloromethane	25.0	24.3		ug/L		97	68 - 124
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	74 - 124
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	74 - 124
Cyclohexane	25.0	28.3		ug/L		113	59 - 135
Dibromochloromethane	25.0	28.5		ug/L		114	75 - 125
Dibromomethane	25.0	26.5		ug/L		106	76 - 127
Dichlorodifluoromethane	25.0	29.1		ug/L		116	59 - 135
Dichlorofluoromethane	25.0	24.7		ug/L		99	76 - 127
Ethyl ether	25.0	25.4		ug/L		101	76 - 123
Ethylbenzene	25.0	27.0		ug/L		108	77 - 123
Hexachlorobutadiene	25.0	28.1		ug/L		112	68 - 131
Iodomethane	25.0	27.0		ug/L		108	78 - 123
Isobutanol	625	675		ug/L		108	51 - 150
Isopropylbenzene	25.0	27.0		ug/L		108	77 - 122
Methyl acetate	50.0	50.1		ug/L		100	74 - 133
Methyl tert-butyl ether	25.0	26.2		ug/L		105	77 - 120
Methylcyclohexane	25.0	29.8		ug/L		119	68 - 134
Methylene Chloride	25.0	25.0		ug/L		100	75 - 124
m-Xylene & p-Xylene	25.0	27.1		ug/L		108	76 - 122
Naphthalene	25.0	26.8		ug/L		107	66 - 125
n-Butylbenzene	25.0	27.0		ug/L		108	71 - 128
N-Propylbenzene	25.0	27.1		ug/L		108	75 - 127
o-Chlorotoluene	25.0	26.7		ug/L		107	76 - 121
o-Xylene	25.0	26.9		ug/L		108	76 - 122
p-Chlorotoluene	25.0	26.8		ug/L		107	77 - 121
p-Cymene	25.0	27.0		ug/L		108	73 - 120
sec-Butylbenzene	25.0	27.2		ug/L		109	74 - 127
Styrene	25.0	26.9		ug/L		108	80 - 120
tert-Butylbenzene	25.0	27.5		ug/L		110	75 - 123
Tetrachloroethene	25.0	28.6		ug/L		114	74 - 122
Tetrahydrofuran	50.0	51.7		ug/L		103	62 - 132
Toluene	25.0	26.7		ug/L		107	80 - 122
trans-1,2-Dichloroethene	25.0	27.5		ug/L		110	73 - 127
trans-1,3-Dichloropropene	25.0	27.8		ug/L		111	80 - 120
trans-1,4-Dichloro-2-butene	25.0	27.6		ug/L		111	41 - 131
Trichloroethene	25.0	27.2		ug/L		109	74 - 123
Trichlorofluoromethane	25.0	28.6		ug/L		115	62 - 150
Vinyl acetate	50.0	58.1		ug/L		116	50 - 144
Vinyl chloride	25.0	27.2		ug/L		109	65 - 133

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	101		80 - 120

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 480-162651-D-2 MS

Matrix: Water

Analysis Batch: 504811

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		250	276		ug/L		111	80 - 120
1,1,1-Trichloroethane	ND		250	282		ug/L		113	73 - 126
1,1,2,2-Tetrachloroethane	ND		250	267		ug/L		107	76 - 120
1,1,2-Trichloroethane	ND		250	270		ug/L		108	76 - 122
1,1-Dichloroethane	ND		250	260		ug/L		104	77 - 120
1,1-Dichloroethene	ND		250	288		ug/L		115	66 - 127
1,1-Dichloropropene	ND		250	274		ug/L		110	72 - 122
1,2,3-Trichlorobenzene	ND		250	277		ug/L		111	75 - 123
1,2,3-Trichloropropane	ND		250	265		ug/L		106	68 - 122
1,2,4-Trichlorobenzene	ND		250	272		ug/L		109	79 - 122
1,2,4-Trimethylbenzene	ND		250	261		ug/L		104	76 - 121
1,2-Dichlorobenzene	ND		250	264		ug/L		106	80 - 124
1,2-Dichloroethane	ND		250	254		ug/L		102	75 - 120
1,2-Dichloropropane	ND		250	260		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	ND		250	263		ug/L		105	77 - 121
1,3-Dichlorobenzene	ND		250	261		ug/L		104	77 - 120
1,4-Dichlorobenzene	ND		250	258		ug/L		103	78 - 124
2,2-Dichloropropane	ND		250	244		ug/L		97	63 - 136
2-Butanone (MEK)	ND		1250	1270		ug/L		102	57 - 140
2-Hexanone	ND		1250	1280		ug/L		102	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		1250	1300		ug/L		104	71 - 125
Acetone	ND		1250	1180		ug/L		94	56 - 142
Benzene	ND		250	260		ug/L		104	71 - 124
Bromobenzene	ND		250	265		ug/L		106	78 - 120
Bromochloromethane	ND		250	266		ug/L		106	72 - 130
Bromodichloromethane	ND		250	260		ug/L		104	80 - 122
Bromoform	ND		250	292		ug/L		117	61 - 132
Bromomethane	ND		250	295		ug/L		118	55 - 144
Butyl alcohol, tert-	200		2500	3190		ug/L		120	75 - 125
Carbon disulfide	ND		250	281		ug/L		112	59 - 134
Carbon tetrachloride	ND		250	288		ug/L		115	72 - 134
Chlorobenzene	ND		250	267		ug/L		107	80 - 120
Chloroethane	ND		250	262		ug/L		105	69 - 136
Chloroform	ND		250	266		ug/L		106	73 - 127
Chloromethane	ND		250	267		ug/L		107	68 - 124
cis-1,2-Dichloroethene	ND		250	266		ug/L		106	74 - 124
cis-1,3-Dichloropropene	ND		250	261		ug/L		105	74 - 124
Dibromochloromethane	ND		250	282		ug/L		113	75 - 125
Dibromomethane	ND		250	268		ug/L		107	76 - 127
Dichlorodifluoromethane	ND		250	303		ug/L		121	59 - 135
Ethyl ether	ND		250	260		ug/L		104	76 - 123
Ethylbenzene	ND		250	265		ug/L		106	77 - 123
Hexachlorobutadiene	ND		250	283		ug/L		113	68 - 131
Isopropylbenzene	ND		250	265		ug/L		106	77 - 122
Methyl tert-butyl ether	ND		250	260		ug/L		104	77 - 120
Methylene Chloride	ND		250	278		ug/L		111	75 - 124
m-Xylene & p-Xylene	ND		250	264		ug/L		105	76 - 122
Naphthalene	ND		250	280		ug/L		112	66 - 125

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 480-162651-D-2 MS

Matrix: Water

Analysis Batch: 504811

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
n-Butylbenzene	ND		250	266		ug/L		106	71 - 128	
N-Propylbenzene	ND		250	263		ug/L		105	75 - 127	
o-Chlorotoluene	ND		250	264		ug/L		105	76 - 121	
o-Xylene	ND		250	270		ug/L		108	76 - 122	
p-Chlorotoluene	ND		250	263		ug/L		105	77 - 121	
p-Cymene	ND		250	268		ug/L		107	73 - 120	
sec-Butylbenzene	ND		250	269		ug/L		108	74 - 127	
Styrene	ND		250	266		ug/L		106	80 - 120	
tert-Butylbenzene	ND		250	275		ug/L		110	75 - 123	
Tetrachloroethene	ND		250	283		ug/L		113	74 - 122	
Tetrahydrofuran	32	J	500	550		ug/L		104	62 - 132	
Toluene	ND		250	268		ug/L		107	80 - 122	
trans-1,2-Dichloroethene	ND		250	275		ug/L		110	73 - 127	
trans-1,3-Dichloropropene	ND		250	268		ug/L		107	80 - 120	
Trichloroethene	ND		250	267		ug/L		107	74 - 123	
Trichlorofluoromethane	ND		250	299		ug/L		120	62 - 150	
Vinyl chloride	ND		250	286		ug/L		114	65 - 133	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 480-162651-D-2 MSD

Matrix: Water

Analysis Batch: 504811

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		250	280		ug/L		112	80 - 120	1	20	
1,1,1-Trichloroethane	ND		250	285		ug/L		114	73 - 126	1	15	
1,1,2,2-Tetrachloroethane	ND		250	261		ug/L		104	76 - 120	2	15	
1,1,2-Trichloroethane	ND		250	265		ug/L		106	76 - 122	2	15	
1,1-Dichloroethane	ND		250	263		ug/L		105	77 - 120	1	20	
1,1-Dichloroethene	ND		250	293		ug/L		117	66 - 127	2	16	
1,1-Dichloropropene	ND		250	279		ug/L		111	72 - 122	2	20	
1,2,3-Trichlorobenzene	ND		250	268		ug/L		107	75 - 123	3	20	
1,2,3-Trichloropropane	ND		250	253		ug/L		101	68 - 122	4	14	
1,2,4-Trichlorobenzene	ND		250	268		ug/L		107	79 - 122	2	20	
1,2,4-Trimethylbenzene	ND		250	260		ug/L		104	76 - 121	1	20	
1,2-Dichlorobenzene	ND		250	257		ug/L		103	80 - 124	3	20	
1,2-Dichloroethane	ND		250	254		ug/L		102	75 - 120	0	20	
1,2-Dichloropropane	ND		250	257		ug/L		103	76 - 120	1	20	
1,3,5-Trimethylbenzene	ND		250	262		ug/L		105	77 - 121	0	20	
1,3-Dichlorobenzene	ND		250	258		ug/L		103	77 - 120	1	20	
1,4-Dichlorobenzene	ND		250	255		ug/L		102	78 - 124	1	20	
2,2-Dichloropropane	ND		250	240		ug/L		96	63 - 136	1	20	
2-Butanone (MEK)	ND		1250	1260		ug/L		101	57 - 140	1	20	
2-Hexanone	ND		1250	1270		ug/L		101	65 - 127	1	15	

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 480-162651-D-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 504811

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
4-Methyl-2-pentanone (MIBK)	ND		1250	1290		ug/L		103	71 - 125	1	35
Acetone	ND		1250	1140		ug/L		91	56 - 142	3	15
Benzene	ND		250	263		ug/L		105	71 - 124	1	13
Bromobenzene	ND		250	262		ug/L		105	78 - 120	1	15
Bromochloromethane	ND		250	270		ug/L		108	72 - 130	2	15
Bromodichloromethane	ND		250	264		ug/L		106	80 - 122	1	15
Bromoform	ND		250	291		ug/L		117	61 - 132	0	15
Bromomethane	ND		250	286		ug/L		114	55 - 144	3	15
Butyl alcohol, tert-	200		2500	3200		ug/L		120	75 - 125	0	15
Carbon disulfide	ND		250	282		ug/L		113	59 - 134	0	15
Carbon tetrachloride	ND		250	303		ug/L		121	72 - 134	5	15
Chlorobenzene	ND		250	263		ug/L		105	80 - 120	1	25
Chloroethane	ND		250	256		ug/L		102	69 - 136	2	15
Chloroform	ND		250	268		ug/L		107	73 - 127	1	20
Chloromethane	ND		250	269		ug/L		108	68 - 124	1	15
cis-1,2-Dichloroethene	ND		250	268		ug/L		107	74 - 124	1	15
cis-1,3-Dichloropropene	ND		250	262		ug/L		105	74 - 124	0	15
Dibromochloromethane	ND		250	277		ug/L		111	75 - 125	2	15
Dibromomethane	ND		250	266		ug/L		106	76 - 127	1	15
Dichlorodifluoromethane	ND		250	307		ug/L		123	59 - 135	1	20
Ethyl ether	ND		250	255		ug/L		102	76 - 123	2	20
Ethylbenzene	ND		250	264		ug/L		105	77 - 123	0	15
Hexachlorobutadiene	ND		250	276		ug/L		110	68 - 131	3	20
Isopropylbenzene	ND		250	263		ug/L		105	77 - 122	1	20
Methyl tert-butyl ether	ND		250	263		ug/L		105	77 - 120	1	37
Methylene Chloride	ND		250	272		ug/L		109	75 - 124	2	15
m-Xylene & p-Xylene	ND		250	268		ug/L		107	76 - 122	1	16
Naphthalene	ND		250	273		ug/L		109	66 - 125	3	20
n-Butylbenzene	ND		250	262		ug/L		105	71 - 128	1	15
N-Propylbenzene	ND		250	262		ug/L		105	75 - 127	1	15
o-Chlorotoluene	ND		250	264		ug/L		105	76 - 121	0	20
o-Xylene	ND		250	268		ug/L		107	76 - 122	1	16
p-Chlorotoluene	ND		250	261		ug/L		105	77 - 121	1	15
p-Cymene	ND		250	265		ug/L		106	73 - 120	1	20
sec-Butylbenzene	ND		250	268		ug/L		107	74 - 127	0	15
Styrene	ND		250	264		ug/L		105	80 - 120	1	20
tert-Butylbenzene	ND		250	277		ug/L		111	75 - 123	1	15
Tetrachloroethene	ND		250	281		ug/L		113	74 - 122	1	20
Tetrahydrofuran	32	J	500	548		ug/L		103	62 - 132	1	25
Toluene	ND		250	266		ug/L		106	80 - 122	1	15
trans-1,2-Dichloroethene	ND		250	281		ug/L		112	73 - 127	2	20
trans-1,3-Dichloropropene	ND		250	261		ug/L		104	80 - 120	3	15
Trichloroethene	ND		250	274		ug/L		109	74 - 123	3	16
Trichlorofluoromethane	ND		250	299		ug/L		120	62 - 150	0	20
Vinyl chloride	ND		250	290		ug/L		116	65 - 133	1	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		77 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 480-162651-D-2 MSD
Matrix: Water
Analysis Batch: 504811

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

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 480-504974/8
Matrix: Water
Analysis Batch: 504974

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/19 12:36	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/19 12:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/19 12:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/17/19 12:36	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/19 12:36	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/19 12:36	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/19 12:36	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/17/19 12:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 12:36	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/19 12:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/17/19 12:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/17/19 12:36	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/19 12:36	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/17/19 12:36	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/17/19 12:36	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/19 12:36	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/17/19 12:36	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/19 12:36	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/17/19 12:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/17/19 12:36	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/17/19 12:36	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/17/19 12:36	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/17/19 12:36	1
1,4-Dioxane	ND		40	9.3	ug/L			11/17/19 12:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/17/19 12:36	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/19 12:36	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/17/19 12:36	1
2-Hexanone	ND		5.0	1.2	ug/L			11/17/19 12:36	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/19 12:36	1
Acetone	ND		10	3.0	ug/L			11/17/19 12:36	1
Acetonitrile	ND		15	4.9	ug/L			11/17/19 12:36	1
Acrolein	ND		20	0.91	ug/L			11/17/19 12:36	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/19 12:36	1
Benzene	ND		1.0	0.41	ug/L			11/17/19 12:36	1
Bromobenzene	ND		1.0	0.80	ug/L			11/17/19 12:36	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/17/19 12:36	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/17/19 12:36	1
Bromoform	ND		1.0	0.26	ug/L			11/17/19 12:36	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/19 12:36	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/17/19 12:36	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: MB 480-504974/8
Matrix: Water
Analysis Batch: 504974

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/17/19 12:36	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/19 12:36	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/19 12:36	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/19 12:36	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/17/19 12:36	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/19 12:36	1
Chloroform	0.355	J	1.0	0.34	ug/L			11/17/19 12:36	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/19 12:36	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/17/19 12:36	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/19 12:36	1
Cyclohexane	ND		1.0	0.18	ug/L			11/17/19 12:36	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/17/19 12:36	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/19 12:36	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/19 12:36	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/17/19 12:36	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/17/19 12:36	1
Ethyl ether	ND		1.0	0.72	ug/L			11/17/19 12:36	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/17/19 12:36	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/19 12:36	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/17/19 12:36	1
Hexane	ND		10	0.40	ug/L			11/17/19 12:36	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/19 12:36	1
Isobutanol	ND		25	4.8	ug/L			11/17/19 12:36	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/17/19 12:36	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/17/19 12:36	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/19 12:36	1
Methyl acetate	ND		2.5	1.3	ug/L			11/17/19 12:36	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/17/19 12:36	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/17/19 12:36	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/19 12:36	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/19 12:36	1
Naphthalene	ND		1.0	0.43	ug/L			11/17/19 12:36	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/17/19 12:36	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/17/19 12:36	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/17/19 12:36	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/19 12:36	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/17/19 12:36	1
p-Cymene	ND		1.0	0.31	ug/L			11/17/19 12:36	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/17/19 12:36	1
Styrene	ND		1.0	0.73	ug/L			11/17/19 12:36	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/17/19 12:36	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/17/19 12:36	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/19 12:36	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/17/19 12:36	1
Toluene	ND		1.0	0.51	ug/L			11/17/19 12:36	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/19 12:36	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/19 12:36	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/19 12:36	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/19 12:36	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: MB 480-504974/8
Matrix: Water
Analysis Batch: 504974

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/19 12:36	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/19 12:36	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/19 12:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/17/19 12:36	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/17/19 12:36	1
Toluene-d8 (Surr)	90		80 - 120		11/17/19 12:36	1

Lab Sample ID: LCS 480-504974/6
Matrix: Water
Analysis Batch: 504974

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
1,1,1,2-Tetrachloroethane	25.0	22.2		ug/L		89	80 - 120
1,1,1-Trichloroethane	25.0	23.9		ug/L		96	73 - 126
1,1,2,2-Tetrachloroethane	25.0	20.6		ug/L		82	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.8		ug/L		91	61 - 148
1,1,2-Trichloroethane	25.0	21.5		ug/L		86	76 - 122
1,1-Dichloroethane	25.0	21.8		ug/L		87	77 - 120
1,1-Dichloroethene	25.0	22.8		ug/L		91	66 - 127
1,1-Dichloropropene	25.0	22.9		ug/L		91	72 - 122
1,2,3-Trichlorobenzene	25.0	22.6		ug/L		91	75 - 123
1,2,3-Trichloropropane	25.0	21.5		ug/L		86	68 - 122
1,2,4-Trichlorobenzene	25.0	21.8		ug/L		87	79 - 122
1,2,4-Trimethylbenzene	25.0	20.5		ug/L		82	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	19.2		ug/L		77	56 - 134
1,2-Dibromoethane (EDB)	25.0	21.4		ug/L		86	77 - 120
1,2-Dichlorobenzene	25.0	22.0		ug/L		88	80 - 124
1,2-Dichloroethane	25.0	23.1		ug/L		92	75 - 120
1,2-Dichloropropane	25.0	22.3		ug/L		89	76 - 120
1,3,5-Trimethylbenzene	25.0	20.7		ug/L		83	77 - 121
1,3-Dichlorobenzene	25.0	22.0		ug/L		88	77 - 120
1,3-Dichloropropane	25.0	21.6		ug/L		86	75 - 120
1,4-Dichlorobenzene	25.0	22.1		ug/L		88	80 - 120
1,4-Dioxane	500	334		ug/L		67	50 - 150
2,2-Dichloropropane	25.0	21.7		ug/L		87	63 - 136
2-Butanone (MEK)	125	115		ug/L		92	57 - 140
2-Chloroethyl vinyl ether	25.0	21.8		ug/L		87	70 - 129
2-Hexanone	125	112		ug/L		90	65 - 127
4-Methyl-2-pentanone (MIBK)	125	106		ug/L		85	71 - 125
Acetone	125	113		ug/L		90	56 - 142
Acrolein	125	143		ug/L		114	52 - 143
Acrylonitrile	250	220		ug/L		88	63 - 125
Benzene	25.0	22.0		ug/L		88	71 - 124
Bromobenzene	25.0	22.0		ug/L		88	78 - 120
Bromochloromethane	25.0	24.2		ug/L		97	72 - 130
Bromodichloromethane	25.0	23.5		ug/L		94	80 - 122

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: LCS 480-504974/6

Matrix: Water

Analysis Batch: 504974

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	25.0	20.9		ug/L		84	61 - 132
Bromomethane	25.0	27.3		ug/L		109	55 - 144
Butyl alcohol, tert-	25.0	190		ug/L		76	75 - 125
Carbon disulfide	25.0	19.9		ug/L		80	59 - 134
Carbon tetrachloride	25.0	22.5		ug/L		90	72 - 134
Chlorobenzene	25.0	21.9		ug/L		88	80 - 120
Chloroethane	25.0	26.7		ug/L		107	69 - 136
Chloroform	25.0	22.0		ug/L		88	73 - 127
Chloromethane	25.0	18.1		ug/L		73	68 - 124
cis-1,2-Dichloroethene	25.0	23.2		ug/L		93	74 - 124
cis-1,3-Dichloropropene	25.0	21.9		ug/L		87	74 - 124
Cyclohexane	25.0	21.3		ug/L		85	59 - 135
Dibromochloromethane	25.0	21.7		ug/L		87	75 - 125
Dibromomethane	25.0	23.6		ug/L		94	76 - 127
Dichlorodifluoromethane	25.0	17.6		ug/L		70	59 - 135
Dichlorofluoromethane	25.0	22.9		ug/L		92	76 - 127
Ethyl ether	25.0	20.4		ug/L		82	76 - 123
Ethylbenzene	25.0	21.5		ug/L		86	77 - 123
Hexachlorobutadiene	25.0	22.7		ug/L		91	68 - 131
Iodomethane	25.0	22.5		ug/L		90	78 - 123
Isobutanol	625	457		ug/L		73	51 - 150
Isopropylbenzene	25.0	20.2		ug/L		81	77 - 122
Methyl acetate	50.0	39.6		ug/L		79	74 - 133
Methyl tert-butyl ether	25.0	21.8		ug/L		87	77 - 120
Methylcyclohexane	25.0	22.1		ug/L		89	68 - 134
Methylene Chloride	25.0	21.9		ug/L		88	75 - 124
m-Xylene & p-Xylene	25.0	21.7		ug/L		87	76 - 122
Naphthalene	25.0	20.2		ug/L		81	66 - 125
n-Butylbenzene	25.0	20.8		ug/L		83	71 - 128
N-Propylbenzene	25.0	20.5		ug/L		82	75 - 127
o-Chlorotoluene	25.0	20.6		ug/L		83	76 - 121
o-Xylene	25.0	21.7		ug/L		87	76 - 122
p-Chlorotoluene	25.0	20.3		ug/L		81	77 - 121
p-Cymene	25.0	21.1		ug/L		84	73 - 120
sec-Butylbenzene	25.0	20.9		ug/L		84	74 - 127
Styrene	25.0	22.0		ug/L		88	80 - 120
tert-Butylbenzene	25.0	21.0		ug/L		84	75 - 123
Tetrachloroethene	25.0	23.1		ug/L		92	74 - 122
Tetrahydrofuran	50.0	39.5		ug/L		79	62 - 132
Toluene	25.0	20.3		ug/L		81	80 - 122
trans-1,2-Dichloroethene	25.0	21.9		ug/L		88	73 - 127
trans-1,3-Dichloropropene	25.0	20.0		ug/L		80	80 - 120
trans-1,4-Dichloro-2-butene	25.0	18.7		ug/L		75	41 - 131
Trichloroethene	25.0	23.2		ug/L		93	74 - 123
Trichlorofluoromethane	25.0	25.1		ug/L		100	62 - 150
Vinyl acetate	50.0	39.5		ug/L		79	50 - 144
Vinyl chloride	25.0	20.0		ug/L		80	65 - 133

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: LCS 480-504974/6
Matrix: Water
Analysis Batch: 504974

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	90		80 - 120

Lab Sample ID: 480-162356-O-4 MS
Matrix: Water
Analysis Batch: 504974

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		2000	2000		ug/L		100	80 - 120
1,1,1-Trichloroethane	ND		2000	2220		ug/L		111	73 - 126
1,1,2,2-Tetrachloroethane	ND		2000	1730		ug/L		87	76 - 120
1,1,2-Trichloroethane	ND		2000	1900		ug/L		95	76 - 122
1,1-Dichloroethane	ND		2000	2030		ug/L		102	77 - 120
1,1-Dichloroethene	ND		2000	2060		ug/L		103	66 - 127
1,1-Dichloropropene	ND		2000	2170		ug/L		108	72 - 122
1,2,3-Trichloropropane	ND		2000	1840		ug/L		92	68 - 122
1,2,4-Trichlorobenzene	ND		2000	1830		ug/L		91	79 - 122
1,2-Dibromo-3-Chloropropane	ND		2000	1510		ug/L		76	56 - 134
1,2-Dibromoethane (EDB)	ND		2000	1920		ug/L		96	77 - 120
1,2-Dichlorobenzene	ND		2000	1900		ug/L		95	80 - 124
1,2-Dichloroethane	ND		2000	2080		ug/L		104	75 - 120
1,2-Dichloropropane	ND		2000	2080		ug/L		104	76 - 120
1,3-Dichlorobenzene	ND		2000	1890		ug/L		95	77 - 120
1,3-Dichloropropane	ND		2000	1920		ug/L		96	75 - 120
1,4-Dichlorobenzene	ND		2000	1930		ug/L		96	78 - 124
2,2-Dichloropropane	ND		2000	1700		ug/L		85	63 - 136
2-Butanone (MEK)	330	J	10000	10400		ug/L		100	57 - 140
2-Hexanone	ND		10000	9400		ug/L		94	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		10000	9200		ug/L		92	71 - 125
Acetone	420	J	10000	10300		ug/L		99	56 - 142
Acrolein	ND		10000	11200		ug/L		112	52 - 143
Acrylonitrile	ND		20000	19700		ug/L		99	63 - 125
Benzene	ND		2000	2080		ug/L		104	71 - 124
Bromochloromethane	ND		2000	2220		ug/L		111	72 - 130
Bromodichloromethane	ND		2000	2100		ug/L		105	80 - 122
Bromoform	ND		2000	1720		ug/L		86	61 - 132
Bromomethane	ND		2000	2500		ug/L		125	55 - 144
Carbon disulfide	ND		2000	1870		ug/L		93	59 - 134
Carbon tetrachloride	ND		2000	2120		ug/L		106	72 - 134
Chlorobenzene	ND		2000	2020		ug/L		101	80 - 120
Chloroethane	ND		2000	2500		ug/L		125	69 - 136
Chloroform	ND		2000	2040		ug/L		102	73 - 127
Chloromethane	ND		2000	1680		ug/L		84	68 - 124
cis-1,2-Dichloroethene	ND		2000	2130		ug/L		106	74 - 124
cis-1,3-Dichloropropene	ND		2000	1920		ug/L		96	74 - 124
Dibromochloromethane	ND		2000	1910		ug/L		96	75 - 125
Dibromomethane	ND		2000	2070		ug/L		103	76 - 127

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 480-162356-O-4 MS
Matrix: Water
Analysis Batch: 504974

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		2000	1560		ug/L		78	59 - 135
Ethylbenzene	ND		2000	1960		ug/L		98	77 - 123
Hexachlorobutadiene	ND		2000	2010		ug/L		101	68 - 131
Iodomethane	ND		2000	2080		ug/L		104	78 - 123
Isobutanol	ND		50000	38400		ug/L		77	51 - 150
Methylene Chloride	36	J	2000	2000		ug/L		98	75 - 124
m-Xylene & p-Xylene	ND		2000	2000		ug/L		100	76 - 122
Naphthalene	ND		2000	1720		ug/L		86	66 - 125
o-Xylene	ND		2000	1990		ug/L		100	76 - 122
Styrene	ND		2000	2010		ug/L		100	80 - 120
Tetrachloroethene	ND		2000	2080		ug/L		104	74 - 122
Toluene	52	J	2000	1950		ug/L		95	80 - 122
trans-1,2-Dichloroethene	ND		2000	2050		ug/L		102	73 - 127
trans-1,3-Dichloropropene	ND		2000	1690		ug/L		84	80 - 120
trans-1,4-Dichloro-2-butene	ND		2000	1320		ug/L		66	41 - 131
Trichloroethene	ND		2000	2150		ug/L		107	74 - 123
Trichlorofluoromethane	ND		2000	2350		ug/L		117	62 - 150
Vinyl acetate	ND		4000	3060		ug/L		76	50 - 144
Vinyl chloride	ND		2000	1840		ug/L		92	65 - 133

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	113		77 - 120
4-Bromofluorobenzene (Surr)	110		73 - 120
Toluene-d8 (Surr)	103		80 - 120

Lab Sample ID: 480-162356-O-4 MSD
Matrix: Water
Analysis Batch: 504974

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		2000	1860		ug/L		93	80 - 120	7	20
1,1,1-Trichloroethane	ND		2000	2050		ug/L		103	73 - 126	8	15
1,1,2,2-Tetrachloroethane	ND		2000	1700		ug/L		85	76 - 120	2	15
1,1,2-Trichloroethane	ND		2000	1830		ug/L		92	76 - 122	4	15
1,1-Dichloroethane	ND		2000	1900		ug/L		95	77 - 120	7	20
1,1-Dichloroethene	ND		2000	1930		ug/L		96	66 - 127	7	16
1,1-Dichloropropene	ND		2000	2000		ug/L		100	72 - 122	8	20
1,2,3-Trichloropropane	ND		2000	1830		ug/L		92	68 - 122	1	14
1,2,4-Trichlorobenzene	ND		2000	1820		ug/L		91	79 - 122	0	20
1,2-Dibromo-3-Chloropropane	ND		2000	1570		ug/L		78	56 - 134	4	15
1,2-Dibromoethane (EDB)	ND		2000	1790		ug/L		90	77 - 120	7	15
1,2-Dichlorobenzene	ND		2000	1820		ug/L		91	80 - 124	4	20
1,2-Dichloroethane	ND		2000	2000		ug/L		100	75 - 120	4	20
1,2-Dichloropropane	ND		2000	1910		ug/L		96	76 - 120	8	20
1,3-Dichlorobenzene	ND		2000	1810		ug/L		90	77 - 120	5	20
1,3-Dichloropropane	ND		2000	1770		ug/L		89	75 - 120	8	20
1,4-Dichlorobenzene	ND		2000	1840		ug/L		92	78 - 124	5	20
2,2-Dichloropropane	ND		2000	1560		ug/L		78	63 - 136	9	20

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 480-162356-O-4 MSD
Matrix: Water
Analysis Batch: 504974

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
2-Butanone (MEK)	330	J	10000	9470		ug/L		91	57 - 140	9	20
2-Hexanone	ND		10000	9010		ug/L		90	65 - 127	4	15
4-Methyl-2-pentanone (MIBK)	ND		10000	8680		ug/L		87	71 - 125	6	35
Acetone	420	J	10000	9440		ug/L		90	56 - 142	9	15
Acrolein	ND		10000	10200		ug/L		102	52 - 143	9	20
Acrylonitrile	ND		20000	18300		ug/L		91	63 - 125	8	20
Benzene	ND		2000	1870		ug/L		94	71 - 124	10	13
Bromochloromethane	ND		2000	2090		ug/L		105	72 - 130	6	15
Bromodichloromethane	ND		2000	1960		ug/L		98	80 - 122	7	15
Bromoform	ND		2000	1690		ug/L		85	61 - 132	2	15
Bromomethane	ND		2000	2180		ug/L		109	55 - 144	13	15
Carbon disulfide	ND		2000	1710		ug/L		85	59 - 134	9	15
Carbon tetrachloride	ND		2000	1960		ug/L		98	72 - 134	7	15
Chlorobenzene	ND		2000	1880		ug/L		94	80 - 120	7	25
Chloroethane	ND		2000	2340		ug/L		117	69 - 136	6	15
Chloroform	ND		2000	1930		ug/L		96	73 - 127	6	20
Chloromethane	ND		2000	1530		ug/L		76	68 - 124	9	15
cis-1,2-Dichloroethene	ND		2000	1970		ug/L		99	74 - 124	8	15
cis-1,3-Dichloropropene	ND		2000	1850		ug/L		92	74 - 124	4	15
Dibromochloromethane	ND		2000	1800		ug/L		90	75 - 125	6	15
Dibromomethane	ND		2000	1980		ug/L		99	76 - 127	5	15
Dichlorodifluoromethane	ND		2000	1500		ug/L		75	59 - 135	4	20
Ethylbenzene	ND		2000	1830		ug/L		92	77 - 123	7	15
Hexachlorobutadiene	ND		2000	1920		ug/L		96	68 - 131	5	20
Iodomethane	ND		2000	1920		ug/L		96	78 - 123	8	20
Isobutanol	ND		50000	38400		ug/L		77	51 - 150	0	20
Methylene Chloride	36	J	2000	1900		ug/L		93	75 - 124	5	15
m-Xylene & p-Xylene	ND		2000	1870		ug/L		93	76 - 122	7	16
Naphthalene	ND		2000	1700		ug/L		85	66 - 125	1	20
o-Xylene	ND		2000	1850		ug/L		93	76 - 122	7	16
Styrene	ND		2000	1890		ug/L		94	80 - 120	6	20
Tetrachloroethene	ND		2000	1910		ug/L		95	74 - 122	9	20
Toluene	52	J	2000	1820		ug/L		88	80 - 122	7	15
trans-1,2-Dichloroethene	ND		2000	1900		ug/L		95	73 - 127	7	20
trans-1,3-Dichloropropene	ND		2000	1620		ug/L		81	80 - 120	4	15
trans-1,4-Dichloro-2-butene	ND		2000	1330		ug/L		66	41 - 131	1	20
Trichloroethene	ND		2000	2000		ug/L		100	74 - 123	7	16
Trichlorofluoromethane	ND		2000	2160		ug/L		108	62 - 150	8	20
Vinyl acetate	ND		4000	2930		ug/L		73	50 - 144	4	23
Vinyl chloride	ND		2000	1710		ug/L		86	65 - 133	7	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		77 - 120
4-Bromofluorobenzene (Surr)	104		73 - 120
Toluene-d8 (Surr)	95		80 - 120

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: MB 480-505396/9
Matrix: Water
Analysis Batch: 505396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 15:42	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	91		50 - 150					11/19/19 15:42	1
TBA-d9 (Surr)	79		50 - 150					11/19/19 15:42	1

Lab Sample ID: LCS 480-505396/6
Matrix: Water
Analysis Batch: 505396

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.200	0.183		ug/L		92	50 - 150
Surrogate	%Recovery	LCS Qualifier	Limits				
Dibromofluoromethane (Surr)	99		50 - 150				
TBA-d9 (Surr)	79		50 - 150				

Lab Sample ID: LCSD 480-505396/7
Matrix: Water
Analysis Batch: 505396

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	0.200	0.168		ug/L		84	50 - 150	9	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Dibromofluoromethane (Surr)	98		50 - 150						
TBA-d9 (Surr)	76		50 - 150						

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-477580/1-A
Matrix: Water
Analysis Batch: 478507

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477580

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	ND		0.20	0.078	mg/L		11/21/19 08:05	11/21/19 14:28	1
Iron, Dissolved	ND		0.060	0.022	mg/L		11/21/19 08:05	11/21/19 14:28	1
Magnesium, Dissolved	ND		0.050	0.026	mg/L		11/21/19 08:05	11/21/19 14:28	1
Potassium, Dissolved	ND		1.0	0.24	mg/L		11/21/19 08:05	11/21/19 14:28	1
Sodium, Dissolved	ND		1.0	0.37	mg/L		11/21/19 08:05	11/21/19 14:28	1

Lab Sample ID: LCS 280-477580/2-A
Matrix: Water
Analysis Batch: 478507

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium, Dissolved	50.0	50.1		mg/L		100	90 - 111
Iron, Dissolved	10.0	9.86		mg/L		99	89 - 115

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-477580/2-A
Matrix: Water
Analysis Batch: 478507

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium, Dissolved	50.0	50.2		mg/L		100	90 - 113
Potassium, Dissolved	50.0	50.5		mg/L		101	89 - 114
Sodium, Dissolved	50.0	50.3		mg/L		101	90 - 115

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:24	1

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Total	0.0291	J	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 13:53	1

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt, Total	1.00	1.05		mg/L		105	89 - 111

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron, Total	10.0	10.5		mg/L		105	89 - 115

Lab Sample ID: 280-130756-1 MS
Matrix: Water
Analysis Batch: 479765

Client Sample ID: MW-34C
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt, Total	0.0018	J	1.00	1.04		mg/L		104	82 - 119

Lab Sample ID: 280-130756-1 MS
Matrix: Water
Analysis Batch: 479958

Client Sample ID: MW-34C
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron, Total	39	B	10.0	47.8		mg/L		91	75 - 125

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 280-130756-1 MSD
Matrix: Water
Analysis Batch: 479765

Client Sample ID: MW-34C
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Cobalt, Total	0.0018	J	1.00	1.03		mg/L		102	82 - 119	1	20

Lab Sample ID: 280-130756-1 MSD
Matrix: Water
Analysis Batch: 479958

Client Sample ID: MW-34C
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Iron, Total	39	B	10.0	47.2		mg/L		85	75 - 125	1	20

Lab Sample ID: 280-130058-M-1-D MS
Matrix: Water
Analysis Batch: 478507

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 477580

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Calcium, Dissolved	47		50.0	95.8		mg/L		98	75 - 125	
Iron, Dissolved	1.2		10.0	10.9		mg/L		97	75 - 125	
Magnesium, Dissolved	14		50.0	62.9		mg/L		98	75 - 125	
Potassium, Dissolved	2.3		50.0	52.7		mg/L		101	76 - 125	
Sodium, Dissolved	6.9		50.0	56.8		mg/L		100	75 - 125	

Lab Sample ID: 280-130058-M-1-E MSD
Matrix: Water
Analysis Batch: 478507

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 477580

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Calcium, Dissolved	47		50.0	94.5		mg/L		96	75 - 125	1	20
Iron, Dissolved	1.2		10.0	10.8		mg/L		96	75 - 125	1	20
Magnesium, Dissolved	14		50.0	62.5		mg/L		98	75 - 125	1	20
Potassium, Dissolved	2.3		50.0	51.8		mg/L		99	76 - 125	2	20
Sodium, Dissolved	6.9		50.0	56.2		mg/L		99	75 - 125	1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-477467/1-A
Matrix: Water
Analysis Batch: 478119

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony, Total	ND		0.0010	0.00040	mg/L		11/18/19 07:50	11/18/19 14:15	1
Barium, Total	ND		0.0010	0.00029	mg/L		11/18/19 07:50	11/18/19 14:15	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		11/18/19 07:50	11/18/19 14:15	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		11/18/19 07:50	11/18/19 14:15	1
Chromium, Total	ND		0.0030	0.00050	mg/L		11/18/19 07:50	11/18/19 14:15	1
Copper, Total	ND		0.0020	0.00056	mg/L		11/18/19 07:50	11/18/19 14:15	1
Lead, Total	ND		0.0010	0.00018	mg/L		11/18/19 07:50	11/18/19 14:15	1
Manganese, Total	ND		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 14:15	1
Nickel, Total	ND		0.0040	0.00030	mg/L		11/18/19 07:50	11/18/19 14:15	1
Selenium, Total	ND		0.0010	0.00037	mg/L		11/18/19 07:50	11/18/19 14:15	1
Silver, Total	ND		0.0020	0.000033	mg/L		11/18/19 07:50	11/18/19 14:15	1
Thallium, Total	ND		0.0010	0.000089	mg/L		11/18/19 07:50	11/18/19 14:15	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: MB 280-477467/1-A
Matrix: Water
Analysis Batch: 478119

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc, Total	ND		0.0050	0.0020	mg/L		11/18/19 07:50	11/18/19 14:15	1

Lab Sample ID: MB 280-477467/1-A
Matrix: Water
Analysis Batch: 478266

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium, Total	ND	L	0.0020	0.0012	mg/L		11/18/19 07:50	11/19/19 18:25	1

Lab Sample ID: LCS 280-477467/2-A
Matrix: Water
Analysis Batch: 478119

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony, Total	0.0400	0.0379		mg/L		95	80 - 111
Barium, Total	0.0400	0.0369		mg/L		92	92 - 117
Beryllium, Total	0.0400	0.0409		mg/L		102	87 - 118
Cadmium, Total	0.0400	0.0386		mg/L		97	91 - 114
Chromium, Total	0.0400	0.0379		mg/L		95	91 - 114
Copper, Total	0.0400	0.0365		mg/L		91	89 - 116
Lead, Total	0.0400	0.0385		mg/L		96	95 - 116
Manganese, Total	0.0400	0.0378		mg/L		94	89 - 119
Nickel, Total	0.0400	0.0386		mg/L		96	92 - 116
Selenium, Total	0.0400	0.0366		mg/L		92	90 - 115
Silver, Total	0.0400	0.0390		mg/L		98	93 - 118
Thallium, Total	0.0400	0.0383		mg/L		96	94 - 115
Zinc, Total	0.0400	0.0382		mg/L		96	86 - 120

Lab Sample ID: LCS 280-477467/2-A
Matrix: Water
Analysis Batch: 478266

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Vanadium, Total	0.0400	0.0376		mg/L		94	91 - 114

Lab Sample ID: 280-130756-2 MS
Matrix: Water
Analysis Batch: 478119

Client Sample ID: MW-34A
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony, Total	ND		0.0400	0.0387		mg/L		97	80 - 111
Barium, Total	0.0040		0.0400	0.0452		mg/L		103	92 - 117
Beryllium, Total	ND		0.0400	0.0393		mg/L		98	87 - 118
Cadmium, Total	ND		0.0400	0.0379		mg/L		95	91 - 114
Chromium, Total	0.0029	J	0.0400	0.0406		mg/L		94	91 - 114
Copper, Total	ND		0.0400	0.0371		mg/L		93	89 - 116
Lead, Total	ND		0.0400	0.0383		mg/L		96	95 - 116
Manganese, Total	0.0047		0.0400	0.0420		mg/L		93	89 - 119
Nickel, Total	0.0026	J	0.0400	0.0405		mg/L		95	92 - 116
Selenium, Total	ND		0.0400	0.0368		mg/L		92	90 - 115

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

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

Lab Sample ID: 280-130756-2 MS
Matrix: Water
Analysis Batch: 478119

Client Sample ID: MW-34A
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Silver, Total	ND		0.0400	0.0400		mg/L		100	93 - 118	
Thallium, Total	ND		0.0400	0.0385		mg/L		96	94 - 115	
Zinc, Total	ND		0.0400	0.0396		mg/L		99	86 - 120	

Lab Sample ID: 280-130756-2 MS
Matrix: Water
Analysis Batch: 478266

Client Sample ID: MW-34A
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Vanadium, Total	0.0036		0.0400	0.0437		mg/L		100	91 - 114	

Lab Sample ID: 280-130756-2 MSD
Matrix: Water
Analysis Batch: 478119

Client Sample ID: MW-34A
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Antimony, Total	ND		0.0400	0.0389		mg/L		97	80 - 111	0	20	
Barium, Total	0.0040		0.0400	0.0440		mg/L		100	92 - 117	3	20	
Beryllium, Total	ND		0.0400	0.0405		mg/L		101	87 - 118	3	20	
Cadmium, Total	ND		0.0400	0.0370		mg/L		92	91 - 114	3	20	
Chromium, Total	0.0029	J	0.0400	0.0419		mg/L		97	91 - 114	3	20	
Copper, Total	ND		0.0400	0.0372		mg/L		93	89 - 116	0	20	
Lead, Total	ND		0.0400	0.0394		mg/L		98	95 - 116	3	20	
Manganese, Total	0.0047		0.0400	0.0432		mg/L		96	89 - 119	3	20	
Nickel, Total	0.0026	J	0.0400	0.0403		mg/L		94	92 - 116	0	20	
Selenium, Total	ND		0.0400	0.0370		mg/L		93	90 - 115	1	20	
Silver, Total	ND		0.0400	0.0411		mg/L		103	93 - 118	3	20	
Thallium, Total	ND		0.0400	0.0391		mg/L		98	94 - 115	2	20	
Zinc, Total	ND		0.0400	0.0384		mg/L		96	86 - 120	3	20	

Lab Sample ID: 280-130756-2 MSD
Matrix: Water
Analysis Batch: 478266

Client Sample ID: MW-34A
Prep Type: Total Recoverable
Prep Batch: 477467

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Vanadium, Total	0.0036		0.0400	0.0433		mg/L		99	91 - 114	1	20	

Lab Sample ID: MB 280-477469/1-A
Matrix: Water
Analysis Batch: 478120

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477469

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		11/18/19 07:50	11/18/19 13:59	1

Lab Sample ID: LCS 280-477469/2-A
Matrix: Water
Analysis Batch: 478120

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477469

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
Manganese, Dissolved	0.0400	0.0400		mg/L		100	89 - 119	

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: 280-130063-L-1-B MS
Matrix: Water
Analysis Batch: 478120

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 477469
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Manganese, Dissolved	0.73		0.0400	0.795	4	mg/L		168	89 - 119

Lab Sample ID: 280-130063-L-1-C MSD
Matrix: Water
Analysis Batch: 478120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 477469
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Manganese, Dissolved	0.73		0.0400	0.790	4	mg/L		155	89 - 119	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-479647/6
Matrix: Water
Analysis Batch: 479647

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/05/19 10:10	1
Sulfate	ND		5.0	5.0	mg/L			12/05/19 10:10	1

Lab Sample ID: LCS 280-479647/4
Matrix: Water
Analysis Batch: 479647

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chloride	100	97.6		mg/L		98	90 - 110
Sulfate	100	99.4		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-479647/5
Matrix: Water
Analysis Batch: 479647

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	100	97.8		mg/L		98	90 - 110	0	10
Sulfate	100	98.8		mg/L		99	90 - 110	1	10

Lab Sample ID: MRL 280-479647/3
Matrix: Water
Analysis Batch: 479647

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Chloride	5.00	4.73		mg/L		95	50 - 150
Sulfate	5.00	5.72		mg/L		114	50 - 150

Lab Sample ID: 280-130756-1 MS
Matrix: Water
Analysis Batch: 479647

Client Sample ID: MW-34C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chloride	4.5		50.0	58.1		mg/L		107	80 - 120
Sulfate	ND	F1	50.0	60.0		mg/L		120	80 - 120

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-130756-1 MSD
Matrix: Water
Analysis Batch: 479647

Client Sample ID: MW-34C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.5		50.0	59.8		mg/L		111	80 - 120	3	20
Sulfate	ND	F1	50.0	61.4	F1	mg/L		123	80 - 120	2	20

Lab Sample ID: 280-130756-1 DU
Matrix: Water
Analysis Batch: 479647

Client Sample ID: MW-34C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	4.5		4.53		mg/L		0.2	15
Sulfate	ND	F1	5.00		mg/L		NC	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-478197/20
Matrix: Water
Analysis Batch: 478197

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 10:20	1

Lab Sample ID: MB 280-478197/59
Matrix: Water
Analysis Batch: 478197

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:38	1

Lab Sample ID: LCS 280-478197/18
Matrix: Water
Analysis Batch: 478197

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.58		mg/L		103	90 - 110

Lab Sample ID: LCS 280-478197/57
Matrix: Water
Analysis Batch: 478197

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.60		mg/L		104	90 - 110

Lab Sample ID: LCSD 280-478197/19
Matrix: Water
Analysis Batch: 478197

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.65		mg/L		106	90 - 110	3	10

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCSD 280-478197/58
Matrix: Water
Analysis Batch: 478197

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.64		mg/L		106	90 - 110	1	10

Lab Sample ID: 280-130756-5 MS
Matrix: Water
Analysis Batch: 478197

Client Sample ID: MW-13A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		1.00	0.993		mg/L		99	90 - 110

Lab Sample ID: 280-130756-5 MSD
Matrix: Water
Analysis Batch: 478197

Client Sample ID: MW-13A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		1.00	0.993		mg/L		99	90 - 110	0	10

Method: 353.2 - Nitrate

Lab Sample ID: MB 280-478527/1
Matrix: Water
Analysis Batch: 478527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:02	1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-477983/5
Matrix: Water
Analysis Batch: 477983

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/15/19 17:04	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/15/19 17:04	1

Lab Sample ID: LCS 280-477983/4
Matrix: Water
Analysis Batch: 477983

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	204		mg/L		102	89 - 109

Lab Sample ID: 280-130645-A-3 DU
Matrix: Water
Analysis Batch: 477983

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	1100		1050		mg/L		0	10

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-477403/1
 Matrix: Water
 Analysis Batch: 477403

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	5.0	mg/L			11/13/19 08:19	1

Lab Sample ID: LCS 280-477403/2
 Matrix: Water
 Analysis Batch: 477403

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	485		mg/L		97	93 - 110

Lab Sample ID: LCSD 280-477403/3
 Matrix: Water
 Analysis Batch: 477403

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	500	485		mg/L		97	93 - 110	0	20

Lab Sample ID: 280-130756-1 DU
 Matrix: Water
 Analysis Batch: 477403

Client Sample ID: MW-34C
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	160		164		mg/L		2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-477479/1
 Matrix: Water
 Analysis Batch: 477479

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			11/13/19 12:01	1

Lab Sample ID: LCS 280-477479/2
 Matrix: Water
 Analysis Batch: 477479

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	90.0		mg/L		90	79 - 114

Lab Sample ID: LCSD 280-477479/3
 Matrix: Water
 Analysis Batch: 477479

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	89.6		mg/L		90	79 - 114	0	20

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 280-130778-A-2 DU
 Matrix: Water
 Analysis Batch: 477479

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	34		34.8		mg/L		1	10

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

Lab Sample ID: MB 280-479713/5
 Matrix: Water
 Analysis Batch: 479713

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/04/19 20:12	1

Lab Sample ID: LCS 280-479713/3
 Matrix: Water
 Analysis Batch: 479713

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	25.1		mg/L		100	88 - 112

Lab Sample ID: LCSD 280-479713/4
 Matrix: Water
 Analysis Batch: 479713

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	25.3		mg/L		101	88 - 112	1	15

Lab Sample ID: 280-130756-3 MS
 Matrix: Water
 Analysis Batch: 479713

Client Sample ID: MW-36A
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	ND		25.0	25.6		mg/L		103	88 - 112

Lab Sample ID: 280-130756-3 MSD
 Matrix: Water
 Analysis Batch: 479713

Client Sample ID: MW-36A
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	ND		25.0	25.5		mg/L		102	88 - 112	0	15

QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

GC/MS VOA

Analysis Batch: 504811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-6	MW-13B	Total/NA	Water	8260C	
280-130756-7	TRIP BLANK	Total/NA	Water	8260C	
MB 480-504811/7	Method Blank	Total/NA	Water	8260C	
LCS 480-504811/5	Lab Control Sample	Total/NA	Water	8260C	
480-162651-D-2 MS	Matrix Spike	Total/NA	Water	8260C	
480-162651-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 504974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	8260C	
280-130756-2	MW-34A	Total/NA	Water	8260C	
280-130756-3	MW-36A	Total/NA	Water	8260C	
280-130756-4	MW-15R	Total/NA	Water	8260C	
280-130756-5	MW-13A	Total/NA	Water	8260C	
MB 480-504974/8	Method Blank	Total/NA	Water	8260C	
LCS 480-504974/6	Lab Control Sample	Total/NA	Water	8260C	
480-162356-O-4 MS	Matrix Spike	Total/NA	Water	8260C	
480-162356-O-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 505396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	8260C SIM	
280-130756-2	MW-34A	Total/NA	Water	8260C SIM	
280-130756-3	MW-36A	Total/NA	Water	8260C SIM	
280-130756-4	MW-15R	Total/NA	Water	8260C SIM	
280-130756-5	MW-13A	Total/NA	Water	8260C SIM	
280-130756-6	MW-13B	Total/NA	Water	8260C SIM	
280-130756-7	TRIP BLANK	Total/NA	Water	8260C SIM	
MB 480-505396/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-505396/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-505396/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Metals

Prep Batch: 477467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total Recoverable	Water	3005A	
280-130756-2	MW-34A	Total Recoverable	Water	3005A	
280-130756-3	MW-36A	Total Recoverable	Water	3005A	
280-130756-4	MW-15R	Total Recoverable	Water	3005A	
280-130756-5	MW-13A	Total Recoverable	Water	3005A	
280-130756-6	MW-13B	Total Recoverable	Water	3005A	
MB 280-477467/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-477467/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130756-2 MS	MW-34A	Total Recoverable	Water	3005A	
280-130756-2 MSD	MW-34A	Total Recoverable	Water	3005A	

Prep Batch: 477469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Dissolved	Water	3005A	
280-130756-2	MW-34A	Dissolved	Water	3005A	

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Metals (Continued)

Prep Batch: 477469 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-3	MW-36A	Dissolved	Water	3005A	
280-130756-4	MW-15R	Dissolved	Water	3005A	
280-130756-5	MW-13A	Dissolved	Water	3005A	
280-130756-6	MW-13B	Dissolved	Water	3005A	
MB 280-477469/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-477469/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130063-L-1-B MS	Matrix Spike	Dissolved	Water	3005A	
280-130063-L-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 477580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Dissolved	Water	3005A	
280-130756-2	MW-34A	Dissolved	Water	3005A	
280-130756-3	MW-36A	Dissolved	Water	3005A	
280-130756-4	MW-15R	Dissolved	Water	3005A	
280-130756-5	MW-13A	Dissolved	Water	3005A	
280-130756-6	MW-13B	Dissolved	Water	3005A	
MB 280-477580/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-477580/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130058-M-1-D MS	Matrix Spike	Dissolved	Water	3005A	
280-130058-M-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Analysis Batch: 478119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total Recoverable	Water	6020B	477467
280-130756-2	MW-34A	Total Recoverable	Water	6020B	477467
280-130756-3	MW-36A	Total Recoverable	Water	6020B	477467
280-130756-4	MW-15R	Total Recoverable	Water	6020B	477467
280-130756-5	MW-13A	Total Recoverable	Water	6020B	477467
280-130756-6	MW-13B	Total Recoverable	Water	6020B	477467
MB 280-477467/1-A	Method Blank	Total Recoverable	Water	6020B	477467
LCS 280-477467/2-A	Lab Control Sample	Total Recoverable	Water	6020B	477467
280-130756-2 MS	MW-34A	Total Recoverable	Water	6020B	477467
280-130756-2 MSD	MW-34A	Total Recoverable	Water	6020B	477467

Analysis Batch: 478120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Dissolved	Water	6020B	477469
280-130756-2	MW-34A	Dissolved	Water	6020B	477469
280-130756-3	MW-36A	Dissolved	Water	6020B	477469
280-130756-4	MW-15R	Dissolved	Water	6020B	477469
280-130756-5	MW-13A	Dissolved	Water	6020B	477469
280-130756-6	MW-13B	Dissolved	Water	6020B	477469
MB 280-477469/1-A	Method Blank	Total Recoverable	Water	6020B	477469
LCS 280-477469/2-A	Lab Control Sample	Total Recoverable	Water	6020B	477469
280-130063-L-1-B MS	Matrix Spike	Dissolved	Water	6020B	477469
280-130063-L-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	477469

Analysis Batch: 478266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total Recoverable	Water	6020B	477467

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Metals (Continued)

Analysis Batch: 478266 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-2	MW-34A	Total Recoverable	Water	6020B	477467
280-130756-3	MW-36A	Total Recoverable	Water	6020B	477467
280-130756-4	MW-15R	Total Recoverable	Water	6020B	477467
280-130756-5	MW-13A	Total Recoverable	Water	6020B	477467
280-130756-6	MW-13B	Total Recoverable	Water	6020B	477467
MB 280-477467/1-A	Method Blank	Total Recoverable	Water	6020B	477467
LCS 280-477467/2-A	Lab Control Sample	Total Recoverable	Water	6020B	477467
280-130756-2 MS	MW-34A	Total Recoverable	Water	6020B	477467
280-130756-2 MSD	MW-34A	Total Recoverable	Water	6020B	477467

Analysis Batch: 478507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Dissolved	Water	6010D	477580
280-130756-2	MW-34A	Dissolved	Water	6010D	477580
280-130756-3	MW-36A	Dissolved	Water	6010D	477580
280-130756-4	MW-15R	Dissolved	Water	6010D	477580
280-130756-5	MW-13A	Dissolved	Water	6010D	477580
280-130756-6	MW-13B	Dissolved	Water	6010D	477580
MB 280-477580/1-A	Method Blank	Total Recoverable	Water	6010D	477580
LCS 280-477580/2-A	Lab Control Sample	Total Recoverable	Water	6010D	477580
280-130058-M-1-D MS	Matrix Spike	Dissolved	Water	6010D	477580
280-130058-M-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	6010D	477580

Prep Batch: 479199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total Recoverable	Water	3005A	
280-130756-2	MW-34A	Total Recoverable	Water	3005A	
280-130756-3	MW-36A	Total Recoverable	Water	3005A	
280-130756-4	MW-15R	Total Recoverable	Water	3005A	
280-130756-5	MW-13A	Total Recoverable	Water	3005A	
280-130756-6	MW-13B	Total Recoverable	Water	3005A	
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130756-1 MS	MW-34C	Total Recoverable	Water	3005A	
280-130756-1 MSD	MW-34C	Total Recoverable	Water	3005A	

Analysis Batch: 479765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total Recoverable	Water	6010D	479199
280-130756-2	MW-34A	Total Recoverable	Water	6010D	479199
280-130756-3	MW-36A	Total Recoverable	Water	6010D	479199
280-130756-4	MW-15R	Total Recoverable	Water	6010D	479199
280-130756-5	MW-13A	Total Recoverable	Water	6010D	479199
280-130756-6	MW-13B	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-1 MS	MW-34C	Total Recoverable	Water	6010D	479199
280-130756-1 MSD	MW-34C	Total Recoverable	Water	6010D	479199

QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Metals

Analysis Batch: 479958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total Recoverable	Water	6010D	479199
280-130756-2	MW-34A	Total Recoverable	Water	6010D	479199
280-130756-3	MW-36A	Total Recoverable	Water	6010D	479199
280-130756-4	MW-15R	Total Recoverable	Water	6010D	479199
280-130756-5	MW-13A	Total Recoverable	Water	6010D	479199
280-130756-6	MW-13B	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-1 MS	MW-34C	Total Recoverable	Water	6010D	479199
280-130756-1 MSD	MW-34C	Total Recoverable	Water	6010D	479199

General Chemistry

Analysis Batch: 477403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	SM 2540C	
280-130756-2	MW-34A	Total/NA	Water	SM 2540C	
280-130756-3	MW-36A	Total/NA	Water	SM 2540C	
280-130756-4	MW-15R	Total/NA	Water	SM 2540C	
280-130756-5	MW-13A	Total/NA	Water	SM 2540C	
280-130756-6	MW-13B	Total/NA	Water	SM 2540C	
MB 280-477403/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-477403/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-477403/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-130756-1 DU	MW-34C	Total/NA	Water	SM 2540C	

Analysis Batch: 477479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	SM 2540D	
280-130756-2	MW-34A	Total/NA	Water	SM 2540D	
280-130756-3	MW-36A	Total/NA	Water	SM 2540D	
280-130756-4	MW-15R	Total/NA	Water	SM 2540D	
280-130756-5	MW-13A	Total/NA	Water	SM 2540D	
280-130756-6	MW-13B	Total/NA	Water	SM 2540D	
MB 280-477479/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-477479/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-477479/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-130778-A-2 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 477983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	SM 2320B	
280-130756-2	MW-34A	Total/NA	Water	SM 2320B	
280-130756-3	MW-36A	Total/NA	Water	SM 2320B	
280-130756-4	MW-15R	Total/NA	Water	SM 2320B	
280-130756-5	MW-13A	Total/NA	Water	SM 2320B	
280-130756-6	MW-13B	Total/NA	Water	SM 2320B	
MB 280-477983/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477983/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-130645-A-3 DU	Duplicate	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

General Chemistry

Analysis Batch: 478197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	350.1	
280-130756-2	MW-34A	Total/NA	Water	350.1	
280-130756-3	MW-36A	Total/NA	Water	350.1	
280-130756-4	MW-15R	Total/NA	Water	350.1	
280-130756-5	MW-13A	Total/NA	Water	350.1	
280-130756-6	MW-13B	Total/NA	Water	350.1	
MB 280-478197/20	Method Blank	Total/NA	Water	350.1	
MB 280-478197/59	Method Blank	Total/NA	Water	350.1	
LCS 280-478197/18	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-478197/57	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-478197/19	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 280-478197/58	Lab Control Sample Dup	Total/NA	Water	350.1	
280-130756-5 MS	MW-13A	Total/NA	Water	350.1	
280-130756-5 MSD	MW-13A	Total/NA	Water	350.1	

Analysis Batch: 478527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	353.2	
280-130756-2	MW-34A	Total/NA	Water	353.2	
280-130756-3	MW-36A	Total/NA	Water	353.2	
280-130756-4	MW-15R	Total/NA	Water	353.2	
280-130756-5	MW-13A	Total/NA	Water	353.2	
280-130756-6	MW-13B	Total/NA	Water	353.2	
MB 280-478527/1	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 479647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	300.0	
280-130756-2	MW-34A	Total/NA	Water	300.0	
280-130756-3	MW-36A	Total/NA	Water	300.0	
280-130756-4	MW-15R	Total/NA	Water	300.0	
280-130756-5	MW-13A	Total/NA	Water	300.0	
280-130756-6	MW-13B	Total/NA	Water	300.0	
MB 280-479647/6	Method Blank	Total/NA	Water	300.0	
LCS 280-479647/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-479647/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-479647/3	Lab Control Sample	Total/NA	Water	300.0	
280-130756-1 MS	MW-34C	Total/NA	Water	300.0	
280-130756-1 MSD	MW-34C	Total/NA	Water	300.0	
280-130756-1 DU	MW-34C	Total/NA	Water	300.0	

Analysis Batch: 479713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	SM 5310B	
280-130756-2	MW-34A	Total/NA	Water	SM 5310B	
280-130756-3	MW-36A	Total/NA	Water	SM 5310B	
280-130756-4	MW-15R	Total/NA	Water	SM 5310B	
280-130756-5	MW-13A	Total/NA	Water	SM 5310B	
280-130756-6	MW-13B	Total/NA	Water	SM 5310B	
MB 280-479713/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-479713/3	Lab Control Sample	Total/NA	Water	SM 5310B	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

General Chemistry (Continued)

Analysis Batch: 479713 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-479713/4	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
280-130756-3 MS	MW-36A	Total/NA	Water	SM 5310B	
280-130756-3 MSD	MW-36A	Total/NA	Water	SM 5310B	

Field Service / Mobile Lab

Analysis Batch: 480431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130756-1	MW-34C	Total/NA	Water	Field Sampling	
280-130756-2	MW-34A	Total/NA	Water	Field Sampling	
280-130756-3	MW-36A	Total/NA	Water	Field Sampling	
280-130756-4	MW-15R	Total/NA	Water	Field Sampling	
280-130756-5	MW-13A	Total/NA	Water	Field Sampling	
280-130756-6	MW-13B	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-34C

Lab Sample ID: 280-130756-1

Date Collected: 11/11/19 10:51

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504974	11/17/19 19:57	CRL	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 16:14	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	477580	11/21/19 08:05	AL	TAL DEN
Dissolved	Analysis	6010D		1			478507	11/21/19 15:36	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 21:29	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 13:58	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477469	11/18/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			478120	11/18/19 15:20	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478119	11/18/19 15:12	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478266	11/19/19 19:23	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479647	12/05/19 15:13	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478197	11/19/19 11:26	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			477983	11/15/19 18:23	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477403	11/13/19 08:19	ECL	TAL DEN
Total/NA	Analysis	SM 2540D		1	180 mL	250 mL	477479	11/13/19 12:01	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/04/19 23:59	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480431	11/11/19 11:51	C1A	TAL DEN

Client Sample ID: MW-34A

Lab Sample ID: 280-130756-2

Date Collected: 11/11/19 11:40

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504974	11/17/19 19:33	CRL	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 16:39	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	477580	11/21/19 08:05	AL	TAL DEN
Dissolved	Analysis	6010D		1			478507	11/21/19 15:38	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 21:51	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:10	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477469	11/18/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			478120	11/18/19 15:24	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478119	11/18/19 15:16	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478266	11/19/19 19:27	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479647	12/05/19 16:27	JAP	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-34A

Date Collected: 11/11/19 11:40

Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	478197	11/19/19 11:28	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			477983	11/15/19 18:07	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477403	11/13/19 08:19	ECL	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477479	11/13/19 12:01	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 00:14	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480431	11/11/19 12:40	C1A	TAL DEN

Client Sample ID: MW-36A

Date Collected: 11/11/19 12:33

Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504974	11/17/19 19:10	CRL	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 17:03	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	477580	11/21/19 08:05	AL	TAL DEN
Dissolved	Analysis	6010D		1			478507	11/21/19 15:41	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 21:53	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:13	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477469	11/18/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			478120	11/18/19 15:27	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478119	11/18/19 15:43	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478266	11/19/19 19:54	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479647	12/05/19 16:46	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478197	11/19/19 11:30	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			477983	11/15/19 18:02	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477403	11/13/19 08:19	ECL	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477479	11/13/19 12:01	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 00:28	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480431	11/11/19 13:33	C1A	TAL DEN

Client Sample ID: MW-15R

Date Collected: 11/11/19 13:25

Date Received: 11/12/19 10:35

Lab Sample ID: 280-130756-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504974	11/17/19 18:46	CRL	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 17:28	RJF	TAL BUF

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-15R

Lab Sample ID: 280-130756-4

Date Collected: 11/11/19 13:25

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	477580	11/21/19 08:05	AL	TAL DEN
Dissolved	Analysis	6010D		1			478507	11/21/19 15:43	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 21:56	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:15	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477469	11/18/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			478120	11/18/19 15:31	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478119	11/18/19 15:47	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478266	11/19/19 19:57	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479647	12/05/19 17:05	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478197	11/19/19 11:32	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			477983	11/15/19 17:58	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477403	11/13/19 08:19	ECL	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477479	11/13/19 12:01	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 01:12	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480431	11/11/19 14:25	C1A	TAL DEN

Client Sample ID: MW-13A

Lab Sample ID: 280-130756-5

Date Collected: 11/11/19 14:30

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504974	11/17/19 18:22	CRL	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 17:52	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	477580	11/21/19 08:05	AL	TAL DEN
Dissolved	Analysis	6010D		1			478507	11/21/19 15:46	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 21:59	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:28	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477469	11/18/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			478120	11/18/19 15:34	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478119	11/18/19 15:51	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478266	11/19/19 20:01	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479647	12/05/19 17:24	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478197	11/19/19 11:40	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Client Sample ID: MW-13A

Lab Sample ID: 280-130756-5

Date Collected: 11/11/19 14:30

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			477983	11/15/19 17:53	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477403	11/13/19 08:19	ECL	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477479	11/13/19 12:01	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 01:27	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480431	11/11/19 15:30	C1A	TAL DEN

Client Sample ID: MW-13B

Lab Sample ID: 280-130756-6

Date Collected: 11/11/19 15:08

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 20:49	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 18:16	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	477580	11/21/19 08:05	AL	TAL DEN
Dissolved	Analysis	6010D		1			478507	11/21/19 15:49	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:01	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:30	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477469	11/18/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			478120	11/18/19 15:38	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478119	11/18/19 15:55	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	477467	11/18/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			478266	11/19/19 20:05	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479647	12/05/19 17:42	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478197	11/19/19 11:58	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			477983	11/15/19 17:48	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477403	11/13/19 08:19	ECL	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477479	11/13/19 12:01	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 01:42	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480431	11/11/19 16:08	C1A	TAL DEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-130756-7

Date Collected: 11/11/19 15:08

Matrix: Water

Date Received: 11/12/19 10:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 21:12	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 18:40	RJF	TAL BUF

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130756-1

Laboratory References:

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

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

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

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03 December 2019

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.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19K0265	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.

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.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **19K0265**
 Turn-around Requested: **Standard**
 Phone: **425-289-5455**
 ARI Client Company: **SCS Engineers**
 Client Contact: **Dan Venchiarutti**
 Client Project Name: **OVSL**



Date: **11/14/19**
 Page: **1** of **2**
 No. of Coolers: **1**
 Cooler Temps: **1.3**

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		Notes/Comments	
					Low level	Total Arsenic		
MW-34C	11/11/19	1051	Water	1	X			
MW-34A	↓	1140	↓	↓	↓			
MW-36A	↓	1233	↓	↓	↓			
MW-15R	↓	1325	↓	↓	↓			
MW-13A	↓	1430	↓	↓	↓			
MW-13B	↓	1508	↓	↓	↓			
MW-35	11/12/19	910	↓	↓	↓			
MW-16	↓	1020	↓	↓	↓			
MW-39	↓	1135	↓	↓	↓			
MW-33A	↓	1305	↓	↓	↓			
Comments/Special Instructions	Relinquished by: <i>[Signature]</i> Printed Name: Sam Greber Company: SCS Date & Time: 11/14/19 1430				Received by: <i>[Signature]</i> Printed Name: Kenny Dang Company: ARI Date & Time: 11/18/19 1047			

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

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Date: 11/14/19
 Page: 2 of 2
 No. of Coolers: 1
 Cooler Temps: 1.3

Turn-around Requested: Standard
 Phone: 425-289-5455
 Client Company: SCS Engineers
 Client Contact: Dan Venchiarutti

Client Project Name: OVSL
 Client Project #: 04204027.22
 Samplers: Sam G.

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments		
MW-33C	11/12/19	1350	Water	1								
MW-42	↓	1510										
DUP-1	↓	1530										
MW-43	11/13/19	930										
MW-29A	↓	1025										
MW-32	↓	1147										
MW-19C	↓	1250										
DUP-2	↓	1300										
LP-LCD	↓	1400										
Comments/Special Instructions	Relinquished by: (Signature) Printed Name: Sam Gaber Company: SCS Date & Time: 11/14/19 1430	Relinquished by: (Signature) Printed Name: Kenny Dang Company: ARI Date & Time: 11/18/19 1047	Received by: (Signature) Printed Name: Kenny Dang Company: ARI Date & Time: 11/18/19 1047	Relinquished by: (Signature) Printed Name: Company: Date & Time:	Received by: (Signature) Printed Name: Company: Date & Time:	Relinquished by: (Signature) Printed Name: Company: Date & Time:	Received by: (Signature) Printed Name: Company: Date & Time:	Relinquished by: (Signature) Printed Name: Company: Date & Time:	Received by: (Signature) Printed Name: Company: Date & Time:	Relinquished by: (Signature) Printed Name: Company: Date & Time:	Received by: (Signature) Printed Name: Company: Date & Time:	Notes/Comments

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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
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-34C	19K0265-01	Water	11-Nov-2019 10:51	18-Nov-2019 10:47
MW-34A	19K0265-02	Water	11-Nov-2019 11:40	18-Nov-2019 10:47
MW-36A	19K0265-03	Water	11-Nov-2019 12:33	18-Nov-2019 10:47
MW-15R	19K0265-04	Water	11-Nov-2019 13:25	18-Nov-2019 10:47
MW-13A	19K0265-05	Water	11-Nov-2019 14:30	18-Nov-2019 10:47
MW-13B	19K0265-06	Water	11-Nov-2019 15:08	18-Nov-2019 10:47
MW-35	19K0265-07	Water	12-Nov-2019 09:10	18-Nov-2019 10:47
MW-16	19K0265-08	Water	12-Nov-2019 10:20	18-Nov-2019 10:47
MW-39	19K0265-09	Water	12-Nov-2019 11:35	18-Nov-2019 10:47
MW-33A	19K0265-10	Water	12-Nov-2019 13:05	18-Nov-2019 10:47
MW-33C	19K0265-11	Water	12-Nov-2019 13:50	18-Nov-2019 10:47
MW-42	19K0265-12	Water	12-Nov-2019 15:10	18-Nov-2019 10:47
DUP-1	19K0265-13	Water	12-Nov-2019 15:30	18-Nov-2019 10:47
MW-43	19K0265-14	Water	13-Nov-2019 09:30	18-Nov-2019 10:47
MW-29A	19K0265-15	Water	13-Nov-2019 10:25	18-Nov-2019 10:47
MW-32	19K0265-16	Water	13-Nov-2019 11:47	18-Nov-2019 10:47
MW-19C	19K0265-17	Water	13-Nov-2019 12:50	18-Nov-2019 10:47
DUP-2	19K0265-18	Water	13-Nov-2019 13:00	18-Nov-2019 10:47
LP-LCD	19K0265-19	Water	13-Nov-2019 14:00	18-Nov-2019 10:47





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 18, 2019 under ARI work order 19K0265. 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.





Cooler Receipt Form

ARI Client: SCS engineers
 COC No(s): _____
 Assigned ARI Job No: 19K0265 (NA)

Project Name: OUGL
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1250 1.3
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 11/18/19 Time: 1047

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
 How were bottles sealed in plastic bags? Individually Grouped
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI: _____ NA
 Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [Signature] Date: 11/18/19 Time: 1335 Labels checked by: [Signature]

**** 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: _____



WORK ORDER

19K0265

Client: Test America - Denver	Project Manager: Amanda Volgardsen
Project: OVSL	Project Number: 04204027.20

Preservation Confirmation

Container ID	Container Type	pH	
19K0265-01 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-02 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-03 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-04 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-05 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-06 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-07 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-08 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-09 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-10 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-11 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-12 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-13 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-14 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-15 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-16 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-17 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-18 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-19 A	Miscellaneous container, 1:1 HN03	LL	Pass


Preservation Confirmed By

11/18/19
Date



Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34C
19K0265-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 10:51
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:31
Sample Preparation:	Extract ID: 19K0265-01 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.0000800	0.0199	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34A
19K0265-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 11:40
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:00
Sample Preparation:	Extract ID: 19K0265-02 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000441	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-36A
19K0265-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 12:33
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:39
Sample Preparation:	Extract ID: 19K0265-03 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000507	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-15R
19K0265-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 13:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:46
Sample Preparation:	Extract ID: 19K0265-04 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000198	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13A
19K0265-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 14:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:53
Sample Preparation:	Extract ID: 19K0265-05 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000205	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13B
19K0265-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 15:08
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:42
Sample Preparation:	Extract ID: 19K0265-06 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000322	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-35
19K0265-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 09:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:49
Sample Preparation:	Extract ID: 19K0265-07 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000996	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-16
19K0265-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 10:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:56
Sample Preparation:	Extract ID: 19K0265-08 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000413	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-39
19K0265-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 11:35
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:03
Sample Preparation:	Extract ID: 19K0265-09 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00179	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33A
19K0265-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:05
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:10
Sample Preparation:	Extract ID: 19K0265-10 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000216	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33C
19K0265-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:17
Sample Preparation:	Extract ID: 19K0265-11 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00268	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-42
19K0265-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:23
Sample Preparation:	Extract ID: 19K0265-12 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00181	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-1
19K0265-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:29
Sample Preparation:	Extract ID: 19K0265-13 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00182	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-43
19K0265-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 09:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:35
Sample Preparation:	Extract ID: 19K0265-14 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000514	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-29A
19K0265-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 10:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:41
Sample Preparation:	Extract ID: 19K0265-15 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	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 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-32
19K0265-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 11:47
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:01
Sample Preparation:	Extract ID: 19K0265-16 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0101	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-19C
19K0265-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 12:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:47
Sample Preparation:	Extract ID: 19K0265-17 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00300	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-2
19K0265-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 13:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:07
Sample Preparation:	Extract ID: 19K0265-18 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00289	mg/L	





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

LP-LCD
19K0265-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 11/13/2019 14:00

Instrument: ICPMS2 Analyst: MCB

Analyzed: 12/02/2019 19:13

Sample Preparation:

Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Extract ID: 19K0265-19 A 01

Preparation Batch: BHL0006

Sample Size: 100 mL

Prepared: 02-Dec-2019

Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	0.0101	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHK0757 - 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 (BHK0757-BLK1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:23					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHK0757-BS1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:27					
Arsenic	75a	0.00461	0.0000400	mg/L	0.00500		92.1	80-120			





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHL0006 - 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 (BHL0006-BLK1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:14					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHL0006-BS1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:19					
Arsenic	75a	0.00456	0.0000400	mg/L	0.00500		91.3	80-120			





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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 reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



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

Chain of Custody Record

Denver Test America
 #280

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Patrick Madej Company: Waste Management Address: 2615 Davis Street City: San Leandro State, Zip: CA, 94577 Phone: 425-766-3362 Email: Spraber@scsengineers.com		Lab PM: Sara, Betsy A E-Mail: betsy.sara@testamericainc.com Carrier Tracking No(s): 813 9338 8560 813 9338 8571 Job #: 04204027.22	
Due Date Requested: Standard TAT Requested (days): PO #: WO #: Project #: 28002692 SSO#:		COC No: 280-17318-3224.1 Page: 1 of 1	
Analysis Requested			
Field Filtered Sample (Yes or No)		Total Arsenic (direct sub to ARI)	
Perform MS/MSD (Yes or No)		Total Metals	
TDS/AI/C/SO4/NO3(cad)		8260B SIM (TA Buffer)	
Dissolved Metals		8260B - long list (TA Buffer)	
Ammonia/TOC		Total Number of Containers	
Matrix (W=Water, S=solid, O=Other, I=Ice, T=TSP, A=As)		Special Instructions/Note: Short Hold: NO3(cad) Arsenic - Direct sub to ARI	
Sample Identification MW-34C MW-34A MW-36A MW-15R MW-13A MW-13B Top blank	Sample Type (C=Comp, G=grab) 6 - - - - -	Sample Time 1051 1140 1233 1325 1430 1508 - -	Sample Date 11/11/19 - - - - - -
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/OC Requirements:			
Empty Kit Relinquished by:			
Relinquished by: [Signature] Date/Time: 11/11/19 1630 Company: SCS		Method of Shipment: Date/Time: 11/12/19 1035 Company: TADEN	
Relinquished by: [Signature] Date/Time: Company:		Relinquished by: [Signature] Date/Time: Company:	
Relinquished by: [Signature] Date/Time: Company:		Relinquished by: [Signature] Date/Time: Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: 1044429, 1044428	
Cooler Temperature(s) °C and Other Remarks: 27.3, 10.9, 10.9, 8.1, 11/12/19			



FIELD INFORMATION FORM



Site Name: 005L OUSC
 Site No.: 005L 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
9	0 2 5	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

Purging Device: C A-Submersible Pump D-Bailer
 B-Peristaltic Pump E-Piston Pump
 C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other _____
 X-Other: _____
 Sample Tube Type: D A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

WELL DATA

Well Elevation (at TOC) _____ (ft/msl) Depth to Water (DTW) (from TOC) 4310 (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	pH (std)	Conductance (SC/EC) (μmhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
110125	330	5.92	228	12.74		1.52	244.7	
110130		6.31	228	12.99		0.70	221.9	
110133		6.38	227	12.98		0.57	178.7	
110136		6.45	226	12.97		0.43	141.0	
110139		6.50	226	12.95		0.45	111.5	
110142		6.53	227	12.98	177.0	0.36	90.9	
110145		6.55	225	12.96		0.50	78.7	
110148		6.57	226	12.95	298.0	0.32	66.8	
110151		6.58	223	12.92	285.0	0.32	62.8	

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: - Turbidity: - D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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: <u>DTW</u>
111119	6.58	223	12.92	285.0	0.32	62.8	Units: <u>4310</u>

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 orange Odor: - Color: Cloudy Other: -
 Weather Conditions (required daily, or as conditions change): _____ Direction/Speed: - Outlook: partly cloudy Precipitation: Y or N

FIELD COMMENTS

Specific Comments (including purge/well volume calculations if required):
B/7/55 psi

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

11/11/19 Sam Orabr _____ _____ SC5
 Date Name Signature Company

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

FIELD INFORMATION FORM



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): 11 11 19 PURGE TIME (2400 Hr Clock): 11 20 ELAPSED HRS (hrs:min): 20

WATER VOL IN CASING (Gallons): ACTUAL VOL PURGED (Gallons): WELL VOLs PURGED:

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 D-Bailer Filter Type: A A-In-line Disposable C-Vacuum
 B-Peristaltic Pump E-Piston Pump B-Pressure X-Other:

Sampling Device: C C-QED Bladder Pump F-Dipper/Bottle Sample Tube Type: D A-Teflon C-PVC X-Other:
 X-Other: B-Stainless Steel D-Polypropylene

WELL DATA

Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 4129 (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	pH (std)	Conductance (SC/EC) (μmhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
11:20	390	6.94	1196	12.40		13.01		
11:25		6.08	1182	11.96		11.45	1775	
11:28		6.03	1175	11.94		11.49	1858	
11:31		5.98	1171	11.91		11.52	1932	
11:34		5.97	1173	11.95		11.38	1998	
11:37		5.97	1175	11.99		11.28	2047	
11:40		5.96	1174	11.98	3.63	11.35	2098	4140

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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

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 DATE (MM DD YY): 11 11 19 pH (std): 5.96 CONDUCTANCE (umhos/cm @ 25°C): 1174 TEMP. (°C): 11.98 TURBIDITY (ntu): 3.63 DO (mg/L-ppm): 1.35 eH/ORP (mV): 2098 Other: DTW Units:

Sample Appearance: clear Odor: 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):
9/6/40 psi

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

11/11/19 Sam Graber
 Date Name Signature Company

FIELD INFORMATION FORM



Site Name: DUSC
 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): 11 19 PURGE TIME (2400 Hr Clock): 12:13 ELAPSED HRS (hrs:min): 20

WATER VOL IN CASING (Gallons): ACTUAL VOL PURGED (Gallons): WELL VOLs PURGED:

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 D-Bailer Filter Type: A A-In-line Disposable C-Vacuum
 B B-Peristaltic Pump E-Piston Pump B-Pressure X-Other:

Sampling Device: C C-QED Bladder Pump F-Dipper/Bottle A-Teflon C-PVC X-Other:
 X-Other: Sample Tube Type: D B-Stainless Steel D-Polypropylene

WELL DATA

Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 3260 (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) (μ mhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:13	300	6.08	1130	19.50		3.50	284.8	
12:18		5.97	1129	19.42		3.39	286.4	
12:21		5.96	1128	19.37		3.14	286.7	
12:24		5.96	1128	19.37		3.17	287.3	
12:27		5.95	1128	19.41		2.64	288.1	
12:30		5.95	1128	19.52		3.33	287.2	33.45
12:33		5.96	1128	19.50	2.09	2.80	286.5	

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 11 19 pH (std): 5.96 CONDUCTANCE (μ mhos/cm @ 25°C): 128 TEMP. (°C): 9.50 TURBIDITY (ntu): 2.09 DO (mg/L-ppm): 2.80 eH/ORP (mV): 286.5 Other: DTW Units: 32.60

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).

Sample Appearance: Clear Odor: 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):

FIELD COMMENTS

9/6/35 ps.

DTW @ MW-36 32.75

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

11/11/19 Sam Graber SCS

Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 05C
 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): 11 11 19
 PURGE TIME (2400 Hr Clock): 13 05
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLS PURGED:

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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder 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 C-Vacuum
 Sample Tube Type: D B-Stainless Steel X-Other:
 A-Teflon C-PVC
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl):
 Depth to Water (DTW) (from TOC) (ft): 2005
 Groundwater Elevation (site datum, from TOC) (ft/msl):
 Total Well Depth (from TOC) (ft):
 Stick Up (from ground elevation) (ft):
 Casing ID (in): 02
 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.

Sample Time (2400 Hr Clock)	Rate/Unit (ml/min)	pH (std)	Conductance (SC/EC) (μ mhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:05	390	6.27	1165	19.85		13.57	296.9	
13:10		6.32	1166	19.79		11.34	293.5	
13:13		6.35	1165	19.81		11.22	291.0	
13:16		6.36	1165	19.82		11.15	288.5	
13:19		6.36	1165	19.78		10.67	285.8	
13:22		6.37	1165	19.76		10.62	283.5	
13:25		6.37	1165	19.75	11.22	10.73	281.8	2025

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2
 Conductance: +/- 3%
 D.O.: +/- 10%
 eH/ORP: +/- 25 mV
 DTW: 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.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: <u>0.2V</u> Units
11 11 19	6.37	165	19.75	11.22	10.73	281.8	2005

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: Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
9/6/25 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
 Date: 11 11 19 Name: Sam Baber Signature: [Signature] Company: SCS

FIELD INFORMATION FORM



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): 11/11/19
 PURGE TIME (2400 Hr Clock): 1410
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 4833 (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)
		<u>14110</u>	<u>1"</u>	<u>6.418</u>	<u>11710</u>	<u>19.71</u>		<u>1850</u>	<u>3059</u>
	<u>14115</u>	<u>2"</u>	<u>6.613</u>	<u>11712</u>	<u>19.34</u>		<u>1750</u>	<u>3056</u>	
	<u>14118</u>	<u>3"</u>	<u>6.616</u>	<u>11710</u>	<u>19.32</u>		<u>1737</u>	<u>3056</u>	
	<u>14121</u>	<u>4"</u>	<u>6.619</u>	<u>11710</u>	<u>19.29</u>		<u>1728</u>	<u>3056</u>	
	<u>14124</u>		<u>6.710</u>	<u>11710</u>	<u>19.27</u>		<u>1724</u>	<u>3059</u>	
	<u>14127</u>		<u>6.711</u>	<u>11619</u>	<u>19.27</u>		<u>1719</u>	<u>3061</u>	
	<u>14130</u>	<u>4</u>	<u>6.712</u>	<u>11619</u>	<u>19.24</u>	<u>1118</u>	<u>1717</u>	<u>3063</u>	<u>4835</u>

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 11/11/19
 pH (std): 6.72
 CONDUCTANCE (umhos/cm @ 25°C): 169
 TEMP. (°C): 9.24
 TURBIDITY (ntu): 118
 DO (mg/L-ppm): 7.17
 eH/ORP (mV): 3063
 Other: OTW
 Units: 4833

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: Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
10/5/45 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/11/19 Sam Graber SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 055C
 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): 11/11/19
 PURGE TIME (2400 Hr Clock): 1448
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 6243 (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)
		14:48	300	6.75	1175	19.97		8.50	307.1
	14:53		6.66	1176	19.80		6.64	308.4	
	14:56		6.81	1176	19.77		7.26	303.8	
	14:59		6.89	1175	19.73		7.38	301.1	
	15:02		6.96	1175	19.71		7.47	299.4	
	15:05		6.99	1176	19.71		7.50	299.0	
	15:08	✓	7.03	1175	19.66	1.03	7.53	298.6	62.6

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, Temp. --, Turbidity --, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW 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): 11/11/19
 pH (std): 7.03
 CONDUCTANCE (umhos/cm @ 25°C): 175
 TEMP. (°C): 9.66
 TURBIDITY (ntu): 1.03
 DO (mg/L-ppm): 7.53
 eH/ORP (mV): 298.6
 Other: DTW
 Units: 62.43
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: - Precipitation: Y or N

FIELD COMMENTS
10.5/4.5/4.5 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/11/19 Sam Graber [Signature] SCS
 Date Name Signature Company

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

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TEST AMERICA
4955 YARROW ST

ARVADA CO 80002

(US)

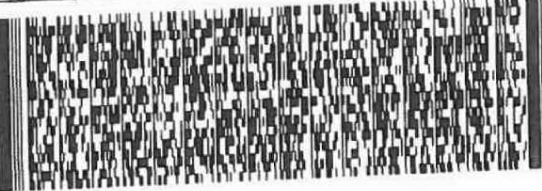
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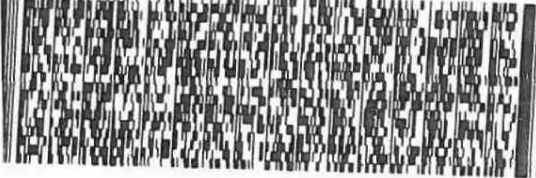
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PRIORITY OVERNIGHT

TRK# 8113 9338 8571
0667

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80002

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280-130756 Waybill

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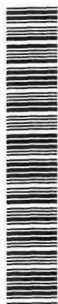
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VIEW 280-130756 Waybill

VIEW 280-130756 Waybill

- 1
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Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM:	Sara, Betsy A		Carrier Tracking No(s):	280-506156.1	
Client Contact:		State of Origin:	Washington		Page:	Page 1 of 1	
Shipping/Receiving		E-Mail:	betsy.sara@testamericainc.com		Job #:	280-130756-1	
Company:		Accreditations Required (See note): NELAP - Oregon					
Address:		TestAmerica Laboratories, Inc.					
City:		10 Hazelwood Drive,					
State, Zip:		Amherst					
Phone:		NY, 14228-2298					
Email:		716-691-2600(Tel) 716-691-7991(Fax)					
Project Name:		WAO2[Olympic View Sanitary LF					
Site:		WAO2[Olympic View Sanitary LF					

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 (MOD) Appendix II Volatiles		8260C/5030C (MOD) Appendix II Method		8260C/SIM/5030C (MOD) Local Method	Total Number of Containers	Special Instructions/Note:
					Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C/5030C (MOD) Appendix II Volatiles	8260C/SIM/5030C (MOD) Local Method					
MW-34C (280-130756-1)	11/11/19	10:51 Pacific	Water	Water	X	X	X	X	X	X	X	6	
MW-34A (280-130756-2)	11/11/19	11:40 Pacific	Water	Water	X	X	X	X	X	X	X	6	
MW-36A (280-130756-3)	11/11/19	12:33 Pacific	Water	Water	X	X	X	X	X	X	X	6	
MW-15R (280-130756-4)	11/11/19	13:25 Pacific	Water	Water	X	X	X	X	X	X	X	6	
MW-13A (280-130756-5)	11/11/19	14:30 Pacific	Water	Water	X	X	X	X	X	X	X	6	
MW-13B (280-130756-6)	11/11/19	15:08 Pacific	Water	Water	X	X	X	X	X	X	X	6	
TRIP BLANK (280-130756-7)	11/11/19	15:08 Pacific	Water	Water	X	X	X	X	X	X	X	4	

Due Date Requested: 11/29/2019
TAT Requested (days):
PO #:
WO #:
Project #: 28002692
SSOW#:

Analysis Requested:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Nitric Acid
 R - NaHSO4
 S - MeOH
 T - TSP Dodecahydrate
 U - Ice
 V - DI Water
 W - MCAA
 X - EDTA
 Y - PH 4-5
 Z - other (specify)
 Other:

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
 Other:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *Paul H...* Date/Time: 11/13/19 1400
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Received by: *Sara Betsy A* Date/Time: 11-14-19 10:00
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____

Custody Seal No.: Yes No
 Cooler Temperature(s) °C and Other Remarks: *3.1#11R*



Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-130756-1

Login Number: 130756

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Zimmerman, Steven M

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: 280-130756-1

Login Number: 130756

List Number: 2

Creator: Manhardt, Kara M

List Source: Eurofins TestAmerica, Buffalo

List Creation: 11/14/19 04:39 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	3.1, #1IR, ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

ANALYTICAL REPORT

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

Laboratory Job ID: 280-130796-1

Client Project/Site: WA02|Olympic View Sanitary LF - GW

For:

Waste Management
2615 Davis Street
San Leandro, California 94577

Attn: Mr. Patrick Madej



Authorized for release by:
12/19/2019 4:10:50 PM

Betsy Sara, Project Manager II
(303)736-0189
betsy.sara@testamericainc.com

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

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

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



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Definitions/Glossary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Job ID: 280-130796-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF - GW

Report Number: 280-130796-1

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

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

Sample Receiving

The samples were received on 11/13/2019; the samples arrived in good condition and on ice. The temperatures of the coolers at receipt were 1.4° C, 1.5° C and 1.6° C.

Holding Times

All holding times were within established control limits.

Method Blanks

Total Iron Method 6010D 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)

The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for cis-1,2-Dichloroethene, 1,2,4-Trichlorobenzene and Trichloroethene Method 8260C. 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 a sample from another client 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 DUP01 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.

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Job ID: 280-130796-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

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

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-35

Lab Sample ID: 280-130796-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.0	J	10	3.0	ug/L	1		8260C	Total/NA
Calcium, Dissolved	14		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	9.0		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.59	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.6		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0033		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Beryllium, Total	0.00014	J	0.0010	0.000080	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0023	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.00034	J	0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0041		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Nitrate as N	0.36		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	82		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	82		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	89		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	73.35				ft	1		Field Sampling	Total/NA
Specific Conductivity	166				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	7.09				mg/L	1		Field Sampling	Total/NA
eH	326.7				millivolts	1		Field Sampling	Total/NA
Turbidity	1.21				NTU	1		Field Sampling	Total/NA
Temperature	9.73				Degrees C	1		Field Sampling	Total/NA
pH	6.61				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-16

Lab Sample ID: 280-130796-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Total	0.11	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	12		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	6.9		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.84	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.5		1.0	0.37	mg/L	1		6010D	Dissolved
Antimony, Total	0.00051	J	0.0010	0.00040	mg/L	1		6020B	Total Recoverable
Barium, Total	0.0043		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Beryllium, Total	0.00024	J	0.0010	0.000080	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0076		0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Lead, Total	0.00018	J	0.0010	0.00018	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.018		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0028	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0036		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Nitrate as N	0.10		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	68		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	68		10	10	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-16 (Continued)

Lab Sample ID: 280-130796-2

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids (TDS)	82		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	62.82				ft	1		Field Sampling	Total/NA
Specific Conductivity	136				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	7.03				mg/L	1		Field Sampling	Total/NA
eH	347.4				millivolts	1		Field Sampling	Total/NA
Turbidity	2.11				NTU	1		Field Sampling	Total/NA
Temperature	8.95				Degrees C	1		Field Sampling	Total/NA
pH	6.17				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-39

Lab Sample ID: 280-130796-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt, Total	0.0074		0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	37	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	13		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	37		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	8.0		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.28	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	9.2		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.014		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.00079	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.47		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0026	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.47		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	7.5		3.0	3.0	mg/L	1		300.0	Total/NA
Ammonia (as N)	0.42		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	82		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	82		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	150		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.0		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Total Organic Carbon - Average	2.2		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Depth to water	22.21				ft	1		Field Sampling	Total/NA
Specific Conductivity	275				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.45				mg/L	1		Field Sampling	Total/NA
eH	-1.3				millivolts	1		Field Sampling	Total/NA
Turbidity	6.20				NTU	1		Field Sampling	Total/NA
Temperature	11.01				Degrees C	1		Field Sampling	Total/NA
pH	6.32				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-33A

Lab Sample ID: 280-130796-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Total	0.51	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	13		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.055	J	0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	6.6		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.76	J	1.0	0.24	mg/L	1		6010D	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-33A (Continued)

Lab Sample ID: 280-130796-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium, Dissolved	4.0		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0011		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.0033	J	0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0023		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.0031		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	3.0		3.0	3.0	mg/L	1		300.0	Total/NA
Sulfate	5.3		5.0	5.0	mg/L	1		300.0	Total/NA
Alkalinity, Total (As CaCO3)	63		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	63		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	85		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.8		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Depth to water	5.53				ft	1		Field Sampling	Total/NA
Specific Conductivity	137				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.57				mg/L	1		Field Sampling	Total/NA
eH	67.5				millivolts	1		Field Sampling	Total/NA
Turbidity	2.51				NTU	1		Field Sampling	Total/NA
Temperature	9.19				Degrees C	1		Field Sampling	Total/NA
pH	6.78				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-33C

Lab Sample ID: 280-130796-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Total	0.10	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	17		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.066		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	7.1		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	1.2		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	4.1		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0043		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.18		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.15		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	3.1		3.0	3.0	mg/L	1		300.0	Total/NA
Sulfate	10		5.0	5.0	mg/L	1		300.0	Total/NA
Alkalinity, Total (As CaCO3)	71		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	71		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	94		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	2.91				ft	1		Field Sampling	Total/NA
Specific Conductivity	157				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.32				mg/L	1		Field Sampling	Total/NA
eH	18.1				millivolts	1		Field Sampling	Total/NA
Turbidity	1.36				NTU	1		Field Sampling	Total/NA
Temperature	8.79				Degrees C	1		Field Sampling	Total/NA
pH	7.43				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-42

Lab Sample ID: 280-130796-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.094		0.020	0.0040	ug/L	1		8260C SIM	Total/NA
Cobalt, Total	0.0016	J	0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	23	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	36		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	23		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	14		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	8.1		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	18		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.10		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.00052	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Manganese, Total	4.1		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0015	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0012	J	0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	4.1		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	11		3.0	3.0	mg/L	1		300.0	Total/NA
Sulfate	10		5.0	5.0	mg/L	1		300.0	Total/NA
Ammonia (as N)	3.7		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	190		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	190		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	250		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.8		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Total Organic Carbon - Average	5.6		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Depth to water	29.63				ft	1		Field Sampling	Total/NA
Specific Conductivity	482				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.26				mg/L	1		Field Sampling	Total/NA
eH	-32.8				millivolts	1		Field Sampling	Total/NA
Turbidity	3.52				NTU	1		Field Sampling	Total/NA
Temperature	11.64				Degrees C	1		Field Sampling	Total/NA
pH	6.66				SU	1		Field Sampling	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-130796-7

No Detections.

Client Sample ID: DUP01

Lab Sample ID: 280-130796-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.092		0.020	0.0040	ug/L	1		8260C SIM	Total/NA
Cobalt, Total	0.0015	J	0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	24	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	33		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	22		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	13		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	7.5		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	17		1.0	0.37	mg/L	1		6010D	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: DUP01 (Continued)

Lab Sample ID: 280-130796-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium, Total	0.10		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.00056	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Manganese, Total	4.1		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0014	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	3.9		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	11		3.0	3.0	mg/L	1		300.0	Total/NA
Sulfate	10		5.0	5.0	mg/L	1		300.0	Total/NA
Ammonia (as N)	3.7		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	190		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	190		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	230		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	19		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Total Organic Carbon - Average	5.6		1.0	1.0	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver



Method Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010D	Metals (ICP)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
350.1	Nitrogen, Ammonia	MCAWW	TAL DEN
353.2	Nitrate	EPA	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL DEN
Field Sampling	Field Sampling	EPA	TAL DEN
Subcontract	Total Arsenic (ARI)	None	SC0056
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
5030C	Purge and Trap	SW846	TAL BUF

Protocol 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.

None = None

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

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

Laboratory References:

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

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

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

Sample Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-130796-1	MW-35	Water	11/12/19 09:10	11/13/19 09:45	
280-130796-2	MW-16	Water	11/12/19 10:20	11/13/19 09:45	
280-130796-3	MW-39	Water	11/12/19 11:35	11/13/19 09:45	
280-130796-4	MW-33A	Water	11/12/19 13:05	11/13/19 09:45	
280-130796-5	MW-33C	Water	11/12/19 13:50	11/13/19 09:45	
280-130796-6	MW-42	Water	11/12/19 15:10	11/13/19 09:45	
280-130796-7	TRIP BLANK	Water	11/12/19 15:30	11/13/19 09:45	
280-130796-8	DUP01	Water	11/12/19 15:30	11/13/19 09:45	

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L	-		11/19/19 19:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		50 - 150					11/19/19 19:05	1
TBA-d9 (Surr)	85		50 - 150					11/19/19 19:05	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L	-		11/19/19 19:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		50 - 150					11/19/19 19:29	1
TBA-d9 (Surr)	97		50 - 150					11/19/19 19:29	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L	-		11/19/19 19:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		50 - 150					11/19/19 19:53	1
TBA-d9 (Surr)	83		50 - 150					11/19/19 19:53	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L	-		11/19/19 20:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	105		50 - 150					11/19/19 20:17	1
TBA-d9 (Surr)	89		50 - 150					11/19/19 20:17	1

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L	-		11/19/19 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	104		50 - 150					11/19/19 20:41	1
TBA-d9 (Surr)	96		50 - 150					11/19/19 20:41	1

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.094		0.020	0.0040	ug/L	-		11/19/19 21:06	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	105		50 - 150		11/19/19 21:06	1
TBA-d9 (Surr)	96		50 - 150		11/19/19 21:06	1

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.092		0.020	0.0040	ug/L			11/19/19 21:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	105		50 - 150		11/19/19 21:30	1
TBA-d9 (Surr)	97		50 - 150		11/19/19 21:30	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 21:35	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 21:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 21:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 21:35	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 21:35	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 21:35	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 21:35	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 21:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 21:35	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 21:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 21:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 21:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 21:35	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 21:35	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 21:35	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 21:35	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 21:35	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 21:35	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 21:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 21:35	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 21:35	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 21:35	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 21:35	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 21:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 21:35	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 21:35	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 21:35	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 21:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 21:35	1
Acetone	3.0	J	10	3.0	ug/L			11/15/19 21:35	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 21:35	1
Acrolein	ND		20	0.91	ug/L			11/15/19 21:35	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 21:35	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 21:35	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 21:35	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 21:35	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 21:35	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 21:35	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 21:35	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 21:35	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 21:35	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 21:35	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 21:35	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 21:35	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 21:35	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 21:35	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 21:35	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 21:35	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 21:35	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 21:35	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 21:35	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 21:35	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 21:35	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 21:35	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 21:35	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 21:35	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 21:35	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 21:35	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 21:35	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 21:35	1
Hexane	ND		10	0.40	ug/L			11/15/19 21:35	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 21:35	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 21:35	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 21:35	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 21:35	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 21:35	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 21:35	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 21:35	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 21:35	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 21:35	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 21:35	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 21:35	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 21:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 21:35	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 21:35	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 21:35	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 21:35	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 21:35	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 21:35	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 21:35	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 21:35	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 21:35	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 21:35	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 21:35	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 21:35	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 21:35	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 21:35	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 21:35	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 21:35	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 21:35	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 21:35	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 21:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/15/19 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/15/19 21:35	1
4-Bromofluorobenzene (Surr)	102		73 - 120		11/15/19 21:35	1
Toluene-d8 (Surr)	101		80 - 120		11/15/19 21:35	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 21:59	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 21:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 21:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 21:59	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 21:59	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 21:59	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 21:59	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 21:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 21:59	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 21:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 21:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 21:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 21:59	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 21:59	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 21:59	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 21:59	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 21:59	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 21:59	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 21:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 21:59	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 21:59	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 21:59	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 21:59	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 21:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 21:59	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 21:59	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 21:59	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 21:59	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 21:59	1
Acetone	ND		10	3.0	ug/L			11/15/19 21:59	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 21:59	1
Acrolein	ND		20	0.91	ug/L			11/15/19 21:59	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 21:59	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 21:59	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 21:59	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 21:59	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 21:59	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 21:59	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 21:59	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 21:59	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 21:59	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 21:59	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 21:59	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 21:59	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 21:59	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 21:59	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 21:59	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 21:59	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 21:59	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 21:59	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 21:59	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 21:59	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 21:59	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 21:59	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 21:59	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 21:59	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 21:59	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 21:59	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 21:59	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 21:59	1
Hexane	ND		10	0.40	ug/L			11/15/19 21:59	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 21:59	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 21:59	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 21:59	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 21:59	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 21:59	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 21:59	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 21:59	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 21:59	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 21:59	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 21:59	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 21:59	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 21:59	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 21:59	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 21:59	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 21:59	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 21:59	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 21:59	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 21:59	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 21:59	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 21:59	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 21:59	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 21:59	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 21:59	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 21:59	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 21:59	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 21:59	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 21:59	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 21:59	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 21:59	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 21:59	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 21:59	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/15/19 21:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120		11/15/19 21:59	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/15/19 21:59	1
Toluene-d8 (Surr)	101		80 - 120		11/15/19 21:59	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 22:22	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 22:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 22:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 22:22	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 22:22	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 22:22	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 22:22	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 22:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 22:22	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 22:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 22:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 22:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 22:22	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 22:22	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 22:22	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 22:22	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 22:22	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 22:22	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 22:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 22:22	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 22:22	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 22:22	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 22:22	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 22:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 22:22	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 22:22	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 22:22	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 22:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 22:22	1
Acetone	ND		10	3.0	ug/L			11/15/19 22:22	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 22:22	1
Acrolein	ND		20	0.91	ug/L			11/15/19 22:22	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 22:22	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 22:22	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 22:22	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 22:22	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 22:22	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 22:22	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 22:22	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 22:22	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 22:22	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 22:22	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 22:22	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 22:22	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 22:22	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 22:22	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 22:22	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 22:22	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 22:22	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 22:22	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 22:22	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 22:22	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 22:22	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 22:22	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 22:22	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 22:22	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 22:22	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 22:22	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 22:22	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 22:22	1
Hexane	ND		10	0.40	ug/L			11/15/19 22:22	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 22:22	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 22:22	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 22:22	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 22:22	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 22:22	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 22:22	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 22:22	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 22:22	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 22:22	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 22:22	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 22:22	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 22:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 22:22	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 22:22	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 22:22	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 22:22	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 22:22	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 22:22	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 22:22	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 22:22	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 22:22	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 22:22	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 22:22	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 22:22	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 22:22	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 22:22	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 22:22	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 22:22	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 22:22	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 22:22	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 22:22	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/15/19 22:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120		11/15/19 22:22	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/15/19 22:22	1
Toluene-d8 (Surr)	101		80 - 120		11/15/19 22:22	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 22:45	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 22:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 22:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 22:45	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 22:45	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 22:45	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 22:45	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 22:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 22:45	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 22:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 22:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 22:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 22:45	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 22:45	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 22:45	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 22:45	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 22:45	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 22:45	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 22:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 22:45	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 22:45	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 22:45	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 22:45	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 22:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 22:45	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 22:45	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 22:45	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 22:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 22:45	1
Acetone	ND		10	3.0	ug/L			11/15/19 22:45	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 22:45	1
Acrolein	ND		20	0.91	ug/L			11/15/19 22:45	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 22:45	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 22:45	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 22:45	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 22:45	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 22:45	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 22:45	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 22:45	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 22:45	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 22:45	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 22:45	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 22:45	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 22:45	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 22:45	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 22:45	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 22:45	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 22:45	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 22:45	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 22:45	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 22:45	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 22:45	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 22:45	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 22:45	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 22:45	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 22:45	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 22:45	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 22:45	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 22:45	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 22:45	1
Hexane	ND		10	0.40	ug/L			11/15/19 22:45	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 22:45	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 22:45	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 22:45	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 22:45	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 22:45	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 22:45	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 22:45	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 22:45	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 22:45	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 22:45	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 22:45	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 22:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 22:45	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 22:45	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 22:45	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 22:45	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 22:45	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 22:45	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 22:45	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 22:45	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 22:45	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 22:45	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 22:45	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 22:45	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 22:45	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 22:45	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 22:45	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 22:45	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 22:45	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 22:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 22:45	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Hexachloroethane TIC</i>	<i>ND</i>		<i>ug/L</i>			<i>67-72-1</i>		<i>11/15/19 22:45</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>101</i>		<i>77 - 120</i>		<i>11/15/19 22:45</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>101</i>		<i>73 - 120</i>		<i>11/15/19 22:45</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>100</i>		<i>80 - 120</i>		<i>11/15/19 22:45</i>	<i>1</i>

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 23:09	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 23:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 23:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 23:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 23:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 23:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 23:09	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 23:09	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 23:09	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 23:09	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 23:09	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 23:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 23:09	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 23:09	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 23:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 23:09	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 23:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 23:09	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 23:09	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 23:09	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 23:09	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 23:09	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 23:09	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 23:09	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 23:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 23:09	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 23:09	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 23:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 23:09	1
Acetone	ND		10	3.0	ug/L			11/15/19 23:09	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 23:09	1
Acrolein	ND		20	0.91	ug/L			11/15/19 23:09	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 23:09	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 23:09	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 23:09	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 23:09	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 23:09	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 23:09	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 23:09	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 23:09	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 23:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 23:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 23:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 23:09	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 23:09	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 23:09	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 23:09	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 23:09	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 23:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 23:09	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 23:09	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 23:09	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 23:09	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 23:09	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 23:09	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 23:09	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 23:09	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 23:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 23:09	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 23:09	1
Hexane	ND		10	0.40	ug/L			11/15/19 23:09	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 23:09	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 23:09	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 23:09	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 23:09	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 23:09	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 23:09	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 23:09	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 23:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 23:09	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 23:09	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 23:09	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 23:09	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 23:09	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 23:09	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 23:09	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 23:09	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 23:09	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 23:09	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 23:09	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 23:09	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 23:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 23:09	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 23:09	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 23:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 23:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 23:09	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 23:09	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 23:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 23:09	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 23:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 23:09	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Hexachloroethane TIC</i>	<i>ND</i>		<i>ug/L</i>			<i>67-72-1</i>		<i>11/15/19 23:09</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>101</i>		<i>77 - 120</i>		<i>11/15/19 23:09</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>101</i>		<i>73 - 120</i>		<i>11/15/19 23:09</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>101</i>		<i>80 - 120</i>		<i>11/15/19 23:09</i>	<i>1</i>

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 23:32	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 23:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 23:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 23:32	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 23:32	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 23:32	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 23:32	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 23:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 23:32	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 23:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 23:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 23:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 23:32	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 23:32	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 23:32	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 23:32	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 23:32	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 23:32	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 23:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 23:32	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 23:32	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 23:32	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 23:32	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 23:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 23:32	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 23:32	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 23:32	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 23:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 23:32	1
Acetone	ND		10	3.0	ug/L			11/15/19 23:32	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 23:32	1
Acrolein	ND		20	0.91	ug/L			11/15/19 23:32	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 23:32	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 23:32	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 23:32	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 23:32	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 23:32	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 23:32	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 23:32	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 23:32	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 23:32	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 23:32	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 23:32	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 23:32	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 23:32	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 23:32	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 23:32	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 23:32	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 23:32	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 23:32	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 23:32	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 23:32	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 23:32	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 23:32	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 23:32	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 23:32	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 23:32	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 23:32	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 23:32	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 23:32	1
Hexane	ND		10	0.40	ug/L			11/15/19 23:32	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 23:32	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 23:32	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 23:32	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 23:32	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 23:32	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 23:32	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 23:32	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 23:32	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 23:32	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 23:32	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 23:32	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 23:32	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 23:32	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 23:32	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 23:32	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 23:32	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 23:32	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 23:32	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 23:32	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 23:32	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 23:32	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 23:32	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 23:32	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 23:32	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 23:32	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 23:32	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 23:32	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 23:32	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 23:32	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 23:32	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 23:32	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Hexachloroethane TIC</i>	<i>ND</i>		<i>ug/L</i>			<i>67-72-1</i>		<i>11/15/19 23:32</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>101</i>		<i>77 - 120</i>		<i>11/15/19 23:32</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>100</i>		<i>73 - 120</i>		<i>11/15/19 23:32</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>99</i>		<i>80 - 120</i>		<i>11/15/19 23:32</i>	<i>1</i>

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TRIP BLANK

Date Collected: 11/12/19 15:30

Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/19/19 12:18	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/19/19 12:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/19/19 12:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/19/19 12:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/19/19 12:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/19/19 12:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/19/19 12:18	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/19/19 12:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 12:18	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/19/19 12:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 12:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/19/19 12:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/19/19 12:18	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/19/19 12:18	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/19/19 12:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/19/19 12:18	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/19/19 12:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/19/19 12:18	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/19/19 12:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/19/19 12:18	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/19/19 12:18	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/19/19 12:18	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/19/19 12:18	1
1,4-Dioxane	ND		40	9.3	ug/L			11/19/19 12:18	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/19/19 12:18	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/19/19 12:18	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/19/19 12:18	1
2-Hexanone	ND		5.0	1.2	ug/L			11/19/19 12:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/19/19 12:18	1
Acetone	ND		10	3.0	ug/L			11/19/19 12:18	1
Acetonitrile	ND		15	4.9	ug/L			11/19/19 12:18	1
Acrolein	ND		20	0.91	ug/L			11/19/19 12:18	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/19/19 12:18	1
Benzene	ND		1.0	0.41	ug/L			11/19/19 12:18	1
Bromobenzene	ND		1.0	0.80	ug/L			11/19/19 12:18	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/19/19 12:18	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/19/19 12:18	1
Bromoform	ND		1.0	0.26	ug/L			11/19/19 12:18	1
Bromomethane	ND		1.0	0.69	ug/L			11/19/19 12:18	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/19/19 12:18	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/19/19 12:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/19/19 12:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/19/19 12:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/19/19 12:18	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/19/19 12:18	1
Chloroethane	ND		1.0	0.32	ug/L			11/19/19 12:18	1
Chloroform	ND		1.0	0.34	ug/L			11/19/19 12:18	1
Chloromethane	ND		1.0	0.35	ug/L			11/19/19 12:18	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/19/19 12:18	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: TRIP BLANK

Date Collected: 11/12/19 15:30

Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/19/19 12:18	1
Cyclohexane	ND		1.0	0.18	ug/L			11/19/19 12:18	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/19/19 12:18	1
Dibromomethane	ND		1.0	0.41	ug/L			11/19/19 12:18	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/19/19 12:18	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/19/19 12:18	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/19/19 12:18	1
Ethyl ether	ND		1.0	0.72	ug/L			11/19/19 12:18	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/19/19 12:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/19/19 12:18	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/19/19 12:18	1
Hexane	ND		10	0.40	ug/L			11/19/19 12:18	1
Iodomethane	ND		1.0	0.30	ug/L			11/19/19 12:18	1
Isobutanol	ND		25	4.8	ug/L			11/19/19 12:18	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/19/19 12:18	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/19/19 12:18	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/19/19 12:18	1
Methyl acetate	ND		2.5	1.3	ug/L			11/19/19 12:18	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/19/19 12:18	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/19/19 12:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/19/19 12:18	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/19/19 12:18	1
Naphthalene	ND		1.0	0.43	ug/L			11/19/19 12:18	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/19/19 12:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/19/19 12:18	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/19/19 12:18	1
o-Xylene	ND		1.0	0.76	ug/L			11/19/19 12:18	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/19/19 12:18	1
p-Cymene	ND		1.0	0.31	ug/L			11/19/19 12:18	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/19/19 12:18	1
Styrene	ND		1.0	0.73	ug/L			11/19/19 12:18	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/19/19 12:18	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/19/19 12:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/19/19 12:18	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/19/19 12:18	1
Toluene	ND		1.0	0.51	ug/L			11/19/19 12:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/19/19 12:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/19/19 12:18	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/19/19 12:18	1
Trichloroethene	ND		1.0	0.46	ug/L			11/19/19 12:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/19/19 12:18	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/19/19 12:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/19/19 12:18	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/19/19 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		77 - 120		11/19/19 12:18	1
4-Bromofluorobenzene (Surr)	85		73 - 120		11/19/19 12:18	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: TRIP BLANK
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-7
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	87		80 - 120		11/19/19 12:18	1

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/19/19 15:04	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/19/19 15:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/19/19 15:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/19/19 15:04	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/19/19 15:04	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/19/19 15:04	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/19/19 15:04	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/19/19 15:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 15:04	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/19/19 15:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 15:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/19/19 15:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/19/19 15:04	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/19/19 15:04	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/19/19 15:04	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/19/19 15:04	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/19/19 15:04	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/19/19 15:04	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/19/19 15:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/19/19 15:04	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/19/19 15:04	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/19/19 15:04	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/19/19 15:04	1
1,4-Dioxane	ND		40	9.3	ug/L			11/19/19 15:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/19/19 15:04	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/19/19 15:04	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/19/19 15:04	1
2-Hexanone	ND		5.0	1.2	ug/L			11/19/19 15:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/19/19 15:04	1
Acetone	ND		10	3.0	ug/L			11/19/19 15:04	1
Acetonitrile	ND		15	4.9	ug/L			11/19/19 15:04	1
Acrolein	ND		20	0.91	ug/L			11/19/19 15:04	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/19/19 15:04	1
Benzene	ND		1.0	0.41	ug/L			11/19/19 15:04	1
Bromobenzene	ND		1.0	0.80	ug/L			11/19/19 15:04	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/19/19 15:04	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/19/19 15:04	1
Bromoform	ND		1.0	0.26	ug/L			11/19/19 15:04	1
Bromomethane	ND		1.0	0.69	ug/L			11/19/19 15:04	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/19/19 15:04	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/19/19 15:04	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/19/19 15:04	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/19/19 15:04	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.75	ug/L			11/19/19 15:04	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/19/19 15:04	1
Chloroethane	ND		1.0	0.32	ug/L			11/19/19 15:04	1
Chloroform	ND		1.0	0.34	ug/L			11/19/19 15:04	1
Chloromethane	ND		1.0	0.35	ug/L			11/19/19 15:04	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/19/19 15:04	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/19/19 15:04	1
Cyclohexane	ND		1.0	0.18	ug/L			11/19/19 15:04	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/19/19 15:04	1
Dibromomethane	ND		1.0	0.41	ug/L			11/19/19 15:04	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/19/19 15:04	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/19/19 15:04	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/19/19 15:04	1
Ethyl ether	ND		1.0	0.72	ug/L			11/19/19 15:04	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/19/19 15:04	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/19/19 15:04	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/19/19 15:04	1
Hexane	ND		10	0.40	ug/L			11/19/19 15:04	1
Iodomethane	ND		1.0	0.30	ug/L			11/19/19 15:04	1
Isobutanol	ND		25	4.8	ug/L			11/19/19 15:04	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/19/19 15:04	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/19/19 15:04	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/19/19 15:04	1
Methyl acetate	ND		2.5	1.3	ug/L			11/19/19 15:04	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/19/19 15:04	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/19/19 15:04	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/19/19 15:04	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/19/19 15:04	1
Naphthalene	ND		1.0	0.43	ug/L			11/19/19 15:04	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/19/19 15:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/19/19 15:04	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/19/19 15:04	1
o-Xylene	ND		1.0	0.76	ug/L			11/19/19 15:04	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/19/19 15:04	1
p-Cymene	ND		1.0	0.31	ug/L			11/19/19 15:04	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/19/19 15:04	1
Styrene	ND		1.0	0.73	ug/L			11/19/19 15:04	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/19/19 15:04	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/19/19 15:04	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/19/19 15:04	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/19/19 15:04	1
Toluene	ND		1.0	0.51	ug/L			11/19/19 15:04	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/19/19 15:04	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/19/19 15:04	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/19/19 15:04	1
Trichloroethene	ND		1.0	0.46	ug/L			11/19/19 15:04	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/19/19 15:04	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/19/19 15:04	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/19/19 15:04	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Hexachloroethane TIC	ND		ug/L			67-72-1		11/19/19 15:04	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dichloroethane-d4 (Surr)	103		77 - 120					11/19/19 15:04	1
4-Bromofluorobenzene (Surr)	104		73 - 120					11/19/19 15:04	1
Toluene-d8 (Surr)	99		80 - 120					11/19/19 15:04	1

Method: 6010D - Metals (ICP) - Total Recoverable

<i>Analyte</i>	<i>Result</i>	<i>Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Client Sample ID: MW-35									
Date Collected: 11/12/19 09:10									
Date Received: 11/13/19 09:45									
					Lab Sample ID: 280-130796-1				
					Matrix: Water				
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:04	1
Iron, Total	ND		0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:33	1
Client Sample ID: MW-16									
Date Collected: 11/12/19 10:20									
Date Received: 11/13/19 09:45									
					Lab Sample ID: 280-130796-2				
					Matrix: Water				
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:06	1
Iron, Total	0.11	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:36	1
Client Sample ID: MW-39									
Date Collected: 11/12/19 11:35									
Date Received: 11/13/19 09:45									
					Lab Sample ID: 280-130796-3				
					Matrix: Water				
Cobalt, Total	0.0074		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:09	1
Iron, Total	37	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:38	1
Client Sample ID: MW-33A									
Date Collected: 11/12/19 13:05									
Date Received: 11/13/19 09:45									
					Lab Sample ID: 280-130796-4				
					Matrix: Water				
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:21	1
Iron, Total	0.51	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:41	1
Client Sample ID: MW-33C									
Date Collected: 11/12/19 13:50									
Date Received: 11/13/19 09:45									
					Lab Sample ID: 280-130796-5				
					Matrix: Water				
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:24	1
Iron, Total	0.10	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:43	1
Client Sample ID: MW-42									
Date Collected: 11/12/19 15:10									
Date Received: 11/13/19 09:45									
					Lab Sample ID: 280-130796-6				
					Matrix: Water				
Cobalt, Total	0.0016	J	0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:26	1
Iron, Total	23	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:46	1

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 6010D - Metals (ICP) - Total Recoverable

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	0.0015	J	0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:29	1
Iron, Total	24	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:48	1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	14		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 19:37	1
Iron, Dissolved	ND		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 13:56	1
Magnesium, Dissolved	9.0		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 19:37	1
Potassium, Dissolved	0.59	J	1.0	0.24	mg/L		12/04/19 08:00	12/05/19 13:56	1
Sodium, Dissolved	5.6		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 13:56	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	12		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 19:40	1
Iron, Dissolved	ND		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 13:58	1
Magnesium, Dissolved	6.9		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 19:40	1
Potassium, Dissolved	0.84	J	1.0	0.24	mg/L		12/04/19 08:00	12/05/19 13:58	1
Sodium, Dissolved	5.5		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 13:58	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	13		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 19:42	1
Iron, Dissolved	37		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 14:01	1
Magnesium, Dissolved	8.0		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 19:42	1
Potassium, Dissolved	0.28	J	1.0	0.24	mg/L		12/04/19 08:00	12/05/19 14:01	1
Sodium, Dissolved	9.2		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 14:01	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	13		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 19:55	1
Iron, Dissolved	0.055	J	0.060	0.022	mg/L		12/04/19 08:00	12/05/19 14:03	1
Magnesium, Dissolved	6.6		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 19:55	1
Potassium, Dissolved	0.76	J	1.0	0.24	mg/L		12/04/19 08:00	12/05/19 14:03	1
Sodium, Dissolved	4.0		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 14:03	1

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	17		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 19:57	1
Iron, Dissolved	0.066		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 14:16	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 6010D - Metals (ICP) - Dissolved (Continued)

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium, Dissolved	7.1		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 19:57	1
Potassium, Dissolved	1.2		1.0	0.24	mg/L		12/04/19 08:00	12/05/19 14:16	1
Sodium, Dissolved	4.1		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 14:16	1

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	36		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 20:00	1
Iron, Dissolved	23		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 14:19	1
Magnesium, Dissolved	14		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 20:00	1
Potassium, Dissolved	8.1		1.0	0.24	mg/L		12/04/19 08:00	12/05/19 14:19	1
Sodium, Dissolved	18		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 14:19	1

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	33		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 20:02	1
Iron, Dissolved	22		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 14:21	1
Magnesium, Dissolved	13		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 20:02	1
Potassium, Dissolved	7.5		1.0	0.24	mg/L		12/04/19 08:00	12/05/19 14:21	1
Sodium, Dissolved	17		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 14:21	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 22:37	1
Barium, Total	0.0033		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 22:37	1
Beryllium, Total	0.00014	J	0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 22:37	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 22:37	1
Chromium, Total	0.0023	J	0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 22:37	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 22:37	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 22:37	1
Manganese, Total	0.00034	J	0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 15:23	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 22:37	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 15:23	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 22:37	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 22:37	1
Vanadium, Total	0.0041		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 22:37	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 22:37	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	0.00051	J	0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 22:56	1
Barium, Total	0.0043		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 22:56	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium, Total	0.00024	J	0.0010	0.000080	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Cadmium, Total	ND		0.00030	0.00027	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Chromium, Total	0.0076		0.0030	0.00050	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Copper, Total	ND		0.0020	0.00056	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Lead, Total	0.00018	J	0.0010	0.00018	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Manganese, Total	0.018		0.0010	0.00031	mg/L	-	12/11/19 07:50	12/12/19 15:42	1
Nickel, Total	0.0028	J	0.0040	0.00030	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Selenium, Total	ND		0.0010	0.00037	mg/L	-	12/11/19 07:50	12/12/19 15:42	1
Silver, Total	ND		0.0020	0.000033	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Thallium, Total	ND		0.0010	0.000089	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Vanadium, Total	0.0036		0.0020	0.0012	mg/L	-	12/11/19 07:50	12/11/19 22:56	1
Zinc, Total	ND		0.0050	0.0020	mg/L	-	12/11/19 07:50	12/11/19 22:56	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Barium, Total	0.014		0.0010	0.00029	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Beryllium, Total	ND		0.0010	0.000080	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Cadmium, Total	ND		0.00030	0.00027	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Chromium, Total	0.00079	J	0.0030	0.00050	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Copper, Total	ND		0.0020	0.00056	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Lead, Total	ND		0.0010	0.00018	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Manganese, Total	0.47		0.0010	0.00031	mg/L	-	12/11/19 07:50	12/12/19 15:46	1
Nickel, Total	0.0026	J	0.0040	0.00030	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Selenium, Total	ND		0.0010	0.00037	mg/L	-	12/11/19 07:50	12/12/19 15:46	1
Silver, Total	ND		0.0020	0.000033	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Thallium, Total	ND		0.0010	0.000089	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Vanadium, Total	ND		0.0020	0.0012	mg/L	-	12/11/19 07:50	12/11/19 23:00	1
Zinc, Total	ND		0.0050	0.0020	mg/L	-	12/11/19 07:50	12/11/19 23:00	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Barium, Total	0.0011		0.0010	0.00029	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Beryllium, Total	ND		0.0010	0.000080	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Cadmium, Total	ND		0.00030	0.00027	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Chromium, Total	ND		0.0030	0.00050	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Copper, Total	ND		0.0020	0.00056	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Lead, Total	ND		0.0010	0.00018	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Manganese, Total	0.0033	J	0.0010	0.00031	mg/L	-	12/11/19 07:50	12/12/19 15:50	1
Nickel, Total	ND		0.0040	0.00030	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Selenium, Total	ND	J	0.0010	0.00037	mg/L	-	12/11/19 07:50	12/12/19 15:50	1
Silver, Total	ND		0.0020	0.000033	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Thallium, Total	ND		0.0010	0.000089	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Vanadium, Total	0.0023		0.0020	0.0012	mg/L	-	12/11/19 07:50	12/11/19 23:04	1
Zinc, Total	ND		0.0050	0.0020	mg/L	-	12/11/19 07:50	12/11/19 23:04	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:15	1
Barium, Total	0.0043		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:15	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:15	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:15	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:15	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:15	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:15	1
Manganese, Total	0.18		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:02	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:15	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:02	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:15	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:15	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:15	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:15	1

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:19	1
Barium, Total	0.10		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:19	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:19	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:19	1
Chromium, Total	0.00052	J	0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:19	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:19	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:19	1
Manganese, Total	4.1		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:06	1
Nickel, Total	0.0015	J	0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:19	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:06	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:19	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:19	1
Vanadium, Total	0.0012	J	0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:19	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:19	1

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:23	1
Barium, Total	0.10		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:23	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:23	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:23	1
Chromium, Total	0.00056	J	0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:23	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:23	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:23	1
Manganese, Total	4.1		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:09	1
Nickel, Total	0.0014	J	0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:23	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:09	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:23	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:23	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:23	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:23	1

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

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:16	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:19	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.47		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:23	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.0031		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:26	1

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.15		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:30	1

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	4.1		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:33	1

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	3.9		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:48	1

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

General Chemistry

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/06/19 21:26	1
Sulfate	ND		5.0	5.0	mg/L			12/06/19 21:26	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 10:41	1
Nitrate as N	0.36		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	82		10	10	mg/L			11/19/19 21:16	1
Alkalinity, Bicarbonate (As CaCO3)	82		10	10	mg/L			11/19/19 21:16	1
Total Dissolved Solids (TDS)	89		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 07:06	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/06/19 22:32	1
Sulfate	ND		5.0	5.0	mg/L			12/06/19 22:32	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 12:33	1
Nitrate as N	0.10		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	68		10	10	mg/L			11/19/19 21:43	1
Alkalinity, Bicarbonate (As CaCO3)	68		10	10	mg/L			11/19/19 21:43	1
Total Dissolved Solids (TDS)	82		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 07:20	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.5		3.0	3.0	mg/L			12/06/19 22:48	1
Sulfate	ND		5.0	5.0	mg/L			12/06/19 22:48	1
Ammonia (as N)	0.42		0.030	0.030	mg/L			11/19/19 10:49	1
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	82		10	10	mg/L			11/19/19 21:52	1
Alkalinity, Bicarbonate (As CaCO3)	82		10	10	mg/L			11/19/19 21:52	1
Total Dissolved Solids (TDS)	150		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	4.0		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	2.2		1.0	1.0	mg/L			12/05/19 07:37	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.0		3.0	3.0	mg/L			12/06/19 23:05	1
Sulfate	5.3		5.0	5.0	mg/L			12/06/19 23:05	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 10:51	1
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	63		10	10	mg/L			11/19/19 21:57	1

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Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

General Chemistry (Continued)

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Bicarbonate (As CaCO3)	63		10	10	mg/L			11/19/19 21:57	1
Total Dissolved Solids (TDS)	85		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	6.8		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 07:52	1

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.1		3.0	3.0	mg/L			12/06/19 23:21	1
Sulfate	10		5.0	5.0	mg/L			12/06/19 23:21	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 10:53	1
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	71		10	10	mg/L			11/19/19 22:03	1
Alkalinity, Bicarbonate (As CaCO3)	71		10	10	mg/L			11/19/19 22:03	1
Total Dissolved Solids (TDS)	94		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 08:07	1

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		3.0	3.0	mg/L			12/06/19 23:38	1
Sulfate	10		5.0	5.0	mg/L			12/06/19 23:38	1
Ammonia (as N)	3.7		0.030	0.030	mg/L			11/19/19 10:55	1
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:02	1
Alkalinity, Total (As CaCO3)	190		10	10	mg/L			11/19/19 22:08	1
Alkalinity, Bicarbonate (As CaCO3)	190		10	10	mg/L			11/19/19 22:08	1
Total Dissolved Solids (TDS)	250		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	6.8		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	5.6		1.0	1.0	mg/L			12/05/19 08:53	1

Client Sample ID: DUP01
Date Collected: 11/12/19 15:30
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		3.0	3.0	mg/L			12/06/19 23:54	1
Sulfate	10		5.0	5.0	mg/L			12/06/19 23:54	1
Ammonia (as N)	3.7		0.030	0.030	mg/L			11/19/19 10:57	1
Nitrate as N	ND		0.050	0.050	mg/L			11/22/19 09:03	1
Alkalinity, Total (As CaCO3)	190		10	10	mg/L			11/19/19 22:13	1
Alkalinity, Bicarbonate (As CaCO3)	190		10	10	mg/L			11/19/19 22:13	1
Total Dissolved Solids (TDS)	230		5.0	5.0	mg/L			11/14/19 07:17	1
Total Suspended Solids	19		4.0	4.0	mg/L			11/15/19 13:50	1
Total Organic Carbon - Average	5.6		1.0	1.0	mg/L			12/05/19 09:12	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: Field Sampling - Field Sampling

Client Sample ID: MW-35
Date Collected: 11/12/19 09:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-1
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	73.35				ft			11/12/19 10:10	1
Specific Conductivity	166				umhos/cm			11/12/19 10:10	1
Dissolved Oxygen	7.09				mg/L			11/12/19 10:10	1
eH	326.7				millivolts			11/12/19 10:10	1
Turbidity	1.21				NTU			11/12/19 10:10	1
Temperature	9.73				Degrees C			11/12/19 10:10	1
pH	6.61				SU			11/12/19 10:10	1

Client Sample ID: MW-16
Date Collected: 11/12/19 10:20
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-2
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	62.82				ft			11/12/19 11:20	1
Specific Conductivity	136				umhos/cm			11/12/19 11:20	1
Dissolved Oxygen	7.03				mg/L			11/12/19 11:20	1
eH	347.4				millivolts			11/12/19 11:20	1
Turbidity	2.11				NTU			11/12/19 11:20	1
Temperature	8.95				Degrees C			11/12/19 11:20	1
pH	6.17				SU			11/12/19 11:20	1

Client Sample ID: MW-39
Date Collected: 11/12/19 11:35
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-3
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	22.21				ft			11/12/19 12:35	1
Specific Conductivity	275				umhos/cm			11/12/19 12:35	1
Dissolved Oxygen	0.45				mg/L			11/12/19 12:35	1
eH	-1.3				millivolts			11/12/19 12:35	1
Turbidity	6.20				NTU			11/12/19 12:35	1
Temperature	11.01				Degrees C			11/12/19 12:35	1
pH	6.32				SU			11/12/19 12:35	1

Client Sample ID: MW-33A
Date Collected: 11/12/19 13:05
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-4
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	5.53				ft			11/12/19 14:05	1
Specific Conductivity	137				umhos/cm			11/12/19 14:05	1
Dissolved Oxygen	0.57				mg/L			11/12/19 14:05	1
eH	67.5				millivolts			11/12/19 14:05	1
Turbidity	2.51				NTU			11/12/19 14:05	1
Temperature	9.19				Degrees C			11/12/19 14:05	1
pH	6.78				SU			11/12/19 14:05	1

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	2.91				ft			11/12/19 14:50	1
Specific Conductivity	157				umhos/cm			11/12/19 14:50	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: Field Sampling - Field Sampling (Continued)

Client Sample ID: MW-33C
Date Collected: 11/12/19 13:50
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-5
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Oxygen	0.32				mg/L			11/12/19 14:50	1
eH	18.1				millivolts			11/12/19 14:50	1
Turbidity	1.36				NTU			11/12/19 14:50	1
Temperature	8.79				Degrees C			11/12/19 14:50	1
pH	7.43				SU			11/12/19 14:50	1

Client Sample ID: MW-42
Date Collected: 11/12/19 15:10
Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-6
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	29.63				ft			11/12/19 16:10	1
Specific Conductivity	482				umhos/cm			11/12/19 16:10	1
Dissolved Oxygen	0.26				mg/L			11/12/19 16:10	1
eH	-32.8				millivolts			11/12/19 16:10	1
Turbidity	3.52				NTU			11/12/19 16:10	1
Temperature	11.64				Degrees C			11/12/19 16:10	1
pH	6.66				SU			11/12/19 16:10	1

Surrogate Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (77-120)	BFB (73-120)	TOL (80-120)
280-130796-1	MW-35	102	102	101
280-130796-2	MW-16	101	101	101
280-130796-3	MW-39	101	101	101
280-130796-4	MW-33A	101	101	100
280-130796-5	MW-33C	101	101	101
280-130796-6	MW-42	101	100	99
280-130796-7	TRIP BLANK	94	85	87
280-130796-8	DUP01	103	104	99
480-162312-D-8 MS	Matrix Spike	96	96	92
480-162312-D-8 MSD	Matrix Spike Duplicate	98	94	93
480-162651-D-2 MS	Matrix Spike	100	103	102
480-162651-D-2 MSD	Matrix Spike Duplicate	101	103	101
LCS 480-504811/5	Lab Control Sample	101	102	101
LCS 480-505311/25	Lab Control Sample	98	92	95
LCS 480-505348/5	Lab Control Sample	99	104	101
MB 480-504811/7	Method Blank	102	100	100
MB 480-505311/7	Method Blank	94	86	85
MB 480-505348/7	Method Blank	101	103	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DBFM (50-150)	TBA (50-150)
280-130796-1	MW-35	101	85
280-130796-2	MW-16	103	97
280-130796-3	MW-39	103	83
280-130796-4	MW-33A	105	89
280-130796-5	MW-33C	104	96
280-130796-6	MW-42	105	96
280-130796-8	DUP01	105	97
LCS 480-505396/6	Lab Control Sample	99	79
LCSD 480-505396/7	Lab Control Sample Dup	98	76
MB 480-505396/9	Method Blank	91	79

Surrogate Legend

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

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-504811/7
Matrix: Water
Analysis Batch: 504811

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/19 19:54	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/19 19:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/19 19:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/15/19 19:54	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/19 19:54	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/19 19:54	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/19 19:54	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/15/19 19:54	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 19:54	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/19 19:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/15/19 19:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/15/19 19:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/19 19:54	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/15/19 19:54	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/15/19 19:54	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/19 19:54	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/15/19 19:54	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/19 19:54	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/15/19 19:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/15/19 19:54	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/15/19 19:54	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/15/19 19:54	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/15/19 19:54	1
1,4-Dioxane	ND		40	9.3	ug/L			11/15/19 19:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/15/19 19:54	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/19 19:54	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/19 19:54	1
2-Hexanone	ND		5.0	1.2	ug/L			11/15/19 19:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/19 19:54	1
Acetone	ND		10	3.0	ug/L			11/15/19 19:54	1
Acetonitrile	ND		15	4.9	ug/L			11/15/19 19:54	1
Acrolein	ND		20	0.91	ug/L			11/15/19 19:54	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/19 19:54	1
Benzene	ND		1.0	0.41	ug/L			11/15/19 19:54	1
Bromobenzene	ND		1.0	0.80	ug/L			11/15/19 19:54	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/15/19 19:54	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/15/19 19:54	1
Bromoform	ND		1.0	0.26	ug/L			11/15/19 19:54	1
Bromomethane	ND		1.0	0.69	ug/L			11/15/19 19:54	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/15/19 19:54	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/15/19 19:54	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/19 19:54	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/19 19:54	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/19 19:54	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/15/19 19:54	1
Chloroethane	ND		1.0	0.32	ug/L			11/15/19 19:54	1
Chloroform	ND		1.0	0.34	ug/L			11/15/19 19:54	1
Chloromethane	ND		1.0	0.35	ug/L			11/15/19 19:54	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: MB 480-504811/7
Matrix: Water
Analysis Batch: 504811

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/15/19 19:54	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/19 19:54	1
Cyclohexane	ND		1.0	0.18	ug/L			11/15/19 19:54	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/15/19 19:54	1
Dibromomethane	ND		1.0	0.41	ug/L			11/15/19 19:54	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/19 19:54	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/15/19 19:54	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/15/19 19:54	1
Ethyl ether	ND		1.0	0.72	ug/L			11/15/19 19:54	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/15/19 19:54	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/19 19:54	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/15/19 19:54	1
Hexane	ND		10	0.40	ug/L			11/15/19 19:54	1
Iodomethane	ND		1.0	0.30	ug/L			11/15/19 19:54	1
Isobutanol	ND		25	4.8	ug/L			11/15/19 19:54	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/15/19 19:54	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/15/19 19:54	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/19 19:54	1
Methyl acetate	ND		2.5	1.3	ug/L			11/15/19 19:54	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/15/19 19:54	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/15/19 19:54	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/19 19:54	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/19 19:54	1
Naphthalene	ND		1.0	0.43	ug/L			11/15/19 19:54	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/15/19 19:54	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/15/19 19:54	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/15/19 19:54	1
o-Xylene	ND		1.0	0.76	ug/L			11/15/19 19:54	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/15/19 19:54	1
p-Cymene	ND		1.0	0.31	ug/L			11/15/19 19:54	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/15/19 19:54	1
Styrene	ND		1.0	0.73	ug/L			11/15/19 19:54	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/15/19 19:54	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/15/19 19:54	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/19 19:54	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/15/19 19:54	1
Toluene	ND		1.0	0.51	ug/L			11/15/19 19:54	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/19 19:54	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/19 19:54	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/19 19:54	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/19 19:54	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/19 19:54	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/19 19:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/19 19:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/15/19 19:54	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/15/19 19:54	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: MB 480-504811/7
Matrix: Water
Analysis Batch: 504811

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB %Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		11/15/19 19:54	1

Lab Sample ID: LCS 480-504811/5
Matrix: Water
Analysis Batch: 504811

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	27.8		ug/L		111	80 - 120
1,1,1-Trichloroethane	25.0	28.2		ug/L		113	73 - 126
1,1,2,2-Tetrachloroethane	25.0	26.6		ug/L		107	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	30.4		ug/L		122	61 - 148
1,1,2-Trichloroethane	25.0	27.1		ug/L		108	76 - 122
1,1-Dichloroethane	25.0	26.0		ug/L		104	77 - 120
1,1-Dichloroethene	25.0	28.6		ug/L		114	66 - 127
1,1-Dichloropropene	25.0	27.6		ug/L		111	72 - 122
1,2,3-Trichlorobenzene	25.0	26.4		ug/L		105	75 - 123
1,2,3-Trichloropropane	25.0	26.4		ug/L		106	68 - 122
1,2,4-Trichlorobenzene	25.0	26.5		ug/L		106	79 - 122
1,2,4-Trimethylbenzene	25.0	26.6		ug/L		107	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	28.3		ug/L		113	56 - 134
1,2-Dibromoethane (EDB)	25.0	27.3		ug/L		109	77 - 120
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	25.3		ug/L		101	75 - 120
1,2-Dichloropropane	25.0	26.1		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	25.0	26.9		ug/L		108	77 - 121
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	77 - 120
1,3-Dichloropropane	25.0	26.5		ug/L		106	75 - 120
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	80 - 120
1,4-Dioxane	500	536		ug/L		107	50 - 150
2,2-Dichloropropane	25.0	29.1		ug/L		116	63 - 136
2-Butanone (MEK)	125	128		ug/L		103	57 - 140
2-Chloroethyl vinyl ether	25.0	28.0		ug/L		112	70 - 129
2-Hexanone	125	131		ug/L		105	65 - 127
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		105	71 - 125
Acetone	125	125		ug/L		100	56 - 142
Acrolein	125	130		ug/L		104	52 - 143
Acrylonitrile	250	264		ug/L		106	63 - 125
Benzene	25.0	26.1		ug/L		104	71 - 124
Bromobenzene	25.0	26.6		ug/L		106	78 - 120
Bromochloromethane	25.0	26.7		ug/L		107	72 - 130
Bromodichloromethane	25.0	25.9		ug/L		104	80 - 122
Bromoform	25.0	30.2		ug/L		121	61 - 132
Bromomethane	25.0	27.3		ug/L		109	55 - 144
Butyl alcohol, tert-	250	284		ug/L		114	75 - 125
Carbon disulfide	25.0	28.1		ug/L		113	59 - 134
Carbon tetrachloride	25.0	29.0		ug/L		116	72 - 134
Chlorobenzene	25.0	26.4		ug/L		106	80 - 120
Chloroethane	25.0	24.5		ug/L		98	69 - 136

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 480-504811/5

Matrix: Water

Analysis Batch: 504811

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	25.0	26.6		ug/L		107	73 - 127
Chloromethane	25.0	24.3		ug/L		97	68 - 124
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	74 - 124
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	74 - 124
Cyclohexane	25.0	28.3		ug/L		113	59 - 135
Dibromochloromethane	25.0	28.5		ug/L		114	75 - 125
Dibromomethane	25.0	26.5		ug/L		106	76 - 127
Dichlorodifluoromethane	25.0	29.1		ug/L		116	59 - 135
Dichlorofluoromethane	25.0	24.7		ug/L		99	76 - 127
Ethyl ether	25.0	25.4		ug/L		101	76 - 123
Ethylbenzene	25.0	27.0		ug/L		108	77 - 123
Hexachlorobutadiene	25.0	28.1		ug/L		112	68 - 131
Iodomethane	25.0	27.0		ug/L		108	78 - 123
Isobutanol	625	675		ug/L		108	51 - 150
Isopropylbenzene	25.0	27.0		ug/L		108	77 - 122
Methyl acetate	50.0	50.1		ug/L		100	74 - 133
Methyl tert-butyl ether	25.0	26.2		ug/L		105	77 - 120
Methylcyclohexane	25.0	29.8		ug/L		119	68 - 134
Methylene Chloride	25.0	25.0		ug/L		100	75 - 124
m-Xylene & p-Xylene	25.0	27.1		ug/L		108	76 - 122
Naphthalene	25.0	26.8		ug/L		107	66 - 125
n-Butylbenzene	25.0	27.0		ug/L		108	71 - 128
N-Propylbenzene	25.0	27.1		ug/L		108	75 - 127
o-Chlorotoluene	25.0	26.7		ug/L		107	76 - 121
o-Xylene	25.0	26.9		ug/L		108	76 - 122
p-Chlorotoluene	25.0	26.8		ug/L		107	77 - 121
p-Cymene	25.0	27.0		ug/L		108	73 - 120
sec-Butylbenzene	25.0	27.2		ug/L		109	74 - 127
Styrene	25.0	26.9		ug/L		108	80 - 120
tert-Butylbenzene	25.0	27.5		ug/L		110	75 - 123
Tetrachloroethene	25.0	28.6		ug/L		114	74 - 122
Tetrahydrofuran	50.0	51.7		ug/L		103	62 - 132
Toluene	25.0	26.7		ug/L		107	80 - 122
trans-1,2-Dichloroethene	25.0	27.5		ug/L		110	73 - 127
trans-1,3-Dichloropropene	25.0	27.8		ug/L		111	80 - 120
trans-1,4-Dichloro-2-butene	25.0	27.6		ug/L		111	41 - 131
Trichloroethene	25.0	27.2		ug/L		109	74 - 123
Trichlorofluoromethane	25.0	28.6		ug/L		115	62 - 150
Vinyl acetate	50.0	58.1		ug/L		116	50 - 144
Vinyl chloride	25.0	27.2		ug/L		109	65 - 133

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	101		80 - 120

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 480-162651-D-2 MS

Matrix: Water

Analysis Batch: 504811

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		250	276		ug/L		111	80 - 120
1,1,1-Trichloroethane	ND		250	282		ug/L		113	73 - 126
1,1,2,2-Tetrachloroethane	ND		250	267		ug/L		107	76 - 120
1,1,2-Trichloroethane	ND		250	270		ug/L		108	76 - 122
1,1-Dichloroethane	ND		250	260		ug/L		104	77 - 120
1,1-Dichloroethene	ND		250	288		ug/L		115	66 - 127
1,1-Dichloropropene	ND		250	274		ug/L		110	72 - 122
1,2,3-Trichlorobenzene	ND		250	277		ug/L		111	75 - 123
1,2,3-Trichloropropane	ND		250	265		ug/L		106	68 - 122
1,2,4-Trichlorobenzene	ND		250	272		ug/L		109	79 - 122
1,2,4-Trimethylbenzene	ND		250	261		ug/L		104	76 - 121
1,2-Dichlorobenzene	ND		250	264		ug/L		106	80 - 124
1,2-Dichloroethane	ND		250	254		ug/L		102	75 - 120
1,2-Dichloropropane	ND		250	260		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	ND		250	263		ug/L		105	77 - 121
1,3-Dichlorobenzene	ND		250	261		ug/L		104	77 - 120
1,4-Dichlorobenzene	ND		250	258		ug/L		103	78 - 124
2,2-Dichloropropane	ND		250	244		ug/L		97	63 - 136
2-Butanone (MEK)	ND		1250	1270		ug/L		102	57 - 140
2-Hexanone	ND		1250	1280		ug/L		102	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		1250	1300		ug/L		104	71 - 125
Acetone	ND		1250	1180		ug/L		94	56 - 142
Benzene	ND		250	260		ug/L		104	71 - 124
Bromobenzene	ND		250	265		ug/L		106	78 - 120
Bromochloromethane	ND		250	266		ug/L		106	72 - 130
Bromodichloromethane	ND		250	260		ug/L		104	80 - 122
Bromoform	ND		250	292		ug/L		117	61 - 132
Bromomethane	ND		250	295		ug/L		118	55 - 144
Butyl alcohol, tert-	200		2500	3190		ug/L		120	75 - 125
Carbon disulfide	ND		250	281		ug/L		112	59 - 134
Carbon tetrachloride	ND		250	288		ug/L		115	72 - 134
Chlorobenzene	ND		250	267		ug/L		107	80 - 120
Chloroethane	ND		250	262		ug/L		105	69 - 136
Chloroform	ND		250	266		ug/L		106	73 - 127
Chloromethane	ND		250	267		ug/L		107	68 - 124
cis-1,2-Dichloroethene	ND		250	266		ug/L		106	74 - 124
cis-1,3-Dichloropropene	ND		250	261		ug/L		105	74 - 124
Dibromochloromethane	ND		250	282		ug/L		113	75 - 125
Dibromomethane	ND		250	268		ug/L		107	76 - 127
Dichlorodifluoromethane	ND		250	303		ug/L		121	59 - 135
Ethyl ether	ND		250	260		ug/L		104	76 - 123
Ethylbenzene	ND		250	265		ug/L		106	77 - 123
Hexachlorobutadiene	ND		250	283		ug/L		113	68 - 131
Isopropylbenzene	ND		250	265		ug/L		106	77 - 122
Methyl tert-butyl ether	ND		250	260		ug/L		104	77 - 120
Methylene Chloride	ND		250	278		ug/L		111	75 - 124
m-Xylene & p-Xylene	ND		250	264		ug/L		105	76 - 122
Naphthalene	ND		250	280		ug/L		112	66 - 125

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 480-162651-D-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 504811

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
n-Butylbenzene	ND		250	266		ug/L		106	71 - 128
N-Propylbenzene	ND		250	263		ug/L		105	75 - 127
o-Chlorotoluene	ND		250	264		ug/L		105	76 - 121
o-Xylene	ND		250	270		ug/L		108	76 - 122
p-Chlorotoluene	ND		250	263		ug/L		105	77 - 121
p-Cymene	ND		250	268		ug/L		107	73 - 120
sec-Butylbenzene	ND		250	269		ug/L		108	74 - 127
Styrene	ND		250	266		ug/L		106	80 - 120
tert-Butylbenzene	ND		250	275		ug/L		110	75 - 123
Tetrachloroethene	ND		250	283		ug/L		113	74 - 122
Tetrahydrofuran	32	J	500	550		ug/L		104	62 - 132
Toluene	ND		250	268		ug/L		107	80 - 122
trans-1,2-Dichloroethene	ND		250	275		ug/L		110	73 - 127
trans-1,3-Dichloropropene	ND		250	268		ug/L		107	80 - 120
Trichloroethene	ND		250	267		ug/L		107	74 - 123
Trichlorofluoromethane	ND		250	299		ug/L		120	62 - 150
Vinyl chloride	ND		250	286		ug/L		114	65 - 133

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 480-162651-D-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 504811

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		250	280		ug/L		112	80 - 120	1	20
1,1,1-Trichloroethane	ND		250	285		ug/L		114	73 - 126	1	15
1,1,2,2-Tetrachloroethane	ND		250	261		ug/L		104	76 - 120	2	15
1,1,2-Trichloroethane	ND		250	265		ug/L		106	76 - 122	2	15
1,1-Dichloroethane	ND		250	263		ug/L		105	77 - 120	1	20
1,1-Dichloroethene	ND		250	293		ug/L		117	66 - 127	2	16
1,1-Dichloropropene	ND		250	279		ug/L		111	72 - 122	2	20
1,2,3-Trichlorobenzene	ND		250	268		ug/L		107	75 - 123	3	20
1,2,3-Trichloropropane	ND		250	253		ug/L		101	68 - 122	4	14
1,2,4-Trichlorobenzene	ND		250	268		ug/L		107	79 - 122	2	20
1,2,4-Trimethylbenzene	ND		250	260		ug/L		104	76 - 121	1	20
1,2-Dichlorobenzene	ND		250	257		ug/L		103	80 - 124	3	20
1,2-Dichloroethane	ND		250	254		ug/L		102	75 - 120	0	20
1,2-Dichloropropane	ND		250	257		ug/L		103	76 - 120	1	20
1,3,5-Trimethylbenzene	ND		250	262		ug/L		105	77 - 121	0	20
1,3-Dichlorobenzene	ND		250	258		ug/L		103	77 - 120	1	20
1,4-Dichlorobenzene	ND		250	255		ug/L		102	78 - 124	1	20
2,2-Dichloropropane	ND		250	240		ug/L		96	63 - 136	1	20
2-Butanone (MEK)	ND		1250	1260		ug/L		101	57 - 140	1	20
2-Hexanone	ND		1250	1270		ug/L		101	65 - 127	1	15

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 480-162651-D-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 504811

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
4-Methyl-2-pentanone (MIBK)	ND		1250	1290		ug/L		103	71 - 125	1	35
Acetone	ND		1250	1140		ug/L		91	56 - 142	3	15
Benzene	ND		250	263		ug/L		105	71 - 124	1	13
Bromobenzene	ND		250	262		ug/L		105	78 - 120	1	15
Bromochloromethane	ND		250	270		ug/L		108	72 - 130	2	15
Bromodichloromethane	ND		250	264		ug/L		106	80 - 122	1	15
Bromoform	ND		250	291		ug/L		117	61 - 132	0	15
Bromomethane	ND		250	286		ug/L		114	55 - 144	3	15
Butyl alcohol, tert-	200		2500	3200		ug/L		120	75 - 125	0	15
Carbon disulfide	ND		250	282		ug/L		113	59 - 134	0	15
Carbon tetrachloride	ND		250	303		ug/L		121	72 - 134	5	15
Chlorobenzene	ND		250	263		ug/L		105	80 - 120	1	25
Chloroethane	ND		250	256		ug/L		102	69 - 136	2	15
Chloroform	ND		250	268		ug/L		107	73 - 127	1	20
Chloromethane	ND		250	269		ug/L		108	68 - 124	1	15
cis-1,2-Dichloroethene	ND		250	268		ug/L		107	74 - 124	1	15
cis-1,3-Dichloropropene	ND		250	262		ug/L		105	74 - 124	0	15
Dibromochloromethane	ND		250	277		ug/L		111	75 - 125	2	15
Dibromomethane	ND		250	266		ug/L		106	76 - 127	1	15
Dichlorodifluoromethane	ND		250	307		ug/L		123	59 - 135	1	20
Ethyl ether	ND		250	255		ug/L		102	76 - 123	2	20
Ethylbenzene	ND		250	264		ug/L		105	77 - 123	0	15
Hexachlorobutadiene	ND		250	276		ug/L		110	68 - 131	3	20
Isopropylbenzene	ND		250	263		ug/L		105	77 - 122	1	20
Methyl tert-butyl ether	ND		250	263		ug/L		105	77 - 120	1	37
Methylene Chloride	ND		250	272		ug/L		109	75 - 124	2	15
m-Xylene & p-Xylene	ND		250	268		ug/L		107	76 - 122	1	16
Naphthalene	ND		250	273		ug/L		109	66 - 125	3	20
n-Butylbenzene	ND		250	262		ug/L		105	71 - 128	1	15
N-Propylbenzene	ND		250	262		ug/L		105	75 - 127	1	15
o-Chlorotoluene	ND		250	264		ug/L		105	76 - 121	0	20
o-Xylene	ND		250	268		ug/L		107	76 - 122	1	16
p-Chlorotoluene	ND		250	261		ug/L		105	77 - 121	1	15
p-Cymene	ND		250	265		ug/L		106	73 - 120	1	20
sec-Butylbenzene	ND		250	268		ug/L		107	74 - 127	0	15
Styrene	ND		250	264		ug/L		105	80 - 120	1	20
tert-Butylbenzene	ND		250	277		ug/L		111	75 - 123	1	15
Tetrachloroethene	ND		250	281		ug/L		113	74 - 122	1	20
Tetrahydrofuran	32	J	500	548		ug/L		103	62 - 132	1	25
Toluene	ND		250	266		ug/L		106	80 - 122	1	15
trans-1,2-Dichloroethene	ND		250	281		ug/L		112	73 - 127	2	20
trans-1,3-Dichloropropene	ND		250	261		ug/L		104	80 - 120	3	15
Trichloroethene	ND		250	274		ug/L		109	74 - 123	3	16
Trichlorofluoromethane	ND		250	299		ug/L		120	62 - 150	0	20
Vinyl chloride	ND		250	290		ug/L		116	65 - 133	1	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		77 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 480-162651-D-2 MSD
Matrix: Water
Analysis Batch: 504811

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 480-505311/7
Matrix: Water
Analysis Batch: 505311

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/19/19 11:29	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/19/19 11:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/19/19 11:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/19/19 11:29	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/19/19 11:29	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/19/19 11:29	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/19/19 11:29	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/19/19 11:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 11:29	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/19/19 11:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 11:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/19/19 11:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/19/19 11:29	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/19/19 11:29	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/19/19 11:29	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/19/19 11:29	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/19/19 11:29	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/19/19 11:29	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/19/19 11:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/19/19 11:29	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/19/19 11:29	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/19/19 11:29	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/19/19 11:29	1
1,4-Dioxane	ND		40	9.3	ug/L			11/19/19 11:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/19/19 11:29	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/19/19 11:29	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/19/19 11:29	1
2-Hexanone	ND		5.0	1.2	ug/L			11/19/19 11:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/19/19 11:29	1
Acetone	ND		10	3.0	ug/L			11/19/19 11:29	1
Acetonitrile	ND		15	4.9	ug/L			11/19/19 11:29	1
Acrolein	ND		20	0.91	ug/L			11/19/19 11:29	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/19/19 11:29	1
Benzene	ND		1.0	0.41	ug/L			11/19/19 11:29	1
Bromobenzene	ND		1.0	0.80	ug/L			11/19/19 11:29	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/19/19 11:29	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/19/19 11:29	1
Bromoform	ND		1.0	0.26	ug/L			11/19/19 11:29	1
Bromomethane	ND		1.0	0.69	ug/L			11/19/19 11:29	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/19/19 11:29	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: MB 480-505311/7

Matrix: Water

Analysis Batch: 505311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/19/19 11:29	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/19/19 11:29	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/19/19 11:29	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/19/19 11:29	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/19/19 11:29	1
Chloroethane	ND		1.0	0.32	ug/L			11/19/19 11:29	1
Chloroform	ND		1.0	0.34	ug/L			11/19/19 11:29	1
Chloromethane	ND		1.0	0.35	ug/L			11/19/19 11:29	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/19/19 11:29	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/19/19 11:29	1
Cyclohexane	ND		1.0	0.18	ug/L			11/19/19 11:29	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/19/19 11:29	1
Dibromomethane	ND		1.0	0.41	ug/L			11/19/19 11:29	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/19/19 11:29	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/19/19 11:29	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/19/19 11:29	1
Ethyl ether	ND		1.0	0.72	ug/L			11/19/19 11:29	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/19/19 11:29	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/19/19 11:29	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/19/19 11:29	1
Hexane	ND		10	0.40	ug/L			11/19/19 11:29	1
Iodomethane	ND		1.0	0.30	ug/L			11/19/19 11:29	1
Isobutanol	ND		25	4.8	ug/L			11/19/19 11:29	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/19/19 11:29	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/19/19 11:29	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/19/19 11:29	1
Methyl acetate	ND		2.5	1.3	ug/L			11/19/19 11:29	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/19/19 11:29	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/19/19 11:29	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/19/19 11:29	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/19/19 11:29	1
Naphthalene	ND		1.0	0.43	ug/L			11/19/19 11:29	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/19/19 11:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/19/19 11:29	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/19/19 11:29	1
o-Xylene	ND		1.0	0.76	ug/L			11/19/19 11:29	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/19/19 11:29	1
p-Cymene	ND		1.0	0.31	ug/L			11/19/19 11:29	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/19/19 11:29	1
Styrene	ND		1.0	0.73	ug/L			11/19/19 11:29	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/19/19 11:29	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/19/19 11:29	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/19/19 11:29	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/19/19 11:29	1
Toluene	ND		1.0	0.51	ug/L			11/19/19 11:29	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/19/19 11:29	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/19/19 11:29	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/19/19 11:29	1
Trichloroethene	ND		1.0	0.46	ug/L			11/19/19 11:29	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: MB 480-505311/7

Matrix: Water

Analysis Batch: 505311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/19/19 11:29	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/19/19 11:29	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/19/19 11:29	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	94		77 - 120		11/19/19 11:29	1
4-Bromofluorobenzene (Surr)	86		73 - 120		11/19/19 11:29	1
Toluene-d8 (Surr)	85		80 - 120		11/19/19 11:29	1

Lab Sample ID: LCS 480-505311/25

Matrix: Water

Analysis Batch: 505311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
1,1,1,2-Tetrachloroethane	25.0	23.7		ug/L		95	80 - 120
1,1,1-Trichloroethane	25.0	24.2		ug/L		97	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.0		ug/L		88	61 - 148
1,1,2-Trichloroethane	25.0	22.0		ug/L		88	76 - 122
1,1-Dichloroethane	25.0	22.3		ug/L		89	77 - 120
1,1-Dichloroethene	25.0	21.8		ug/L		87	66 - 127
1,1-Dichloropropene	25.0	22.9		ug/L		92	72 - 122
1,2,3-Trichlorobenzene	25.0	21.0		ug/L		84	75 - 123
1,2,3-Trichloropropane	25.0	26.3		ug/L		105	68 - 122
1,2,4-Trichlorobenzene	25.0	20.6		ug/L		83	79 - 122
1,2,4-Trimethylbenzene	25.0	23.8		ug/L		95	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	26.5		ug/L		106	56 - 134
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	77 - 120
1,2-Dichlorobenzene	25.0	22.5		ug/L		90	80 - 124
1,2-Dichloroethane	25.0	23.9		ug/L		96	75 - 120
1,2-Dichloropropane	25.0	22.9		ug/L		92	76 - 120
1,3,5-Trimethylbenzene	25.0	24.0		ug/L		96	77 - 121
1,3-Dichlorobenzene	25.0	22.9		ug/L		92	77 - 120
1,3-Dichloropropane	25.0	23.1		ug/L		93	75 - 120
1,4-Dichlorobenzene	25.0	22.7		ug/L		91	80 - 120
1,4-Dioxane	500	607		ug/L		121	50 - 150
2,2-Dichloropropane	25.0	23.9		ug/L		95	63 - 136
2-Butanone (MEK)	125	133		ug/L		107	57 - 140
2-Chloroethyl vinyl ether	25.0	26.9		ug/L		108	70 - 129
2-Hexanone	125	135		ug/L		108	65 - 127
4-Methyl-2-pentanone (MIBK)	125	126		ug/L		101	71 - 125
Acetone	125	130		ug/L		104	56 - 142
Acrolein	125	110		ug/L		88	52 - 143
Acrylonitrile	250	247		ug/L		99	63 - 125
Benzene	25.0	23.0		ug/L		92	71 - 124
Bromobenzene	25.0	23.4		ug/L		94	78 - 120
Bromochloromethane	25.0	22.9		ug/L		91	72 - 130
Bromodichloromethane	25.0	24.1		ug/L		96	80 - 122

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 480-505311/25

Matrix: Water

Analysis Batch: 505311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	25.0	22.6		ug/L		91	61 - 132
Bromomethane	25.0	22.5		ug/L		90	55 - 144
Butyl alcohol, tert-	25.0	271		ug/L		108	75 - 125
Carbon disulfide	25.0	22.5		ug/L		90	59 - 134
Carbon tetrachloride	25.0	24.5		ug/L		98	72 - 134
Chlorobenzene	25.0	22.4		ug/L		90	80 - 120
Chloroethane	25.0	20.6		ug/L		82	69 - 136
Chloroform	25.0	23.9		ug/L		96	73 - 127
Chloromethane	25.0	21.2		ug/L		85	68 - 124
cis-1,2-Dichloroethene	25.0	21.5		ug/L		86	74 - 124
cis-1,3-Dichloropropene	25.0	24.6		ug/L		98	74 - 124
Cyclohexane	25.0	21.4		ug/L		85	59 - 135
Dibromochloromethane	25.0	25.6		ug/L		103	75 - 125
Dibromomethane	25.0	24.3		ug/L		97	76 - 127
Dichlorodifluoromethane	25.0	23.2		ug/L		93	59 - 135
Dichlorofluoromethane	25.0	22.3		ug/L		89	76 - 127
Ethyl ether	25.0	22.7		ug/L		91	76 - 123
Ethylbenzene	25.0	23.0		ug/L		92	77 - 123
Hexachlorobutadiene	25.0	21.4		ug/L		86	68 - 131
Iodomethane	25.0	22.2		ug/L		89	78 - 123
Isobutanol	625	756		ug/L		121	51 - 150
Isopropylbenzene	25.0	23.8		ug/L		95	77 - 122
Methyl acetate	50.0	47.8		ug/L		96	74 - 133
Methyl tert-butyl ether	25.0	22.4		ug/L		90	77 - 120
Methylcyclohexane	25.0	21.5		ug/L		86	68 - 134
Methylene Chloride	25.0	25.7		ug/L		103	75 - 124
m-Xylene & p-Xylene	25.0	22.8		ug/L		91	76 - 122
Naphthalene	25.0	21.7		ug/L		87	66 - 125
n-Butylbenzene	25.0	22.8		ug/L		91	71 - 128
N-Propylbenzene	25.0	24.0		ug/L		96	75 - 127
o-Chlorotoluene	25.0	23.6		ug/L		94	76 - 121
o-Xylene	25.0	22.8		ug/L		91	76 - 122
p-Chlorotoluene	25.0	23.3		ug/L		93	77 - 121
p-Cymene	25.0	23.2		ug/L		93	73 - 120
sec-Butylbenzene	25.0	23.3		ug/L		93	74 - 127
Styrene	25.0	23.5		ug/L		94	80 - 120
tert-Butylbenzene	25.0	23.8		ug/L		95	75 - 123
Tetrachloroethene	25.0	22.4		ug/L		89	74 - 122
Tetrahydrofuran	50.0	49.9		ug/L		100	62 - 132
Toluene	25.0	23.0		ug/L		92	80 - 122
trans-1,2-Dichloroethene	25.0	22.6		ug/L		90	73 - 127
trans-1,3-Dichloropropene	25.0	25.2		ug/L		101	80 - 120
trans-1,4-Dichloro-2-butene	25.0	15.8		ug/L		63	41 - 131
Trichloroethene	25.0	22.3		ug/L		89	74 - 123
Trichlorofluoromethane	25.0	22.9		ug/L		92	62 - 150
Vinyl acetate	50.0	51.2		ug/L		102	50 - 144
Vinyl chloride	25.0	21.1		ug/L		84	65 - 133

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 480-505311/25
Matrix: Water
Analysis Batch: 505311

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

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		77 - 120
4-Bromofluorobenzene (Surr)	92		73 - 120
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: 480-162312-D-8 MS
Matrix: Water
Analysis Batch: 505311

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,1,1-Trichloroethane	ND		50000	47100		ug/L		94	73 - 126
1,1,2,2-Tetrachloroethane	ND		50000	42400		ug/L		85	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50000	44700		ug/L		89	61 - 148
1,1,2-Trichloroethane	ND		50000	41100		ug/L		82	76 - 122
1,1-Dichloroethane	ND		50000	44800		ug/L		90	77 - 120
1,1-Dichloroethene	ND		50000	43100		ug/L		86	66 - 127
1,2,4-Trichlorobenzene	ND	F1	50000	39900		ug/L		80	79 - 122
1,2-Dibromo-3-Chloropropane	ND		50000	48300		ug/L		97	56 - 134
1,2-Dibromoethane (EDB)	ND		50000	44400		ug/L		89	77 - 120
1,2-Dichlorobenzene	ND		50000	41900		ug/L		84	80 - 124
1,2-Dichloroethane	ND		50000	44800		ug/L		90	75 - 120
1,2-Dichloropropane	ND		50000	44100		ug/L		88	76 - 120
1,3-Dichlorobenzene	ND		50000	41200		ug/L		82	77 - 120
1,4-Dichlorobenzene	ND		50000	41800		ug/L		84	78 - 124
1,4-Dioxane	ND		1000000	1290000		ug/L		129	50 - 150
2-Butanone (MEK)	ND		250000	236000		ug/L		94	57 - 140
2-Hexanone	ND		250000	235000		ug/L		94	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		250000	231000		ug/L		93	71 - 125
Acetone	ND		250000	267000		ug/L		107	56 - 142
Benzene	ND		50000	44100		ug/L		88	71 - 124
Bromodichloromethane	ND		50000	46600		ug/L		93	80 - 122
Bromoform	ND		50000	41400		ug/L		83	61 - 132
Bromomethane	ND		50000	45900		ug/L		92	55 - 144
Carbon disulfide	ND		50000	41300		ug/L		83	59 - 134
Carbon tetrachloride	ND		50000	46100		ug/L		92	72 - 134
Chlorobenzene	ND		50000	41200		ug/L		82	80 - 120
Chloroethane	ND		50000	43700		ug/L		87	69 - 136
Chloroform	ND		50000	48900		ug/L		98	73 - 127
Chloromethane	ND		50000	46000		ug/L		92	68 - 124
cis-1,2-Dichloroethene	34000	F1	50000	69500	F1	ug/L		72	74 - 124
cis-1,3-Dichloropropene	ND		50000	44400		ug/L		89	74 - 124
Cyclohexane	ND		50000	42500		ug/L		85	59 - 135
Dibromochloromethane	ND		50000	48800		ug/L		98	75 - 125
Dichlorodifluoromethane	ND		50000	52200		ug/L		104	59 - 135
Ethylbenzene	ND		50000	41600		ug/L		83	77 - 123
Isopropylbenzene	ND		50000	43500		ug/L		87	77 - 122
Methyl acetate	ND		100000	93300		ug/L		93	74 - 133
Methyl tert-butyl ether	ND		50000	48100		ug/L		96	77 - 120
Methylcyclohexane	ND		50000	42300		ug/L		85	68 - 134

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 480-162312-D-8 MS

Matrix: Water

Analysis Batch: 505311

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Methylene Chloride	2600	B	50000	54100		ug/L		103	75 - 124	
m-Xylene & p-Xylene	ND		50000	42300		ug/L		85	76 - 122	
o-Xylene	ND		50000	42900		ug/L		86	76 - 122	
Styrene	ND		50000	42700		ug/L		85	80 - 120	
Tetrachloroethene	ND		50000	41800		ug/L		84	74 - 122	
Toluene	ND		50000	42800		ug/L		86	80 - 122	
trans-1,2-Dichloroethene	ND		50000	45600		ug/L		91	73 - 127	
trans-1,3-Dichloropropene	ND		50000	44000		ug/L		88	80 - 120	
Trichloroethene	140000	F1	50000	176000		ug/L		76	74 - 123	
Trichlorofluoromethane	ND		50000	47500		ug/L		95	62 - 150	
Vinyl chloride	ND		50000	45600		ug/L		91	65 - 133	
MS MS										
Surrogate	%Recovery		Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	96			77 - 120						
4-Bromofluorobenzene (Surr)	96			73 - 120						
Toluene-d8 (Surr)	92			80 - 120						

Lab Sample ID: 480-162312-D-8 MSD

Matrix: Water

Analysis Batch: 505311

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
1,1,1-Trichloroethane	ND		50000	43900		ug/L		88	73 - 126	7	15	
1,1,2,2-Tetrachloroethane	ND		50000	42500		ug/L		85	76 - 120	0	15	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50000	39000		ug/L		78	61 - 148	14	20	
1,1,2-Trichloroethane	ND		50000	42800		ug/L		86	76 - 122	4	15	
1,1-Dichloroethane	ND		50000	41200		ug/L		82	77 - 120	9	20	
1,1-Dichloroethene	ND		50000	37300		ug/L		75	66 - 127	14	16	
1,2,4-Trichlorobenzene	ND	F1	50000	36800	F1	ug/L		74	79 - 122	8	20	
1,2-Dibromo-3-Chloropropane	ND		50000	49300		ug/L		99	56 - 134	2	15	
1,2-Dibromoethane (EDB)	ND		50000	46200		ug/L		92	77 - 120	4	15	
1,2-Dichlorobenzene	ND		50000	41000		ug/L		82	80 - 124	2	20	
1,2-Dichloroethane	ND		50000	46000		ug/L		92	75 - 120	3	20	
1,2-Dichloropropane	ND		50000	43700		ug/L		87	76 - 120	1	20	
1,3-Dichlorobenzene	ND		50000	40900		ug/L		82	77 - 120	1	20	
1,4-Dichlorobenzene	ND		50000	41300		ug/L		83	78 - 124	1	20	
1,4-Dioxane	ND		1000000	1310000		ug/L		131	50 - 150	1	20	
2-Butanone (MEK)	ND		250000	267000		ug/L		107	57 - 140	13	20	
2-Hexanone	ND		250000	260000		ug/L		104	65 - 127	10	15	
4-Methyl-2-pentanone (MIBK)	ND		250000	237000		ug/L		95	71 - 125	3	35	
Acetone	ND		250000	258000		ug/L		103	56 - 142	4	15	
Benzene	ND		50000	43100		ug/L		86	71 - 124	2	13	
Bromodichloromethane	ND		50000	47600		ug/L		95	80 - 122	2	15	
Bromoform	ND		50000	42800		ug/L		86	61 - 132	3	15	
Bromomethane	ND		50000	41200		ug/L		82	55 - 144	11	15	
Carbon disulfide	ND		50000	37900		ug/L		76	59 - 134	9	15	
Carbon tetrachloride	ND		50000	44500		ug/L		89	72 - 134	3	15	
Chlorobenzene	ND		50000	41000		ug/L		82	80 - 120	0	25	

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 480-162312-D-8 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 505311

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		
Chloroethane	ND		50000	38200		ug/L		76	69 - 136	14	15
Chloroform	ND		50000	45400		ug/L		91	73 - 127	7	20
Chloromethane	ND		50000	39800		ug/L		80	68 - 124	14	15
cis-1,2-Dichloroethene	34000	F1	50000	66100	F1	ug/L		65	74 - 124	5	15
cis-1,3-Dichloropropene	ND		50000	47000		ug/L		94	74 - 124	6	15
Cyclohexane	ND		50000	38400		ug/L		77	59 - 135	10	20
Dibromochloromethane	ND		50000	50100		ug/L		100	75 - 125	3	15
Dichlorodifluoromethane	ND		50000	45700		ug/L		91	59 - 135	13	20
Ethylbenzene	ND		50000	41200		ug/L		82	77 - 123	1	15
Isopropylbenzene	ND		50000	41600		ug/L		83	77 - 122	4	20
Methyl acetate	ND		100000	93700		ug/L		94	74 - 133	0	20
Methyl tert-butyl ether	ND		50000	44800		ug/L		90	77 - 120	7	37
Methylcyclohexane	ND		50000	40000		ug/L		80	68 - 134	6	20
Methylene Chloride	2600	B	50000	51500		ug/L		98	75 - 124	5	15
m-Xylene & p-Xylene	ND		50000	41300		ug/L		83	76 - 122	3	16
o-Xylene	ND		50000	40600		ug/L		81	76 - 122	5	16
Styrene	ND		50000	42400		ug/L		85	80 - 120	1	20
Tetrachloroethene	ND		50000	40200		ug/L		80	74 - 122	4	20
Toluene	ND		50000	41300		ug/L		83	80 - 122	3	15
trans-1,2-Dichloroethene	ND		50000	41200		ug/L		82	73 - 127	10	20
trans-1,3-Dichloropropene	ND		50000	48800		ug/L		98	80 - 120	10	15
Trichloroethene	140000	F1	50000	173000	F1	ug/L		70	74 - 123	1	16
Trichlorofluoromethane	ND		50000	42800		ug/L		86	62 - 150	10	20
Vinyl chloride	ND		50000	40700		ug/L		81	65 - 133	11	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		77 - 120
4-Bromofluorobenzene (Surr)	94		73 - 120
Toluene-d8 (Surr)	93		80 - 120

Lab Sample ID: MB 480-505348/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 505348

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/19/19 12:59	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/19/19 12:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/19/19 12:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/19/19 12:59	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/19/19 12:59	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/19/19 12:59	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/19/19 12:59	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/19/19 12:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 12:59	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/19/19 12:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/19/19 12:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/19/19 12:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/19/19 12:59	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: MB 480-505348/7
Matrix: Water
Analysis Batch: 505348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/19/19 12:59	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/19/19 12:59	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/19/19 12:59	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/19/19 12:59	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/19/19 12:59	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/19/19 12:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/19/19 12:59	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/19/19 12:59	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/19/19 12:59	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/19/19 12:59	1
1,4-Dioxane	ND		40	9.3	ug/L			11/19/19 12:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/19/19 12:59	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/19/19 12:59	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/19/19 12:59	1
2-Hexanone	ND		5.0	1.2	ug/L			11/19/19 12:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/19/19 12:59	1
Acetone	ND		10	3.0	ug/L			11/19/19 12:59	1
Acetonitrile	ND		15	4.9	ug/L			11/19/19 12:59	1
Acrolein	ND		20	0.91	ug/L			11/19/19 12:59	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/19/19 12:59	1
Benzene	ND		1.0	0.41	ug/L			11/19/19 12:59	1
Bromobenzene	ND		1.0	0.80	ug/L			11/19/19 12:59	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/19/19 12:59	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/19/19 12:59	1
Bromoform	ND		1.0	0.26	ug/L			11/19/19 12:59	1
Bromomethane	ND		1.0	0.69	ug/L			11/19/19 12:59	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/19/19 12:59	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/19/19 12:59	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/19/19 12:59	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/19/19 12:59	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/19/19 12:59	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/19/19 12:59	1
Chloroethane	ND		1.0	0.32	ug/L			11/19/19 12:59	1
Chloroform	ND		1.0	0.34	ug/L			11/19/19 12:59	1
Chloromethane	ND		1.0	0.35	ug/L			11/19/19 12:59	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/19/19 12:59	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/19/19 12:59	1
Cyclohexane	ND		1.0	0.18	ug/L			11/19/19 12:59	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/19/19 12:59	1
Dibromomethane	ND		1.0	0.41	ug/L			11/19/19 12:59	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/19/19 12:59	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/19/19 12:59	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/19/19 12:59	1
Ethyl ether	ND		1.0	0.72	ug/L			11/19/19 12:59	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/19/19 12:59	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/19/19 12:59	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/19/19 12:59	1
Hexane	ND		10	0.40	ug/L			11/19/19 12:59	1
Iodomethane	ND		1.0	0.30	ug/L			11/19/19 12:59	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: MB 480-505348/7
Matrix: Water
Analysis Batch: 505348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutanol	ND		25	4.8	ug/L			11/19/19 12:59	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/19/19 12:59	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/19/19 12:59	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/19/19 12:59	1
Methyl acetate	ND		2.5	1.3	ug/L			11/19/19 12:59	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/19/19 12:59	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/19/19 12:59	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/19/19 12:59	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/19/19 12:59	1
Naphthalene	ND		1.0	0.43	ug/L			11/19/19 12:59	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/19/19 12:59	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/19/19 12:59	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/19/19 12:59	1
o-Xylene	ND		1.0	0.76	ug/L			11/19/19 12:59	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/19/19 12:59	1
p-Cymene	ND		1.0	0.31	ug/L			11/19/19 12:59	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/19/19 12:59	1
Styrene	ND		1.0	0.73	ug/L			11/19/19 12:59	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/19/19 12:59	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/19/19 12:59	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/19/19 12:59	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/19/19 12:59	1
Toluene	ND		1.0	0.51	ug/L			11/19/19 12:59	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/19/19 12:59	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/19/19 12:59	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/19/19 12:59	1
Trichloroethene	ND		1.0	0.46	ug/L			11/19/19 12:59	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/19/19 12:59	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/19/19 12:59	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/19/19 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120		11/19/19 12:59	1
4-Bromofluorobenzene (Surr)	103		73 - 120		11/19/19 12:59	1
Toluene-d8 (Surr)	102		80 - 120		11/19/19 12:59	1

Lab Sample ID: LCS 480-505348/5
Matrix: Water
Analysis Batch: 505348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	27.0		ug/L		108	80 - 120
1,1,1-Trichloroethane	25.0	26.9		ug/L		107	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.4		ug/L		98	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.3		ug/L		113	61 - 148
1,1,2-Trichloroethane	25.0	25.6		ug/L		102	76 - 122
1,1-Dichloroethane	25.0	24.7		ug/L		99	77 - 120
1,1-Dichloroethene	25.0	26.9		ug/L		108	66 - 127

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 480-505348/5
Matrix: Water
Analysis Batch: 505348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	25.0	25.9		ug/L		104	72 - 122
1,2,3-Trichlorobenzene	25.0	27.2		ug/L		109	75 - 123
1,2,3-Trichloropropane	25.0	24.2		ug/L		97	68 - 122
1,2,4-Trichlorobenzene	25.0	27.0		ug/L		108	79 - 122
1,2,4-Trimethylbenzene	25.0	24.6		ug/L		98	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	27.1		ug/L		108	56 - 134
1,2-Dibromoethane (EDB)	25.0	26.1		ug/L		105	77 - 120
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	80 - 124
1,2-Dichloroethane	25.0	24.2		ug/L		97	75 - 120
1,2-Dichloropropane	25.0	24.8		ug/L		99	76 - 120
1,3,5-Trimethylbenzene	25.0	24.6		ug/L		99	77 - 121
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	77 - 120
1,3-Dichloropropane	25.0	25.2		ug/L		101	75 - 120
1,4-Dichlorobenzene	25.0	24.6		ug/L		98	80 - 120
1,4-Dioxane	500	553		ug/L		111	50 - 150
2,2-Dichloropropane	25.0	27.4		ug/L		109	63 - 136
2-Butanone (MEK)	125	120		ug/L		96	57 - 140
2-Chloroethyl vinyl ether	25.0	24.6		ug/L		98	70 - 129
2-Hexanone	125	121		ug/L		97	65 - 127
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	71 - 125
Acetone	125	121		ug/L		97	56 - 142
Acrolein	125	118		ug/L		94	52 - 143
Acrylonitrile	250	249		ug/L		100	63 - 125
Benzene	25.0	24.9		ug/L		100	71 - 124
Bromobenzene	25.0	25.1		ug/L		101	78 - 120
Bromochloromethane	25.0	26.4		ug/L		106	72 - 130
Bromodichloromethane	25.0	25.4		ug/L		102	80 - 122
Bromoform	25.0	29.5		ug/L		118	61 - 132
Bromomethane	25.0	27.9		ug/L		111	55 - 144
Butyl alcohol, tert-	250	292		ug/L		117	75 - 125
Carbon disulfide	25.0	27.3		ug/L		109	59 - 134
Carbon tetrachloride	25.0	27.9		ug/L		112	72 - 134
Chlorobenzene	25.0	25.5		ug/L		102	80 - 120
Chloroethane	25.0	23.6		ug/L		94	69 - 136
Chloroform	25.0	25.9		ug/L		104	73 - 127
Chloromethane	25.0	23.2		ug/L		93	68 - 124
cis-1,2-Dichloroethene	25.0	25.6		ug/L		103	74 - 124
cis-1,3-Dichloropropene	25.0	25.9		ug/L		104	74 - 124
Cyclohexane	25.0	25.2		ug/L		101	59 - 135
Dibromochloromethane	25.0	27.9		ug/L		112	75 - 125
Dibromomethane	25.0	25.8		ug/L		103	76 - 127
Dichlorodifluoromethane	25.0	30.2		ug/L		121	59 - 135
Dichlorofluoromethane	25.0	24.1		ug/L		96	76 - 127
Ethyl ether	25.0	24.8		ug/L		99	76 - 123
Ethylbenzene	25.0	25.0		ug/L		100	77 - 123
Hexachlorobutadiene	25.0	27.2		ug/L		109	68 - 131
Iodomethane	25.0	27.1		ug/L		108	78 - 123
Isobutanol	625	649		ug/L		104	51 - 150
Isopropylbenzene	25.0	24.8		ug/L		99	77 - 122

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 480-505348/5
Matrix: Water
Analysis Batch: 505348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl acetate	50.0	46.4		ug/L		93	74 - 133
Methyl tert-butyl ether	25.0	25.5		ug/L		102	77 - 120
Methylcyclohexane	25.0	27.3		ug/L		109	68 - 134
Methylene Chloride	25.0	21.8		ug/L		87	75 - 124
m-Xylene & p-Xylene	25.0	25.3		ug/L		101	76 - 122
Naphthalene	25.0	26.6		ug/L		106	66 - 125
n-Butylbenzene	25.0	24.7		ug/L		99	71 - 128
N-Propylbenzene	25.0	24.3		ug/L		97	75 - 127
o-Chlorotoluene	25.0	25.0		ug/L		100	76 - 121
o-Xylene	25.0	25.7		ug/L		103	76 - 122
p-Chlorotoluene	25.0	24.9		ug/L		100	77 - 121
p-Cymene	25.0	25.4		ug/L		102	73 - 120
sec-Butylbenzene	25.0	24.9		ug/L		100	74 - 127
Styrene	25.0	25.2		ug/L		101	80 - 120
tert-Butylbenzene	25.0	25.7		ug/L		103	75 - 123
Tetrachloroethene	25.0	27.0		ug/L		108	74 - 122
Tetrahydrofuran	50.0	47.6		ug/L		95	62 - 132
Toluene	25.0	25.3		ug/L		101	80 - 122
trans-1,2-Dichloroethene	25.0	26.8		ug/L		107	73 - 127
trans-1,3-Dichloropropene	25.0	26.0		ug/L		104	80 - 120
trans-1,4-Dichloro-2-butene	25.0	23.2		ug/L		93	41 - 131
Trichloroethene	25.0	25.8		ug/L		103	74 - 123
Trichlorofluoromethane	25.0	27.7		ug/L		111	62 - 150
Vinyl acetate	50.0	53.1		ug/L		106	50 - 144
Vinyl chloride	25.0	25.7		ug/L		103	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		77 - 120
4-Bromofluorobenzene (Surr)	104		73 - 120
Toluene-d8 (Surr)	101		80 - 120

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

Lab Sample ID: MB 480-505396/9
Matrix: Water
Analysis Batch: 505396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/19/19 15:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	91		50 - 150		11/19/19 15:42	1
TBA-d9 (Surr)	79		50 - 150		11/19/19 15:42	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 480-505396/6
Matrix: Water
Analysis Batch: 505396

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.200	0.183		ug/L		92	50 - 150
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Dibromofluoromethane (Surr)	99		50 - 150				
TBA-d9 (Surr)	79		50 - 150				

Lab Sample ID: LCSD 480-505396/7
Matrix: Water
Analysis Batch: 505396

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	0.200	0.168		ug/L		84	50 - 150	9	20
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
Dibromofluoromethane (Surr)	98		50 - 150						
TBA-d9 (Surr)	76		50 - 150						

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-479190/1-A
Matrix: Water
Analysis Batch: 479645

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479190

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	ND		0.20	0.078	mg/L		12/04/19 08:00	12/04/19 18:48	1
Magnesium, Dissolved	ND		0.050	0.026	mg/L		12/04/19 08:00	12/04/19 18:48	1

Lab Sample ID: MB 280-479190/1-A
Matrix: Water
Analysis Batch: 479763

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479190

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	ND		0.060	0.022	mg/L		12/04/19 08:00	12/05/19 13:06	1
Potassium, Dissolved	ND		1.0	0.24	mg/L		12/04/19 08:00	12/05/19 13:06	1
Sodium, Dissolved	ND		1.0	0.37	mg/L		12/04/19 08:00	12/05/19 13:06	1

Lab Sample ID: LCS 280-479190/2-A
Matrix: Water
Analysis Batch: 479645

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479190

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium, Dissolved	50.0	49.3		mg/L		99	90 - 111
Magnesium, Dissolved	50.0	50.7		mg/L		101	90 - 113

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-479190/2-A
Matrix: Water
Analysis Batch: 479763

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479190
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron, Dissolved	10.0	9.90		mg/L		99	89 - 115
Potassium, Dissolved	50.0	49.8		mg/L		100	89 - 114
Sodium, Dissolved	50.0	49.6		mg/L		99	90 - 115

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:24	1

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Total	0.0291	J	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 13:53	1

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	1.00	1.05		mg/L		105	89 - 111

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron, Total	10.0	10.5		mg/L		105	89 - 115

Lab Sample ID: 280-130756-D-1-D MS
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	0.0018	J	1.00	1.04		mg/L		104	82 - 119

Lab Sample ID: 280-130756-D-1-D MS
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Iron, Total	39	B	10.0	47.8		mg/L		91	75 - 125

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 280-130756-D-1-E MSD
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cobalt, Total	0.0018	J	1.00	1.03		mg/L		102	82 - 119	1	20

Lab Sample ID: 280-130756-D-1-E MSD
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron, Total	39	B	10.0	47.2		mg/L		85	75 - 125	1	20

Lab Sample ID: 280-130980-A-4-B MS
Matrix: Water
Analysis Batch: 479645

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 479190

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium, Dissolved	6.6		50.0	55.5		mg/L		98	75 - 125		
Magnesium, Dissolved	0.89		50.0	50.4		mg/L		99	75 - 125		

Lab Sample ID: 280-130980-A-4-B MS
Matrix: Water
Analysis Batch: 479763

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 479190

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron, Dissolved	0.22		10.0	10.2		mg/L		100	75 - 125		
Potassium, Dissolved	140		50.0	192		mg/L		111	76 - 125		
Sodium, Dissolved	270		50.0	333	4	mg/L		117	75 - 125		

Lab Sample ID: 280-130980-A-4-C MSD
Matrix: Water
Analysis Batch: 479645

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 479190

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium, Dissolved	6.6		50.0	55.7		mg/L		98	75 - 125	0	20
Magnesium, Dissolved	0.89		50.0	50.6		mg/L		99	75 - 125	0	20

Lab Sample ID: 280-130980-A-4-C MSD
Matrix: Water
Analysis Batch: 479763

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 479190

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron, Dissolved	0.22		10.0	10.4		mg/L		102	75 - 125	2	20
Potassium, Dissolved	140		50.0	196		mg/L		118	76 - 125	2	20
Sodium, Dissolved	270		50.0	339	4	mg/L		129	75 - 125	2	20

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-477906/1-A
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:09	1

Lab Sample ID: LCS 280-477906/2-A
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477906

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Manganese, Dissolved	0.0400	0.0412		mg/L		103	89 - 119

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 22:29	1
Barium, Total	ND		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 22:29	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 22:29	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 22:29	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 22:29	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 22:29	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 22:29	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 22:29	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 22:29	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 22:29	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 22:29	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 22:29	1

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Total	ND		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 15:16	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 15:16	1

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony, Total	0.0400	0.0409		mg/L		102	80 - 111
Barium, Total	0.0400	0.0444		mg/L		111	92 - 117
Beryllium, Total	0.0400	0.0435		mg/L		109	87 - 118
Cadmium, Total	0.0400	0.0398		mg/L		100	91 - 114
Chromium, Total	0.0400	0.0383		mg/L		96	91 - 114
Copper, Total	0.0400	0.0380		mg/L		95	89 - 116
Lead, Total	0.0400	0.0425		mg/L		106	95 - 116
Nickel, Total	0.0400	0.0396		mg/L		99	92 - 116
Silver, Total	0.0400	0.0404		mg/L		101	93 - 118

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium, Total	0.0400	0.0417		mg/L		104	94 - 115
Vanadium, Total	0.0400	0.0377		mg/L		94	91 - 114
Zinc, Total	0.0400	0.0388		mg/L		97	86 - 120

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese, Total	0.0400	0.0431		mg/L		108	89 - 119
Selenium, Total	0.0400	0.0401		mg/L		100	90 - 115

Lab Sample ID: 280-130796-1 MS
Matrix: Water
Analysis Batch: 480312

Client Sample ID: MW-35
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony, Total	ND		0.0400	0.0403		mg/L		101	80 - 111
Barium, Total	0.0033		0.0400	0.0455		mg/L		105	92 - 117
Beryllium, Total	0.00014	J	0.0400	0.0457		mg/L		114	87 - 118
Cadmium, Total	ND		0.0400	0.0394		mg/L		98	91 - 114
Chromium, Total	0.0023	J	0.0400	0.0393		mg/L		92	91 - 114
Copper, Total	ND		0.0400	0.0362		mg/L		91	89 - 116
Lead, Total	ND		0.0400	0.0416		mg/L		104	95 - 116
Nickel, Total	ND		0.0400	0.0367		mg/L		92	92 - 116
Silver, Total	ND		0.0400	0.0403		mg/L		101	93 - 118
Thallium, Total	ND		0.0400	0.0409		mg/L		102	94 - 115
Vanadium, Total	0.0041		0.0400	0.0421		mg/L		95	91 - 114
Zinc, Total	ND		0.0400	0.0370		mg/L		93	86 - 120

Lab Sample ID: 280-130796-1 MS
Matrix: Water
Analysis Batch: 480448

Client Sample ID: MW-35
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese, Total	0.00034	J	0.0400	0.0415		mg/L		103	89 - 119
Selenium, Total	ND		0.0400	0.0391		mg/L		98	90 - 115

Lab Sample ID: 280-130796-1 MSD
Matrix: Water
Analysis Batch: 480312

Client Sample ID: MW-35
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony, Total	ND		0.0400	0.0414		mg/L		104	80 - 111	3	20
Barium, Total	0.0033		0.0400	0.0458		mg/L		106	92 - 117	1	20
Beryllium, Total	0.00014	J	0.0400	0.0444		mg/L		111	87 - 118	3	20
Cadmium, Total	ND		0.0400	0.0400		mg/L		100	91 - 114	2	20
Chromium, Total	0.0023	J	0.0400	0.0406		mg/L		96	91 - 114	3	20
Copper, Total	ND		0.0400	0.0377		mg/L		94	89 - 116	4	20
Lead, Total	ND		0.0400	0.0427		mg/L		107	95 - 116	3	20

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: 280-130796-1 MSD
Matrix: Water
Analysis Batch: 480312

Client Sample ID: MW-35
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel, Total	ND		0.0400	0.0388		mg/L		97	92 - 116	6	20
Silver, Total	ND		0.0400	0.0422		mg/L		106	93 - 118	5	20
Thallium, Total	ND		0.0400	0.0418		mg/L		105	94 - 115	2	20
Vanadium, Total	0.0041		0.0400	0.0426		mg/L		96	91 - 114	1	20
Zinc, Total	ND		0.0400	0.0386		mg/L		97	86 - 120	4	20

Lab Sample ID: 280-130796-1 MSD
Matrix: Water
Analysis Batch: 480448

Client Sample ID: MW-35
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese, Total	0.00034	J	0.0400	0.0418		mg/L		104	89 - 119	1	20
Selenium, Total	ND		0.0400	0.0405		mg/L		101	90 - 115	3	20

Lab Sample ID: 280-130796-8 MS
Matrix: Water
Analysis Batch: 480078

Client Sample ID: DUP01
Prep Type: Dissolved
Prep Batch: 477906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese, Dissolved	3.9		0.0400	4.09	4	mg/L		343	89 - 119		

Lab Sample ID: 280-130796-8 MSD
Matrix: Water
Analysis Batch: 480078

Client Sample ID: DUP01
Prep Type: Dissolved
Prep Batch: 477906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese, Dissolved	3.9		0.0400	3.98	4	mg/L		78	89 - 119	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-479775/6
Matrix: Water
Analysis Batch: 479775

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/06/19 11:13	1
Sulfate	ND		5.0	5.0	mg/L			12/06/19 11:13	1

Lab Sample ID: LCS 280-479775/4
Matrix: Water
Analysis Batch: 479775

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	93.5		mg/L		94	90 - 110
Sulfate	100	95.4		mg/L		95	90 - 110

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-479775/5
Matrix: Water
Analysis Batch: 479775

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	94.0		mg/L		94	90 - 110	1	10
Sulfate	100	95.5		mg/L		95	90 - 110	0	10

Lab Sample ID: MRL 280-479775/3
Matrix: Water
Analysis Batch: 479775

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.00	4.74		mg/L		95	50 - 150		
Sulfate	5.00	ND		mg/L		93	50 - 150		

Lab Sample ID: 280-130796-1 MS
Matrix: Water
Analysis Batch: 479775

Client Sample ID: MW-35
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		50.0	57.3		mg/L		115	80 - 120		
Sulfate	ND		50.0	58.2		mg/L		116	80 - 120		

Lab Sample ID: 280-130796-1 MSD
Matrix: Water
Analysis Batch: 479775

Client Sample ID: MW-35
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		50.0	57.8		mg/L		116	80 - 120	1	20
Sulfate	ND		50.0	58.8		mg/L		118	80 - 120	1	20

Lab Sample ID: 280-130796-1 DU
Matrix: Water
Analysis Batch: 479775

Client Sample ID: MW-35
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND			ND		mg/L				NC	15
Sulfate	ND			ND		mg/L				NC	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-478256/20
Matrix: Water
Analysis Batch: 478256

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 10:39	1

Lab Sample ID: MB 280-478256/59
Matrix: Water
Analysis Batch: 478256

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/19/19 11:57	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 280-478256/18
Matrix: Water
Analysis Batch: 478256

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.36		mg/L		94	90 - 110

Lab Sample ID: LCS 280-478256/57
Matrix: Water
Analysis Batch: 478256

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.43		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-478256/19
Matrix: Water
Analysis Batch: 478256

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.51		mg/L		100	90 - 110	6	10

Lab Sample ID: LCSD 280-478256/58
Matrix: Water
Analysis Batch: 478256

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.45		mg/L		98	90 - 110	1	10

Lab Sample ID: 280-130796-1 MS
Matrix: Water
Analysis Batch: 478256

Client Sample ID: MW-35
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		1.00	1.05		mg/L		105	90 - 110

Lab Sample ID: 280-130796-1 MSD
Matrix: Water
Analysis Batch: 478256

Client Sample ID: MW-35
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		1.00	1.05		mg/L		105	90 - 110	1	10

Method: 353.2 - Nitrate

Lab Sample ID: MB 280-478527/1
Matrix: Water
Analysis Batch: 478527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.050 mg/L			11/22/19 09:02	1

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-478263/57
Matrix: Water
Analysis Batch: 478263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/19/19 19:01	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/19/19 19:01	1

Lab Sample ID: MB 280-478263/83
Matrix: Water
Analysis Batch: 478263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/19/19 21:38	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/19/19 21:38	1

Lab Sample ID: LCS 280-478263/56
Matrix: Water
Analysis Batch: 478263

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	209		mg/L		104	89 - 109

Lab Sample ID: LCS 280-478263/82
Matrix: Water
Analysis Batch: 478263

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	209		mg/L		105	89 - 109

Lab Sample ID: 280-130796-2 DU
Matrix: Water
Analysis Batch: 478263

Client Sample ID: MW-16
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	68		68.6		mg/L		0.8	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-477551/1
Matrix: Water
Analysis Batch: 477551

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	5.0	mg/L			11/14/19 07:17	1

Lab Sample ID: LCS 280-477551/2
Matrix: Water
Analysis Batch: 477551

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	499	483		mg/L		97	93 - 110

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 280-477551/3
 Matrix: Water
 Analysis Batch: 477551

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	499	475		mg/L		95	93 - 110	2	20

Lab Sample ID: 280-130793-B-11 DU
 Matrix: Water
 Analysis Batch: 477551

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	5700	E	5810	E	mg/L		1	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-477813/1
 Matrix: Water
 Analysis Batch: 477813

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			11/15/19 13:50	1

Lab Sample ID: LCS 280-477813/2
 Matrix: Water
 Analysis Batch: 477813

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	85.2		mg/L		85	79 - 114

Lab Sample ID: LCSD 280-477813/3
 Matrix: Water
 Analysis Batch: 477813

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	92.0		mg/L		92	79 - 114	8	20

Lab Sample ID: 280-130796-3 DU
 Matrix: Water
 Analysis Batch: 477813

Client Sample ID: MW-39
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	4.0		ND		mg/L		NC	10

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

Lab Sample ID: MB 280-479713/37
 Matrix: Water
 Analysis Batch: 479713

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 04:32	1

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

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

Lab Sample ID: LCS 280-479713/35
Matrix: Water
Analysis Batch: 479713

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	25.3		mg/L		101	88 - 112

Lab Sample ID: LCSD 280-479713/36
Matrix: Water
Analysis Batch: 479713

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	25.6		mg/L		103	88 - 112	1	15

Lab Sample ID: 280-130796-8 MS
Matrix: Water
Analysis Batch: 479713

Client Sample ID: DUP01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	5.6		25.0	31.4		mg/L		103	88 - 112

Lab Sample ID: 280-130796-8 MSD
Matrix: Water
Analysis Batch: 479713

Client Sample ID: DUP01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	5.6		25.0	31.4		mg/L		103	88 - 112	0	15

QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

GC/MS VOA

Analysis Batch: 504811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	8260C	
280-130796-2	MW-16	Total/NA	Water	8260C	
280-130796-3	MW-39	Total/NA	Water	8260C	
280-130796-4	MW-33A	Total/NA	Water	8260C	
280-130796-5	MW-33C	Total/NA	Water	8260C	
280-130796-6	MW-42	Total/NA	Water	8260C	
MB 480-504811/7	Method Blank	Total/NA	Water	8260C	
LCS 480-504811/5	Lab Control Sample	Total/NA	Water	8260C	
480-162651-D-2 MS	Matrix Spike	Total/NA	Water	8260C	
480-162651-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 505311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-7	TRIP BLANK	Total/NA	Water	8260C	
MB 480-505311/7	Method Blank	Total/NA	Water	8260C	
LCS 480-505311/25	Lab Control Sample	Total/NA	Water	8260C	
480-162312-D-8 MS	Matrix Spike	Total/NA	Water	8260C	
480-162312-D-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 505348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-8	DUP01	Total/NA	Water	8260C	
MB 480-505348/7	Method Blank	Total/NA	Water	8260C	
LCS 480-505348/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 505396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	8260C SIM	
280-130796-2	MW-16	Total/NA	Water	8260C SIM	
280-130796-3	MW-39	Total/NA	Water	8260C SIM	
280-130796-4	MW-33A	Total/NA	Water	8260C SIM	
280-130796-5	MW-33C	Total/NA	Water	8260C SIM	
280-130796-6	MW-42	Total/NA	Water	8260C SIM	
280-130796-8	DUP01	Total/NA	Water	8260C SIM	
MB 480-505396/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-505396/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-505396/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Metals

Prep Batch: 477906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Dissolved	Water	3005A	
280-130796-2	MW-16	Dissolved	Water	3005A	
280-130796-3	MW-39	Dissolved	Water	3005A	
280-130796-4	MW-33A	Dissolved	Water	3005A	
280-130796-5	MW-33C	Dissolved	Water	3005A	
280-130796-6	MW-42	Dissolved	Water	3005A	
280-130796-8	DUP01	Dissolved	Water	3005A	
MB 280-477906/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-477906/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

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QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Metals (Continued)

Prep Batch: 477906 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-8 MS	DUP01	Dissolved	Water	3005A	
280-130796-8 MSD	DUP01	Dissolved	Water	3005A	

Prep Batch: 479190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Dissolved	Water	3005A	
280-130796-2	MW-16	Dissolved	Water	3005A	
280-130796-3	MW-39	Dissolved	Water	3005A	
280-130796-4	MW-33A	Dissolved	Water	3005A	
280-130796-5	MW-33C	Dissolved	Water	3005A	
280-130796-6	MW-42	Dissolved	Water	3005A	
280-130796-8	DUP01	Dissolved	Water	3005A	
MB 280-479190/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479190/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130980-A-4-B MS	Matrix Spike	Dissolved	Water	3005A	
280-130980-A-4-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 479199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total Recoverable	Water	3005A	
280-130796-2	MW-16	Total Recoverable	Water	3005A	
280-130796-3	MW-39	Total Recoverable	Water	3005A	
280-130796-4	MW-33A	Total Recoverable	Water	3005A	
280-130796-5	MW-33C	Total Recoverable	Water	3005A	
280-130796-6	MW-42	Total Recoverable	Water	3005A	
280-130796-8	DUP01	Total Recoverable	Water	3005A	
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	3005A	
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 479645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Dissolved	Water	6010D	479190
280-130796-2	MW-16	Dissolved	Water	6010D	479190
280-130796-3	MW-39	Dissolved	Water	6010D	479190
280-130796-4	MW-33A	Dissolved	Water	6010D	479190
280-130796-5	MW-33C	Dissolved	Water	6010D	479190
280-130796-6	MW-42	Dissolved	Water	6010D	479190
280-130796-8	DUP01	Dissolved	Water	6010D	479190
MB 280-479190/1-A	Method Blank	Total Recoverable	Water	6010D	479190
LCS 280-479190/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479190
280-130980-A-4-B MS	Matrix Spike	Dissolved	Water	6010D	479190
280-130980-A-4-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010D	479190

Analysis Batch: 479763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Dissolved	Water	6010D	479190
280-130796-2	MW-16	Dissolved	Water	6010D	479190
280-130796-3	MW-39	Dissolved	Water	6010D	479190
280-130796-4	MW-33A	Dissolved	Water	6010D	479190

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Metals (Continued)

Analysis Batch: 479763 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-5	MW-33C	Dissolved	Water	6010D	479190
280-130796-6	MW-42	Dissolved	Water	6010D	479190
280-130796-8	DUP01	Dissolved	Water	6010D	479190
MB 280-479190/1-A	Method Blank	Total Recoverable	Water	6010D	479190
LCS 280-479190/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479190
280-130980-A-4-B MS	Matrix Spike	Dissolved	Water	6010D	479190
280-130980-A-4-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010D	479190

Analysis Batch: 479765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total Recoverable	Water	6010D	479199
280-130796-2	MW-16	Total Recoverable	Water	6010D	479199
280-130796-3	MW-39	Total Recoverable	Water	6010D	479199
280-130796-4	MW-33A	Total Recoverable	Water	6010D	479199
280-130796-5	MW-33C	Total Recoverable	Water	6010D	479199
280-130796-6	MW-42	Total Recoverable	Water	6010D	479199
280-130796-8	DUP01	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	6010D	479199
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	479199

Prep Batch: 479864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total Recoverable	Water	3005A	
280-130796-2	MW-16	Total Recoverable	Water	3005A	
280-130796-3	MW-39	Total Recoverable	Water	3005A	
280-130796-4	MW-33A	Total Recoverable	Water	3005A	
280-130796-5	MW-33C	Total Recoverable	Water	3005A	
280-130796-6	MW-42	Total Recoverable	Water	3005A	
280-130796-8	DUP01	Total Recoverable	Water	3005A	
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130796-1 MS	MW-35	Total Recoverable	Water	3005A	
280-130796-1 MSD	MW-35	Total Recoverable	Water	3005A	

Analysis Batch: 479958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total Recoverable	Water	6010D	479199
280-130796-2	MW-16	Total Recoverable	Water	6010D	479199
280-130796-3	MW-39	Total Recoverable	Water	6010D	479199
280-130796-4	MW-33A	Total Recoverable	Water	6010D	479199
280-130796-5	MW-33C	Total Recoverable	Water	6010D	479199
280-130796-6	MW-42	Total Recoverable	Water	6010D	479199
280-130796-8	DUP01	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	6010D	479199
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	479199

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Metals

Analysis Batch: 480078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Dissolved	Water	6020B	477906
280-130796-2	MW-16	Dissolved	Water	6020B	477906
280-130796-3	MW-39	Dissolved	Water	6020B	477906
280-130796-4	MW-33A	Dissolved	Water	6020B	477906
280-130796-5	MW-33C	Dissolved	Water	6020B	477906
280-130796-6	MW-42	Dissolved	Water	6020B	477906
280-130796-8	DUP01	Dissolved	Water	6020B	477906
MB 280-477906/1-A	Method Blank	Total Recoverable	Water	6020B	477906
LCS 280-477906/2-A	Lab Control Sample	Total Recoverable	Water	6020B	477906
280-130796-8 MS	DUP01	Dissolved	Water	6020B	477906
280-130796-8 MSD	DUP01	Dissolved	Water	6020B	477906

Analysis Batch: 480312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total Recoverable	Water	6020B	479864
280-130796-2	MW-16	Total Recoverable	Water	6020B	479864
280-130796-3	MW-39	Total Recoverable	Water	6020B	479864
280-130796-4	MW-33A	Total Recoverable	Water	6020B	479864
280-130796-5	MW-33C	Total Recoverable	Water	6020B	479864
280-130796-6	MW-42	Total Recoverable	Water	6020B	479864
280-130796-8	DUP01	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-1 MS	MW-35	Total Recoverable	Water	6020B	479864
280-130796-1 MSD	MW-35	Total Recoverable	Water	6020B	479864

Analysis Batch: 480448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total Recoverable	Water	6020B	479864
280-130796-2	MW-16	Total Recoverable	Water	6020B	479864
280-130796-3	MW-39	Total Recoverable	Water	6020B	479864
280-130796-4	MW-33A	Total Recoverable	Water	6020B	479864
280-130796-5	MW-33C	Total Recoverable	Water	6020B	479864
280-130796-6	MW-42	Total Recoverable	Water	6020B	479864
280-130796-8	DUP01	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-1 MS	MW-35	Total Recoverable	Water	6020B	479864
280-130796-1 MSD	MW-35	Total Recoverable	Water	6020B	479864

General Chemistry

Analysis Batch: 477551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	SM 2540C	
280-130796-2	MW-16	Total/NA	Water	SM 2540C	
280-130796-3	MW-39	Total/NA	Water	SM 2540C	
280-130796-4	MW-33A	Total/NA	Water	SM 2540C	
280-130796-5	MW-33C	Total/NA	Water	SM 2540C	
280-130796-6	MW-42	Total/NA	Water	SM 2540C	
280-130796-8	DUP01	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

General Chemistry (Continued)

Analysis Batch: 477551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-477551/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-477551/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-477551/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-130793-B-11 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 477813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	SM 2540D	
280-130796-2	MW-16	Total/NA	Water	SM 2540D	
280-130796-3	MW-39	Total/NA	Water	SM 2540D	
280-130796-4	MW-33A	Total/NA	Water	SM 2540D	
280-130796-5	MW-33C	Total/NA	Water	SM 2540D	
280-130796-6	MW-42	Total/NA	Water	SM 2540D	
280-130796-8	DUP01	Total/NA	Water	SM 2540D	
MB 280-477813/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-477813/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-477813/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-130796-3 DU	MW-39	Total/NA	Water	SM 2540D	

Analysis Batch: 478256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	350.1	
280-130796-2	MW-16	Total/NA	Water	350.1	
280-130796-3	MW-39	Total/NA	Water	350.1	
280-130796-4	MW-33A	Total/NA	Water	350.1	
280-130796-5	MW-33C	Total/NA	Water	350.1	
280-130796-6	MW-42	Total/NA	Water	350.1	
280-130796-8	DUP01	Total/NA	Water	350.1	
MB 280-478256/20	Method Blank	Total/NA	Water	350.1	
MB 280-478256/59	Method Blank	Total/NA	Water	350.1	
LCS 280-478256/18	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-478256/57	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-478256/19	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 280-478256/58	Lab Control Sample Dup	Total/NA	Water	350.1	
280-130796-1 MS	MW-35	Total/NA	Water	350.1	
280-130796-1 MSD	MW-35	Total/NA	Water	350.1	

Analysis Batch: 478263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	SM 2320B	
280-130796-2	MW-16	Total/NA	Water	SM 2320B	
280-130796-3	MW-39	Total/NA	Water	SM 2320B	
280-130796-4	MW-33A	Total/NA	Water	SM 2320B	
280-130796-5	MW-33C	Total/NA	Water	SM 2320B	
280-130796-6	MW-42	Total/NA	Water	SM 2320B	
280-130796-8	DUP01	Total/NA	Water	SM 2320B	
MB 280-478263/57	Method Blank	Total/NA	Water	SM 2320B	
MB 280-478263/83	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478263/56	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-478263/82	Lab Control Sample	Total/NA	Water	SM 2320B	
280-130796-2 DU	MW-16	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

General Chemistry

Analysis Batch: 478527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	353.2	
280-130796-2	MW-16	Total/NA	Water	353.2	
280-130796-3	MW-39	Total/NA	Water	353.2	
280-130796-4	MW-33A	Total/NA	Water	353.2	
280-130796-5	MW-33C	Total/NA	Water	353.2	
280-130796-6	MW-42	Total/NA	Water	353.2	
280-130796-8	DUP01	Total/NA	Water	353.2	
MB 280-478527/1	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 479713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	SM 5310B	
280-130796-2	MW-16	Total/NA	Water	SM 5310B	
280-130796-3	MW-39	Total/NA	Water	SM 5310B	
280-130796-4	MW-33A	Total/NA	Water	SM 5310B	
280-130796-5	MW-33C	Total/NA	Water	SM 5310B	
280-130796-6	MW-42	Total/NA	Water	SM 5310B	
280-130796-8	DUP01	Total/NA	Water	SM 5310B	
MB 280-479713/37	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-479713/35	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 280-479713/36	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
280-130796-8 MS	DUP01	Total/NA	Water	SM 5310B	
280-130796-8 MSD	DUP01	Total/NA	Water	SM 5310B	

Analysis Batch: 479775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	300.0	
280-130796-2	MW-16	Total/NA	Water	300.0	
280-130796-3	MW-39	Total/NA	Water	300.0	
280-130796-4	MW-33A	Total/NA	Water	300.0	
280-130796-5	MW-33C	Total/NA	Water	300.0	
280-130796-6	MW-42	Total/NA	Water	300.0	
280-130796-8	DUP01	Total/NA	Water	300.0	
MB 280-479775/6	Method Blank	Total/NA	Water	300.0	
LCS 280-479775/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-479775/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-479775/3	Lab Control Sample	Total/NA	Water	300.0	
280-130796-1 MS	MW-35	Total/NA	Water	300.0	
280-130796-1 MSD	MW-35	Total/NA	Water	300.0	
280-130796-1 DU	MW-35	Total/NA	Water	300.0	

Field Service / Mobile Lab

Analysis Batch: 480614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130796-1	MW-35	Total/NA	Water	Field Sampling	
280-130796-2	MW-16	Total/NA	Water	Field Sampling	
280-130796-3	MW-39	Total/NA	Water	Field Sampling	
280-130796-4	MW-33A	Total/NA	Water	Field Sampling	
280-130796-5	MW-33C	Total/NA	Water	Field Sampling	
280-130796-6	MW-42	Total/NA	Water	Field Sampling	

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Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-35

Lab Sample ID: 280-130796-1

Date Collected: 11/12/19 09:10

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 21:35	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 19:05	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 19:37	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 13:56	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:04	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:33	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:16	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 22:37	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 15:23	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 21:26	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 10:41	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 21:16	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 07:06	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/12/19 10:10	K1I	TAL DEN

Client Sample ID: MW-16

Lab Sample ID: 280-130796-2

Date Collected: 11/12/19 10:20

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 21:59	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 19:29	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 19:40	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 13:58	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:06	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:36	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:19	LMT	TAL DEN

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Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-16

Lab Sample ID: 280-130796-2

Date Collected: 11/12/19 10:20

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 22:56	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 15:42	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 22:32	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 12:33	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 21:43	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 07:20	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/12/19 11:20	K1I	TAL DEN

Client Sample ID: MW-39

Lab Sample ID: 280-130796-3

Date Collected: 11/12/19 11:35

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 22:22	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 19:53	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 19:42	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 14:01	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:09	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:38	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:23	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:00	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 15:46	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 22:48	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 10:49	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 21:52	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 07:37	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/12/19 12:35	K1I	TAL DEN

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Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-33A

Lab Sample ID: 280-130796-4

Date Collected: 11/12/19 13:05

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 22:45	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 20:17	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 19:55	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 14:03	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:21	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:41	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:26	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:04	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 15:50	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 23:05	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 10:51	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 21:57	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 07:52	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/12/19 14:05	K1I	TAL DEN

Client Sample ID: MW-33C

Lab Sample ID: 280-130796-5

Date Collected: 11/12/19 13:50

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 23:09	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 20:41	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 19:57	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 14:16	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:24	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:43	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:30	LMT	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: MW-33C

Lab Sample ID: 280-130796-5

Date Collected: 11/12/19 13:50

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:15	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:02	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 23:21	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 10:53	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 22:03	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 08:07	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/12/19 14:50	K11	TAL DEN

Client Sample ID: MW-42

Lab Sample ID: 280-130796-6

Date Collected: 11/12/19 15:10

Matrix: Water

Date Received: 11/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	504811	11/15/19 23:32	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 21:06	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 20:00	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 14:19	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:26	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:46	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:33	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:19	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:06	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 23:38	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 10:55	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:02	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 22:08	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 08:53	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/12/19 16:10	K11	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF - GW

Job ID: 280-130796-1

Client Sample ID: TRIP BLANK

Date Collected: 11/12/19 15:30

Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505311	11/19/19 12:18	CDC	TAL BUF

Client Sample ID: DUP01

Date Collected: 11/12/19 15:30

Date Received: 11/13/19 09:45

Lab Sample ID: 280-130796-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505348	11/19/19 15:04	BTP	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505396	11/19/19 21:30	RJF	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479645	12/04/19 20:02	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479190	12/04/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			479763	12/05/19 14:21	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:29	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:48	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:48	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:23	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:09	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479775	12/06/19 23:54	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478256	11/19/19 10:57	SAH	TAL DEN
Total/NA	Analysis	353.2		1			478527	11/22/19 09:03	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 22:13	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477551	11/14/19 07:17	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	477813	11/15/19 13:50	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 09:12	SGB	TAL DEN

Laboratory References:

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

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

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



03 December 2019

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.

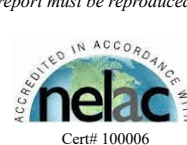
<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19K0265	N/A

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 enclosed 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.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **19K0265**
 ARI Client Company: **SCS Engineers**
 Client Contact: **Dan Venchiarutti**
 Client Project Name: **OVSL**



Turn-around Requested: **Standard**
 Phone: **425-289-5455**
 Date: **11/14/19**
 Page: **1** of **2**
 No. of Coolers: **1** Cooler Temps: **1.3**

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			Notes/Comments
					Low level	Total Arsenic		
MW-34C	11/11/19	1051	Water	1	X			
MW-34A		1140						
MW-36A		1233						
MW-15R		1325						
MW-13A		1430						
MW-13B		1508						
MW-35	11/12/19	910						
MW-16		1020						
MW-39		1135						
MW-33A		1305						
Comments/Special Instructions	Relinquished by: <i>[Signature]</i> Printed Name: Sam Greber Company: SCS Date & Time: 11/14/19 1430				Received by: <i>[Signature]</i> Printed Name: Kenny Dang Company: ARI Date & Time: 11/18/19 1047			

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: 121K0265
 Turn-around Requested: **Standard**
 ARI Client Company: **SCS Engineers**
 Phone: **425-289-5455**
 Client Contact: **Dan Venchiarutti**
 Client Project Name: **OVSL**

Date: **11/14/19**
 Page: **2** of **2**
 No. of Coolers: **1**
 Cooler Temps: **1.3**

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					Notes/Comments
MW-33C	11/12/19	1350	Water	1						
MW-42	↓	1510								
DUP-1	↓	1530								
MW-43	11/13/19	930								
MW-29A	↓	1025								
MW-32	↓	1147								
MW-19C	↓	1250								
DUP-2	↓	1300								
LP-LCD	↓	1400								

Comments/Special Instructions

Relinquished by: *[Signature]*
 Printed Name: **Sam Gaber**
 Company: **SCS**
 Date & Time: **11/14/19 1430**

Received by: *[Signature]*
 Printed Name: **Kenny Dang**
 Company: **ARI**
 Date & Time: **11/18/19 1047**

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
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-34C	19K0265-01	Water	11-Nov-2019 10:51	18-Nov-2019 10:47
MW-34A	19K0265-02	Water	11-Nov-2019 11:40	18-Nov-2019 10:47
MW-36A	19K0265-03	Water	11-Nov-2019 12:33	18-Nov-2019 10:47
MW-15R	19K0265-04	Water	11-Nov-2019 13:25	18-Nov-2019 10:47
MW-13A	19K0265-05	Water	11-Nov-2019 14:30	18-Nov-2019 10:47
MW-13B	19K0265-06	Water	11-Nov-2019 15:08	18-Nov-2019 10:47
MW-35	19K0265-07	Water	12-Nov-2019 09:10	18-Nov-2019 10:47
MW-16	19K0265-08	Water	12-Nov-2019 10:20	18-Nov-2019 10:47
MW-39	19K0265-09	Water	12-Nov-2019 11:35	18-Nov-2019 10:47
MW-33A	19K0265-10	Water	12-Nov-2019 13:05	18-Nov-2019 10:47
MW-33C	19K0265-11	Water	12-Nov-2019 13:50	18-Nov-2019 10:47
MW-42	19K0265-12	Water	12-Nov-2019 15:10	18-Nov-2019 10:47
DUP-1	19K0265-13	Water	12-Nov-2019 15:30	18-Nov-2019 10:47
MW-43	19K0265-14	Water	13-Nov-2019 09:30	18-Nov-2019 10:47
MW-29A	19K0265-15	Water	13-Nov-2019 10:25	18-Nov-2019 10:47
MW-32	19K0265-16	Water	13-Nov-2019 11:47	18-Nov-2019 10:47
MW-19C	19K0265-17	Water	13-Nov-2019 12:50	18-Nov-2019 10:47
DUP-2	19K0265-18	Water	13-Nov-2019 13:00	18-Nov-2019 10:47
LP-LCD	19K0265-19	Water	13-Nov-2019 14:00	18-Nov-2019 10:47





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 18, 2019 under ARI work order 19K0265. 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.





Cooler Receipt Form

ARI Client: SCS engineers
 COC No(s): _____
 Assigned ARI Job No: 19K0265 (NA)

Project Name: OUGL
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1250 1.3 _____
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 11/18/19 Time: 1047

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
 How were bottles sealed in plastic bags? Individually Grouped
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI NA
 Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: L Bill Date: 11/18/19 Time: 1335 Labels checked by: AB

**** 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: _____



WORK ORDER

19K0265

Client: Test America - Denver	Project Manager: Amanda Volgardsen
Project: OVSL	Project Number: 04204027.20

Preservation Confirmation

Container ID	Container Type	pH	
19K0265-01 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-02 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-03 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-04 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-05 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-06 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-07 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-08 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-09 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-10 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-11 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-12 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-13 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-14 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-15 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-16 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-17 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-18 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-19 A	Miscellaneous container, 1:1 HN03	LL	Pass


Preservation Confirmed By

11/18/19
Date



Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34C
19K0265-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 10:51
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:31
Sample Preparation:	Extract ID: 19K0265-01 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.0000800	0.0199	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34A
19K0265-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 11:40
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:00
Sample Preparation:	Extract ID: 19K0265-02 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000441	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-36A
19K0265-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 12:33
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:39
Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	Extract ID: 19K0265-03 A 01
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000507	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-15R
19K0265-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 13:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:46
Sample Preparation:	Extract ID: 19K0265-04 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000198	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13A
19K0265-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 14:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:53
Sample Preparation:	Extract ID: 19K0265-05 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000205	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13B
19K0265-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 15:08
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:42
Sample Preparation:	Extract ID: 19K0265-06 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000322	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-35
19K0265-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 09:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:49
Sample Preparation:	Extract ID: 19K0265-07 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000996	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-16
19K0265-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 10:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:56
Sample Preparation:	Extract ID: 19K0265-08 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000413	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-39
19K0265-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 11:35
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:03
Sample Preparation:	Extract ID: 19K0265-09 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00179	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33A
19K0265-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:05
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:10
Sample Preparation:	Extract ID: 19K0265-10 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000216	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33C
19K0265-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:17
Sample Preparation:	Extract ID: 19K0265-11 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00268	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-42
19K0265-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:23
Sample Preparation:	Extract ID: 19K0265-12 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00181	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-1
19K0265-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:29
Sample Preparation:	Extract ID: 19K0265-13 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00182	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-43
19K0265-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 09:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:35
Sample Preparation:	Extract ID: 19K0265-14 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000514	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-29A
19K0265-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 10:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:41
Sample Preparation:	Extract ID: 19K0265-15 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	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 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-32
19K0265-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 11:47
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:01
Sample Preparation:	Extract ID: 19K0265-16 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0101	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-19C
19K0265-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 12:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:47
Sample Preparation:	Extract ID: 19K0265-17 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00300	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-2
19K0265-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 13:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:07
Sample Preparation:	Extract ID: 19K0265-18 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00289	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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LP-LCD
19K0265-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 14:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:13
Sample Preparation:	Extract ID: 19K0265-19 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	0.0101	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHK0757 - 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 (BHK0757-BLK1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:23					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHK0757-BS1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:27					
Arsenic	75a	0.00461	0.0000400	mg/L	0.00500		92.1	80-120			





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHL0006 - 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 (BHL0006-BLK1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:14					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHL0006-BS1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:19					
Arsenic	75a	0.00456	0.0000400	mg/L	0.00500		91.3	80-120			





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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 reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Chain of Custody Record

3113 9338 8530-#280

Client Information Client Contact: Mr. Patrick Madej Company: Waste Management Address: 2615 Davis Street City: San Leandro State, Zip: CA, 94577 Phone: 415-966-3362 Email: patrick.madej@waste.com		Sampler: Sam G. Lab PM: Sara, Betsy A Phone: E-Mail: betsy.sara@testamericainc.com		COC No: 280-17318-3224.1 Page: 1 of 1 Job #: 01204027.22																					
Due Date Requested: Standard TAT Requested (days): PO #: WO #: Project #: 28002692 SSOW#:		Analysis Requested <table border="1"> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>TSS/Aikx/Cl/SO4/NO3(cad)</th> <th>Dissolved Metals</th> <th>Ammonia/TC</th> <th>8260B - long list (TA Buffalo)</th> <th>8260B SIM (TA Buffalo)</th> <th>Total Metals</th> <th>TSS</th> <th>Total Arsenic (direct sub to ARI)</th> </tr> <tr> <td>Y</td> <td>N</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>				Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TSS/Aikx/Cl/SO4/NO3(cad)	Dissolved Metals	Ammonia/TC	8260B - long list (TA Buffalo)	8260B SIM (TA Buffalo)	Total Metals	TSS	Total Arsenic (direct sub to ARI)	Y	N	X	X	X	X	X	X	X	X
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TSS/Aikx/Cl/SO4/NO3(cad)	Dissolved Metals	Ammonia/TC	8260B - long list (TA Buffalo)	8260B SIM (TA Buffalo)	Total Metals	TSS	Total Arsenic (direct sub to ARI)																
Y	N	X	X	X	X	X	X	X	X																
Sample Identification MW-35 MW-16 MW-39 MW-33A MW-33C MW-42 Trip Blank Dup 1		Sample Date 11/12/19 		Sample Time 910 1020 1135 1305 1350 - 1530		Sample Type (C=Comp, G=grab) 6 		Matrix (W=water, S=solid, O=soil, C=contaminant) W 		Preservation Code 															
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																							
Empty Kit Relinquished by: Relinquished by: Relinquished by: Relinquished by:		Special Instructions/QC Requirements: Date: 11/12/19 1630 Date/Time: 11/12/19 1630 Date/Time: Date/Time:																							
Custody Seal No.: 1044439, 1044440, 1044441 Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 0.7, 0.5, 0.6 C + 0.9 IR 9 JL 11-13-19																							



FIELD INFORMATION FORM



Site Name: 0V5L
 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): 11 12 19
 PURGE TIME (2400 Hr Clock): 8:50
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLS PURGED:

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 D-Bailer
 B-Peristaltic Pump E-Piston Pump
 Sampling Device: C C-QED Bladder 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:
 A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene
 Sample Tube Type: D

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 73.35 (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.

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)
8:50	100	7.56	1163	10.32		1.5	323.1	
8:55		6.17	1166	19.91		1.81	318.6	
8:58		6.26	1165	19.88		1.86	319.7	
9:01		6.33	1163	19.85		1.86	321.6	
9:04		6.44	1163	19.81		1.70	322.9	
9:07		6.53	1163	19.75		1.71	324.8	
9:10		6.61	1166	19.73	1.21	1.09	326.7	73.40

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, Temp. --, Turbidity --, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW 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.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (µmhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: <u>LTN</u>
11 12 19	6.61	166	9.73	1.21	2.09	326.7	Units: <u>73.35</u>

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: rainy Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
11/4/80 psi
Trace particulates in water

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11.12.19 Sam Graber [Signature] SES
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: OVSL
 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): 11/12/19
 PURGE TIME (2400 Hr Clock): 1000
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOL PURGED:

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: or N
 Purging Device: C A-Submersible Pump D-Bailer
 B-Peristaltic Pump E-Piston Pump
 Sampling Device: C C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 6282 (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)
110100	340	6.68	1137	19.02		1850	3136.0	
110105		6.33	1135	18.96		1714	3415.7	
110108		6.24	1136	18.96		1714	3417.1	
110111		6.21	1136	18.95		1712	3417.4	
110114		6.18	1137	18.95		1705	3417.5	
110117		6.17	1135	18.94		1705	3417.5	
110210		6.17	1136	18.95	1211	1703	3417.4	

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 11/12/19
 pH (std): 6.17
 CONDUCTANCE (umhos/cm @ 25°C): 136
 TEMP. (°C): 18.95
 TURBIDITY (ntu): 2.11
 DO (mg/L-ppm): 7.03
 eH/ORP (mV): 3474
 Other: DTW
 Units: 6282
 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: - Precipitation: Y or N

FIELD COMMENTS
 Specific Comments (including purge/well volume calculations if required):
9/6/50 psi
* Hit bottom

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/12/19 Sam Graber [Signature] SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 05SC
 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: 111219 PURGE DATE (MM DD YY) | 1115 PURGE TIME (2400 Hr Clock) | 20 ELAPSED HRS (hrs:min) | WATER VOL IN CASING (Gallons) | ACTUAL VOL PURGED (Gallons) | WELL VOLs PURGED

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 D-Bailer | Filter Type: A A-In-line Disposable C-Vacuum
 Sampling Device: C B-Peristaltic Pump E-Piston Pump | B-Pressure X-Other
 X-Other: | Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA: Well Elevation (at TOC) (ft/msl) | Depth to Water (DTW) (from TOC) 2221 (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.

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (μ mhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
11:15	300	5.97	1279	10.36		8.5	279.4	
11:20		6.27	1274	11.02		0.75	133.6	
11:23			1270	11.05		0.63	22.7	
11:26		6.23	1261	11.09		0.60	116.5	
11:29		6.29	1266	11.06		0.48	18.9	
11:32		6.30	1271	11.04	16.86	0.46	4.1	
11:35		6.32	1275	11.01	16.20	0.45	-1.3	23.37

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2 | Conductance +/- 3% | Temp. -- | Turbidity -- | D.O. +/- 10% | eH/ORP +/- 25 mV | DTW 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.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (μ mhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: <u>DTW</u>
11/12/19	6.32	275	11.01	6.20	0.45	-1.3	22.21

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: | Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
11/4/30 psi
new 22.12 after pump deployment. Deployed new pump

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/12/19 Sam Graber SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 0USC
 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: 111219 | 1245 | 20 | | |
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**
 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.

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 | D-Bailer | Filter Type: A | A-In-line Disposable | C-Vacuum
 Sampling Device: C | B-Peristaltic Pump | E-Piston Pump | B-Pressure | X-Other:
 X-Other: | C-QED Bladder Pump | F-Dipper/Bottle | A-Teflon | C-PVC | X-Other:
 Sample Tube Type: D | B-Stainless Steel | D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) | Depth to Water (DTW) (from TOC) 553 (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) (umhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
		<u>1245</u>	<u>300</u>	<u>636</u>	<u>115</u>	<u>1976</u>		<u>705</u>	<u>1089</u>
	<u>1250</u>		<u>661</u>	<u>1135</u>	<u>1946</u>		<u>101</u>	<u>828</u>	
	<u>1253</u>		<u>664</u>	<u>1134</u>	<u>1943</u>		<u>1087</u>	<u>802</u>	
	<u>1256</u>		<u>669</u>	<u>1136</u>	<u>1929</u>		<u>1067</u>	<u>751</u>	
	<u>1259</u>		<u>673</u>	<u>1138</u>	<u>1922</u>		<u>1065</u>	<u>718</u>	
	<u>1302</u>		<u>676</u>	<u>1133</u>	<u>1919</u>		<u>1061</u>	<u>697</u>	
	<u>1305</u>	<u>✓</u>	<u>678</u>	<u>1137</u>	<u>1919</u>	<u>251</u>	<u>1057</u>	<u>675</u>	

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2 | Conductance +/- 3% | Temp. -- | Turbidity -- | D.O. +/- 10% | eH/ORP +/- 25 mV | DTW 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.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: <u>DTW</u>
<u>111219</u>	<u>678</u>	<u>137</u>	<u>1919</u>	<u>251</u>	<u>057</u>	<u>675</u>	<u>553</u>

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: - | Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):
10/5/15 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/12/19 | Sam Gruber | | SCS
 Date | Name | Signature | Company

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

FIELD INFORMATION FORM



Site Name: 0USL
 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): 11/12/19
 PURGE TIME (2400 Hr Clock): 1330
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLS PURGED:

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, X-Other:)
 Sampling Device: C
 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): 2.91
 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 (μm/s)	pH (std)	Conductance (SC/EC) (μmhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
13:30	300	6.82	1156	8.98		4.71	910	
13:35		7.04	1157	8.81		0.54	697	
13:38		7.13	1156	8.80		0.45	596	
13:41		7.26	1156	8.79		0.39	488	
13:44		7.33	1156	8.79		0.36	381	
13:47		7.37	1157	8.80		0.34	308	
13:50		7.43	1157	8.79	1.36	0.32	181	

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 | Conductance: +/- 3% | Temp: - | Turbidity: - | D.O.: +/- 10% | eH/ORP: +/- 25 mV | DTW: 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): 11/12/19
 pH (std): 7.43
 CONDUCTANCE (umhos/cm @ 25°C): 1157
 TEMP. (°C): 8.79
 TURBIDITY (ntu): 1.36
 DO (mg/L-ppm): 0.32
 eH/ORP (mV): 181
 Other: DTW
 Units: 2.91

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).

Sample Appearance: clear Odor: - Color: - 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):

FIELD COMMENTS
10/5/30 ps:
305 at 33B

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/12/19 Sam Graber SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 0VSL
 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): 11 12 19
 PURGE TIME (2400 Hr Clock): 1450
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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 D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 2963 (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) (μ mhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
		14:50	300	6.47	487			1609	1207
	14:55		6.62	487	11.68		050	-316	
	14:58		6.64	484	11.68		035	-197	
	15:01		6.65	484	11.67		030	-249	
	15:04		6.65	483	11.67		028	-279	
	15:07		6.66	482	11.68		026	-306	
	15:10	✓	6.66	482	11.69	352	026	-328	2971

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 11 12 19
 pH (std): 6.66
 CONDUCTANCE (umhos/cm @ 25°C): 482
 TEMP. (°C): 11.69
 TURBIDITY (ntu): 352
 DO (mg/L-ppm): 026
 eH/ORP (mV): -328
 Other: DTW
 Units: 2963
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: Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): Dup 1 taken @ 1530
9/6/40 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11, 12, 19 Sum Graber [Signature] SCS
 Date Name Signature Company

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

TRK# 8113 9338 8538
0667

WED - 13 NOV 10:30A
PRIORITY OVERNIGHT

XH WHHA

AHS
80002
DEN

CO-US



TRK# 8113 9338 8549
0667

WED - 13 NOV 10:30A
PRIORITY OVERNIGHT

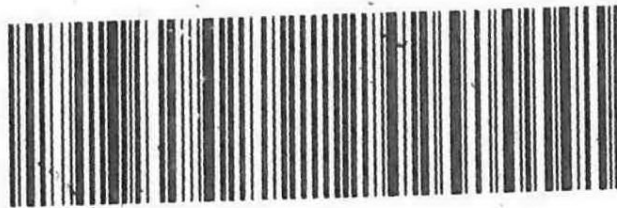
XH WHHA

AHS
80002

CO-US

DEN

10:30 A



TRK# 8113 9338 8550
0667

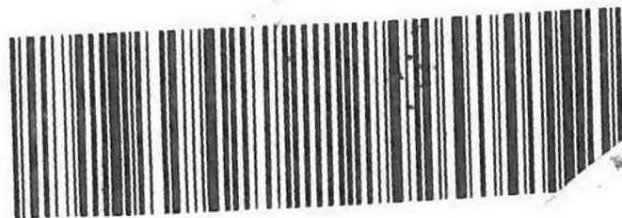
WED - 13 NOV 10:30A
PRIORITY OVERNIGHT

XH WHHA

AHS
80002

CO-US

DEN



- 1
- 2
- 3
- 4
- 5
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-130796-1

Login Number: 130796

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Zimmerman, Steven M

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: 280-130796-1

Login Number: 130796

List Number: 2

Creator: Manhardt, Kara M

List Source: Eurofins TestAmerica, Buffalo

List Creation: 11/15/19 01:23 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	1.7 IR#1, ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

ANALYTICAL REPORT

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

Laboratory Job ID: 280-130884-1

Client Project/Site: WA02|Olympic View Sanitary LF-GW
Sampling Event: Semiannual GW Appl/II - May Nov

For:

Waste Management
2615 Davis Street
San Leandro, California 94577

Attn: Mr. Patrick Madej



Authorized for release by:
12/19/2019 4:25:49 PM

Betsy Sara, Project Manager II
(303)736-0189
betsy.sara@testamericainc.com

LINKS

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www.testamericainc.com

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

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

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



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Definitions/Glossary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Job ID: 280-130884-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF-GW

Report Number: 280-130884-1

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

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

Sample Receiving

The samples were received on 11/14/2019; the samples arrived in good condition and on ice. The temperatures of the coolers at receipt were 1.8° C and 1.8° C.

Holding Times

All holding times were within established control limits.

Method Blanks

Total Iron Method 6010D 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)

The Method 8260C LCS and/or LCSD recoveries for 2-Butanone (MEK) and Tetrahydrofuran were above control limits. Because the data are considered to be biased high and all associated samples were non-detect above the reporting limits for 2-Butanone (MEK) and Tetrahydrofuran, corrective action was deemed unnecessary.

The Method 8260C LCS/LCSD exhibited RPD data outside the QC control limits for Isobutanol. Both the LCS and LCSD were recovered within QC control limits, demonstrating that the laboratory performed the method within acceptable guidelines; therefore, corrective action is deemed unnecessary.

All other 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 DUP01 (130796) 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.

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Job ID: 280-130884-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Sample MW-29A was selected to fulfill the laboratory batch quality control requirements for Method 300.0. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Chloride 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.

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



Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: MW-43

Lab Sample ID: 280-130884-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	0.69	J	1.0	0.44	ug/L	1		8260C	Total/NA
Iron, Total	2.3	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	4.9		0.20	0.078	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	2.0		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.64	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	2.5		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0051		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.018		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0025		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.0075		0.0010	0.00031	mg/L	1		6020B	Dissolved
Nitrate as N	0.71		0.050	0.050	mg/L	1		353.2	Total/NA
Alkalinity, Total (As CaCO3)	22		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	22		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	55		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Organic Carbon - Average	1.2		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Depth to water	26.76				ft	1		Field Sampling	Total/NA
Specific Conductivity	56				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	2.00				mg/L	1		Field Sampling	Total/NA
eH	320.5				millivolts	1		Field Sampling	Total/NA
Turbidity	5.41				NTU	1		Field Sampling	Total/NA
Temperature	10.03				Degrees C	1		Field Sampling	Total/NA
pH	5.36				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-29A

Lab Sample ID: 280-130884-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt, Total	0.0022	J	0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	3.5	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	6.0		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	3.4		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	3.5		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	0.35	J	1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	3.2		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0068		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	1.2		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0015	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0018	J	0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	1.2		0.0010	0.00031	mg/L	1		6020B	Dissolved
Ammonia (as N)	0.082		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	36		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	36		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	55		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Organic Carbon - Average	1.5		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Depth to water	15.28				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: MW-29A (Continued)

Lab Sample ID: 280-130884-2

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Specific Conductivity	89				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.25				mg/L	1		Field Sampling	Total/NA
eH	138.7				millivolts	1		Field Sampling	Total/NA
Turbidity	1.48				NTU	1		Field Sampling	Total/NA
Temperature	10.74				Degrees C	1		Field Sampling	Total/NA
pH	6.02				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-32

Lab Sample ID: 280-130884-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.20		0.020	0.0040	ug/L	1		8260C SIM	Total/NA
Trichloroethene	0.47	J	1.0	0.46	ug/L	1		8260C	Total/NA
Iron, Total	0.94	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	39		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.86		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	19		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	1.2		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	14		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0075		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	3.3		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.0017	J	0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	3.1		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	16		3.0	3.0	mg/L	1		300.0	Total/NA
Sulfate	16		5.0	5.0	mg/L	1		300.0	Total/NA
Ammonia (as N)	0.040		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	170		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	170		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	260		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Organic Carbon - Average	1.7		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Depth to water	2.43				ft	1		Field Sampling	Total/NA
Specific Conductivity	415				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.53				mg/L	1		Field Sampling	Total/NA
eH	49.1				millivolts	1		Field Sampling	Total/NA
Turbidity	1.44				NTU	1		Field Sampling	Total/NA
Temperature	11.43				Degrees C	1		Field Sampling	Total/NA
pH	6.73				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-19C

Lab Sample ID: 280-130884-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.046		0.020	0.0040	ug/L	1		8260C SIM	Total/NA
Methylene Chloride	1.5		1.0	0.44	ug/L	1		8260C	Total/NA
Trichloroethene	1.0		1.0	0.46	ug/L	1		8260C	Total/NA
Iron, Total	0.20	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	14		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.12		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	7.3		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	1.2		1.0	0.24	mg/L	1		6010D	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: MW-19C (Continued)

Lab Sample ID: 280-130884-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium, Dissolved	5.7		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0040		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Manganese, Total	1.2		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	1.2		0.0010	0.00031	mg/L	1		6020B	Dissolved
Ammonia (as N)	0.48		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	77		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	77		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Depth to water	36.22				ft	1		Field Sampling	Total/NA
Specific Conductivity	165				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	0.25				mg/L	1		Field Sampling	Total/NA
eH	94.9				millivolts	1		Field Sampling	Total/NA
Turbidity	2.07				NTU	1		Field Sampling	Total/NA
Temperature	10.15				Degrees C	1		Field Sampling	Total/NA
pH	6.76				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP2

Lab Sample ID: 280-130884-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.045		0.020	0.0040	ug/L	1		8260C SIM	Total/NA
Methylene Chloride	0.60	J	1.0	0.44	ug/L	1		8260C	Total/NA
Trichloroethene	1.1		1.0	0.46	ug/L	1		8260C	Total/NA
Iron, Total	0.21	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	14		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.13		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	7.3		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	1.2		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.7		1.0	0.37	mg/L	1		6010D	Dissolved
Barium, Total	0.0041		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Lead, Total	0.00035	J	0.0010	0.00018	mg/L	1		6020B	Total Recoverable
Manganese, Total	1.1		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	1.1		0.0010	0.00031	mg/L	1		6020B	Dissolved
Ammonia (as N)	0.48		0.030	0.030	mg/L	1		350.1	Total/NA
Alkalinity, Total (As CaCO3)	78		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	78		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-130884-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010D	Metals (ICP)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
350.1	Nitrogen, Ammonia	MCAWW	TAL DEN
353.2	Nitrate	EPA	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL DEN
Field Sampling	Field Sampling	EPA	TAL DEN
Subcontract	Total Arsenic (ARI)	None	SC0056
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
5030C	Purge and Trap	SW846	TAL BUF

Protocol 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.

None = None

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

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

Laboratory References:

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

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

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

Sample Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-130884-1	MW-43	Water	11/13/19 09:30	11/14/19 09:20	
280-130884-2	MW-29A	Water	11/13/19 10:25	11/14/19 09:20	
280-130884-3	MW-32	Water	11/13/19 11:47	11/14/19 09:20	
280-130884-4	MW-19C	Water	11/13/19 12:50	11/14/19 09:20	
280-130884-5	DUP2	Water	11/13/19 13:00	11/14/19 09:20	
280-130884-6	TRIP BLANK	Water	11/13/19 09:30	11/14/19 09:20	

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Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/21/19 12:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	106		50 - 150					11/21/19 12:07	1
TBA-d9 (Surr)	88		50 - 150					11/21/19 12:07	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/21/19 12:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		50 - 150					11/21/19 12:32	1
TBA-d9 (Surr)	88		50 - 150					11/21/19 12:32	1

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.20		0.020	0.0040	ug/L			11/21/19 12:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		50 - 150					11/21/19 12:56	1
TBA-d9 (Surr)	85		50 - 150					11/21/19 12:56	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.046		0.020	0.0040	ug/L			11/21/19 13:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	107		50 - 150					11/21/19 13:20	1
TBA-d9 (Surr)	85		50 - 150					11/21/19 13:20	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.045		0.020	0.0040	ug/L			11/21/19 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		50 - 150					11/21/19 13:44	1
TBA-d9 (Surr)	83		50 - 150					11/21/19 13:44	1

Client Sample ID: TRIP BLANK
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/21/19 14:09	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		50 - 150		11/21/19 14:09	1
TBA-d9 (Surr)	95		50 - 150		11/21/19 14:09	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/20/19 23:05	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/20/19 23:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/20/19 23:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/20/19 23:05	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/20/19 23:05	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/20/19 23:05	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/20/19 23:05	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/20/19 23:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 23:05	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/20/19 23:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 23:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/20/19 23:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/20/19 23:05	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/20/19 23:05	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/20/19 23:05	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/20/19 23:05	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/20/19 23:05	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/20/19 23:05	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/20/19 23:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/20/19 23:05	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/20/19 23:05	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/20/19 23:05	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/20/19 23:05	1
1,4-Dioxane	ND		40	9.3	ug/L			11/20/19 23:05	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/20/19 23:05	1
2-Butanone (MEK)	ND	*	10	1.3	ug/L			11/20/19 23:05	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/20/19 23:05	1
2-Hexanone	ND		5.0	1.2	ug/L			11/20/19 23:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/20/19 23:05	1
Acetone	ND		10	3.0	ug/L			11/20/19 23:05	1
Acetonitrile	ND		15	4.9	ug/L			11/20/19 23:05	1
Acrolein	ND		20	0.91	ug/L			11/20/19 23:05	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/20/19 23:05	1
Benzene	ND		1.0	0.41	ug/L			11/20/19 23:05	1
Bromobenzene	ND		1.0	0.80	ug/L			11/20/19 23:05	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/20/19 23:05	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/20/19 23:05	1
Bromoform	ND		1.0	0.26	ug/L			11/20/19 23:05	1
Bromomethane	ND		1.0	0.69	ug/L			11/20/19 23:05	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/20/19 23:05	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/20/19 23:05	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/20/19 23:05	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/20/19 23:05	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.75	ug/L			11/20/19 23:05	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/20/19 23:05	1
Chloroethane	ND		1.0	0.32	ug/L			11/20/19 23:05	1
Chloroform	ND		1.0	0.34	ug/L			11/20/19 23:05	1
Chloromethane	ND		1.0	0.35	ug/L			11/20/19 23:05	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/20/19 23:05	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/20/19 23:05	1
Cyclohexane	ND		1.0	0.18	ug/L			11/20/19 23:05	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/20/19 23:05	1
Dibromomethane	ND		1.0	0.41	ug/L			11/20/19 23:05	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/20/19 23:05	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/20/19 23:05	1
Ethyl acetate	ND	*	1.0	0.66	ug/L			11/20/19 23:05	1
Ethyl ether	ND		1.0	0.72	ug/L			11/20/19 23:05	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/20/19 23:05	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/20/19 23:05	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/20/19 23:05	1
Hexane	ND		10	0.40	ug/L			11/20/19 23:05	1
Iodomethane	ND		1.0	0.30	ug/L			11/20/19 23:05	1
Isobutanol	ND	*	25	4.8	ug/L			11/20/19 23:05	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/20/19 23:05	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/20/19 23:05	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/20/19 23:05	1
Methyl acetate	ND		2.5	1.3	ug/L			11/20/19 23:05	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/20/19 23:05	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/20/19 23:05	1
Methylene Chloride	0.69	J	1.0	0.44	ug/L			11/20/19 23:05	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/20/19 23:05	1
Naphthalene	ND		1.0	0.43	ug/L			11/20/19 23:05	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/20/19 23:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/20/19 23:05	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/20/19 23:05	1
o-Xylene	ND		1.0	0.76	ug/L			11/20/19 23:05	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/20/19 23:05	1
p-Cymene	ND		1.0	0.31	ug/L			11/20/19 23:05	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/20/19 23:05	1
Styrene	ND		1.0	0.73	ug/L			11/20/19 23:05	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/20/19 23:05	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/20/19 23:05	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/20/19 23:05	1
Tetrahydrofuran	ND	*	5.0	1.3	ug/L			11/20/19 23:05	1
Toluene	ND		1.0	0.51	ug/L			11/20/19 23:05	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/20/19 23:05	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/20/19 23:05	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/20/19 23:05	1
Trichloroethene	ND		1.0	0.46	ug/L			11/20/19 23:05	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/20/19 23:05	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/20/19 23:05	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/20/19 23:05	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/20/19 23:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120					11/20/19 23:05	1
4-Bromofluorobenzene (Surr)	97		73 - 120					11/20/19 23:05	1
Toluene-d8 (Surr)	111		80 - 120					11/20/19 23:05	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/20/19 23:29	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/20/19 23:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/20/19 23:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/20/19 23:29	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/20/19 23:29	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/20/19 23:29	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/20/19 23:29	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/20/19 23:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 23:29	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/20/19 23:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 23:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/20/19 23:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/20/19 23:29	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/20/19 23:29	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/20/19 23:29	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/20/19 23:29	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/20/19 23:29	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/20/19 23:29	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/20/19 23:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/20/19 23:29	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/20/19 23:29	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/20/19 23:29	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/20/19 23:29	1
1,4-Dioxane	ND		40	9.3	ug/L			11/20/19 23:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/20/19 23:29	1
2-Butanone (MEK)	ND *		10	1.3	ug/L			11/20/19 23:29	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/20/19 23:29	1
2-Hexanone	ND		5.0	1.2	ug/L			11/20/19 23:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/20/19 23:29	1
Acetone	ND		10	3.0	ug/L			11/20/19 23:29	1
Acetonitrile	ND		15	4.9	ug/L			11/20/19 23:29	1
Acrolein	ND		20	0.91	ug/L			11/20/19 23:29	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/20/19 23:29	1
Benzene	ND		1.0	0.41	ug/L			11/20/19 23:29	1
Bromobenzene	ND		1.0	0.80	ug/L			11/20/19 23:29	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/20/19 23:29	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/20/19 23:29	1
Bromoform	ND		1.0	0.26	ug/L			11/20/19 23:29	1
Bromomethane	ND		1.0	0.69	ug/L			11/20/19 23:29	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/20/19 23:29	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/20/19 23:29	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.19	ug/L			11/20/19 23:29	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/20/19 23:29	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/20/19 23:29	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/20/19 23:29	1
Chloroethane	ND		1.0	0.32	ug/L			11/20/19 23:29	1
Chloroform	ND		1.0	0.34	ug/L			11/20/19 23:29	1
Chloromethane	ND		1.0	0.35	ug/L			11/20/19 23:29	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/20/19 23:29	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/20/19 23:29	1
Cyclohexane	ND		1.0	0.18	ug/L			11/20/19 23:29	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/20/19 23:29	1
Dibromomethane	ND		1.0	0.41	ug/L			11/20/19 23:29	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/20/19 23:29	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/20/19 23:29	1
Ethyl acetate	ND	*	1.0	0.66	ug/L			11/20/19 23:29	1
Ethyl ether	ND		1.0	0.72	ug/L			11/20/19 23:29	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/20/19 23:29	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/20/19 23:29	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/20/19 23:29	1
Hexane	ND		10	0.40	ug/L			11/20/19 23:29	1
Iodomethane	ND		1.0	0.30	ug/L			11/20/19 23:29	1
Isobutanol	ND	*	25	4.8	ug/L			11/20/19 23:29	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/20/19 23:29	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/20/19 23:29	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/20/19 23:29	1
Methyl acetate	ND		2.5	1.3	ug/L			11/20/19 23:29	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/20/19 23:29	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/20/19 23:29	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/20/19 23:29	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/20/19 23:29	1
Naphthalene	ND		1.0	0.43	ug/L			11/20/19 23:29	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/20/19 23:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/20/19 23:29	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/20/19 23:29	1
o-Xylene	ND		1.0	0.76	ug/L			11/20/19 23:29	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/20/19 23:29	1
p-Cymene	ND		1.0	0.31	ug/L			11/20/19 23:29	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/20/19 23:29	1
Styrene	ND		1.0	0.73	ug/L			11/20/19 23:29	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/20/19 23:29	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/20/19 23:29	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/20/19 23:29	1
Tetrahydrofuran	ND	*	5.0	1.3	ug/L			11/20/19 23:29	1
Toluene	ND		1.0	0.51	ug/L			11/20/19 23:29	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/20/19 23:29	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/20/19 23:29	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/20/19 23:29	1
Trichloroethene	ND		1.0	0.46	ug/L			11/20/19 23:29	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/20/19 23:29	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		5.0	0.85	ug/L			11/20/19 23:29	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/20/19 23:29	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/20/19 23:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		77 - 120					11/20/19 23:29	1
4-Bromofluorobenzene (Surr)	96		73 - 120					11/20/19 23:29	1
Toluene-d8 (Surr)	111		80 - 120					11/20/19 23:29	1

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/20/19 23:53	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/20/19 23:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/20/19 23:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/20/19 23:53	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/20/19 23:53	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/20/19 23:53	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/20/19 23:53	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/20/19 23:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 23:53	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/20/19 23:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 23:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/20/19 23:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/20/19 23:53	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/20/19 23:53	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/20/19 23:53	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/20/19 23:53	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/20/19 23:53	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/20/19 23:53	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/20/19 23:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/20/19 23:53	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/20/19 23:53	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/20/19 23:53	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/20/19 23:53	1
1,4-Dioxane	ND		40	9.3	ug/L			11/20/19 23:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/20/19 23:53	1
2-Butanone (MEK)	ND *		10	1.3	ug/L			11/20/19 23:53	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/20/19 23:53	1
2-Hexanone	ND		5.0	1.2	ug/L			11/20/19 23:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/20/19 23:53	1
Acetone	ND		10	3.0	ug/L			11/20/19 23:53	1
Acetonitrile	ND		15	4.9	ug/L			11/20/19 23:53	1
Acrolein	ND		20	0.91	ug/L			11/20/19 23:53	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/20/19 23:53	1
Benzene	ND		1.0	0.41	ug/L			11/20/19 23:53	1
Bromobenzene	ND		1.0	0.80	ug/L			11/20/19 23:53	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		1.0	0.87	ug/L			11/20/19 23:53	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/20/19 23:53	1
Bromoform	ND		1.0	0.26	ug/L			11/20/19 23:53	1
Bromomethane	ND		1.0	0.69	ug/L			11/20/19 23:53	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/20/19 23:53	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/20/19 23:53	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/20/19 23:53	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/20/19 23:53	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/20/19 23:53	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/20/19 23:53	1
Chloroethane	ND		1.0	0.32	ug/L			11/20/19 23:53	1
Chloroform	ND		1.0	0.34	ug/L			11/20/19 23:53	1
Chloromethane	ND		1.0	0.35	ug/L			11/20/19 23:53	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/20/19 23:53	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/20/19 23:53	1
Cyclohexane	ND		1.0	0.18	ug/L			11/20/19 23:53	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/20/19 23:53	1
Dibromomethane	ND		1.0	0.41	ug/L			11/20/19 23:53	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/20/19 23:53	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/20/19 23:53	1
Ethyl acetate	ND *		1.0	0.66	ug/L			11/20/19 23:53	1
Ethyl ether	ND		1.0	0.72	ug/L			11/20/19 23:53	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/20/19 23:53	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/20/19 23:53	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/20/19 23:53	1
Hexane	ND		10	0.40	ug/L			11/20/19 23:53	1
Iodomethane	ND		1.0	0.30	ug/L			11/20/19 23:53	1
Isobutanol	ND *		25	4.8	ug/L			11/20/19 23:53	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/20/19 23:53	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/20/19 23:53	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/20/19 23:53	1
Methyl acetate	ND		2.5	1.3	ug/L			11/20/19 23:53	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/20/19 23:53	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/20/19 23:53	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/20/19 23:53	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/20/19 23:53	1
Naphthalene	ND		1.0	0.43	ug/L			11/20/19 23:53	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/20/19 23:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/20/19 23:53	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/20/19 23:53	1
o-Xylene	ND		1.0	0.76	ug/L			11/20/19 23:53	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/20/19 23:53	1
p-Cymene	ND		1.0	0.31	ug/L			11/20/19 23:53	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/20/19 23:53	1
Styrene	ND		1.0	0.73	ug/L			11/20/19 23:53	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/20/19 23:53	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/20/19 23:53	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/20/19 23:53	1
Tetrahydrofuran	ND *		5.0	1.3	ug/L			11/20/19 23:53	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.51	ug/L			11/20/19 23:53	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/20/19 23:53	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/20/19 23:53	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/20/19 23:53	1
Trichloroethene	0.47	J	1.0	0.46	ug/L			11/20/19 23:53	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/20/19 23:53	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/20/19 23:53	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/20/19 23:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/20/19 23:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/20/19 23:53	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/20/19 23:53	1
Toluene-d8 (Surr)	109		80 - 120		11/20/19 23:53	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/21/19 00:20	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/21/19 00:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/21/19 00:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/21/19 00:20	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/21/19 00:20	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/21/19 00:20	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/21/19 00:20	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/21/19 00:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/21/19 00:20	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/21/19 00:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/21/19 00:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/21/19 00:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/21/19 00:20	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/21/19 00:20	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/21/19 00:20	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/21/19 00:20	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/21/19 00:20	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/21/19 00:20	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/21/19 00:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/21/19 00:20	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/21/19 00:20	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/21/19 00:20	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/21/19 00:20	1
1,4-Dioxane	ND		40	9.3	ug/L			11/21/19 00:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/21/19 00:20	1
2-Butanone (MEK)	ND	*	10	1.3	ug/L			11/21/19 00:20	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/21/19 00:20	1
2-Hexanone	ND		5.0	1.2	ug/L			11/21/19 00:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/21/19 00:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L			11/21/19 00:20	1
Acetonitrile	ND		15	4.9	ug/L			11/21/19 00:20	1
Acrolein	ND		20	0.91	ug/L			11/21/19 00:20	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/21/19 00:20	1
Benzene	ND		1.0	0.41	ug/L			11/21/19 00:20	1
Bromobenzene	ND		1.0	0.80	ug/L			11/21/19 00:20	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/21/19 00:20	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/21/19 00:20	1
Bromoform	ND		1.0	0.26	ug/L			11/21/19 00:20	1
Bromomethane	ND		1.0	0.69	ug/L			11/21/19 00:20	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/21/19 00:20	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/21/19 00:20	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/21/19 00:20	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/21/19 00:20	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/21/19 00:20	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/21/19 00:20	1
Chloroethane	ND		1.0	0.32	ug/L			11/21/19 00:20	1
Chloroform	ND		1.0	0.34	ug/L			11/21/19 00:20	1
Chloromethane	ND		1.0	0.35	ug/L			11/21/19 00:20	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/21/19 00:20	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/21/19 00:20	1
Cyclohexane	ND		1.0	0.18	ug/L			11/21/19 00:20	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/21/19 00:20	1
Dibromomethane	ND		1.0	0.41	ug/L			11/21/19 00:20	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/21/19 00:20	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/21/19 00:20	1
Ethyl acetate	ND *		1.0	0.66	ug/L			11/21/19 00:20	1
Ethyl ether	ND		1.0	0.72	ug/L			11/21/19 00:20	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/21/19 00:20	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/21/19 00:20	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/21/19 00:20	1
Hexane	ND		10	0.40	ug/L			11/21/19 00:20	1
Iodomethane	ND		1.0	0.30	ug/L			11/21/19 00:20	1
Isobutanol	ND *		25	4.8	ug/L			11/21/19 00:20	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/21/19 00:20	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/21/19 00:20	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/21/19 00:20	1
Methyl acetate	ND		2.5	1.3	ug/L			11/21/19 00:20	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/21/19 00:20	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/21/19 00:20	1
Methylene Chloride	1.5		1.0	0.44	ug/L			11/21/19 00:20	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/21/19 00:20	1
Naphthalene	ND		1.0	0.43	ug/L			11/21/19 00:20	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/21/19 00:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/21/19 00:20	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/21/19 00:20	1
o-Xylene	ND		1.0	0.76	ug/L			11/21/19 00:20	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/21/19 00:20	1
p-Cymene	ND		1.0	0.31	ug/L			11/21/19 00:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/21/19 00:20	1
Styrene	ND		1.0	0.73	ug/L			11/21/19 00:20	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/21/19 00:20	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/21/19 00:20	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/21/19 00:20	1
Tetrahydrofuran	ND	*	5.0	1.3	ug/L			11/21/19 00:20	1
Toluene	ND		1.0	0.51	ug/L			11/21/19 00:20	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/21/19 00:20	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/21/19 00:20	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/21/19 00:20	1
Trichloroethene	1.0		1.0	0.46	ug/L			11/21/19 00:20	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/21/19 00:20	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/21/19 00:20	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/21/19 00:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/21/19 00:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		77 - 120		11/21/19 00:20	1
4-Bromofluorobenzene (Surr)	95		73 - 120		11/21/19 00:20	1
Toluene-d8 (Surr)	114		80 - 120		11/21/19 00:20	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/21/19 00:44	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/21/19 00:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/21/19 00:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/21/19 00:44	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/21/19 00:44	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/21/19 00:44	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/21/19 00:44	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/21/19 00:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/21/19 00:44	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/21/19 00:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/21/19 00:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/21/19 00:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/21/19 00:44	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/21/19 00:44	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/21/19 00:44	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/21/19 00:44	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/21/19 00:44	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/21/19 00:44	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/21/19 00:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/21/19 00:44	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/21/19 00:44	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/21/19 00:44	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/21/19 00:44	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		40	9.3	ug/L			11/21/19 00:44	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/21/19 00:44	1
2-Butanone (MEK)	ND	*	10	1.3	ug/L			11/21/19 00:44	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/21/19 00:44	1
2-Hexanone	ND		5.0	1.2	ug/L			11/21/19 00:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/21/19 00:44	1
Acetone	ND		10	3.0	ug/L			11/21/19 00:44	1
Acetonitrile	ND		15	4.9	ug/L			11/21/19 00:44	1
Acrolein	ND		20	0.91	ug/L			11/21/19 00:44	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/21/19 00:44	1
Benzene	ND		1.0	0.41	ug/L			11/21/19 00:44	1
Bromobenzene	ND		1.0	0.80	ug/L			11/21/19 00:44	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/21/19 00:44	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/21/19 00:44	1
Bromoform	ND		1.0	0.26	ug/L			11/21/19 00:44	1
Bromomethane	ND		1.0	0.69	ug/L			11/21/19 00:44	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/21/19 00:44	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/21/19 00:44	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/21/19 00:44	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/21/19 00:44	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/21/19 00:44	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/21/19 00:44	1
Chloroethane	ND		1.0	0.32	ug/L			11/21/19 00:44	1
Chloroform	ND		1.0	0.34	ug/L			11/21/19 00:44	1
Chloromethane	ND		1.0	0.35	ug/L			11/21/19 00:44	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/21/19 00:44	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/21/19 00:44	1
Cyclohexane	ND		1.0	0.18	ug/L			11/21/19 00:44	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/21/19 00:44	1
Dibromomethane	ND		1.0	0.41	ug/L			11/21/19 00:44	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/21/19 00:44	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/21/19 00:44	1
Ethyl acetate	ND	*	1.0	0.66	ug/L			11/21/19 00:44	1
Ethyl ether	ND		1.0	0.72	ug/L			11/21/19 00:44	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/21/19 00:44	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/21/19 00:44	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/21/19 00:44	1
Hexane	ND		10	0.40	ug/L			11/21/19 00:44	1
Iodomethane	ND		1.0	0.30	ug/L			11/21/19 00:44	1
Isobutanol	ND	*	25	4.8	ug/L			11/21/19 00:44	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/21/19 00:44	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/21/19 00:44	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/21/19 00:44	1
Methyl acetate	ND		2.5	1.3	ug/L			11/21/19 00:44	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/21/19 00:44	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/21/19 00:44	1
Methylene Chloride	0.60	J	1.0	0.44	ug/L			11/21/19 00:44	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/21/19 00:44	1
Naphthalene	ND		1.0	0.43	ug/L			11/21/19 00:44	1

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.64	ug/L			11/21/19 00:44	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/21/19 00:44	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/21/19 00:44	1
o-Xylene	ND		1.0	0.76	ug/L			11/21/19 00:44	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/21/19 00:44	1
p-Cymene	ND		1.0	0.31	ug/L			11/21/19 00:44	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/21/19 00:44	1
Styrene	ND		1.0	0.73	ug/L			11/21/19 00:44	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/21/19 00:44	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/21/19 00:44	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/21/19 00:44	1
Tetrahydrofuran	ND *		5.0	1.3	ug/L			11/21/19 00:44	1
Toluene	ND		1.0	0.51	ug/L			11/21/19 00:44	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/21/19 00:44	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/21/19 00:44	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/21/19 00:44	1
Trichloroethene	1.1		1.0	0.46	ug/L			11/21/19 00:44	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/21/19 00:44	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/21/19 00:44	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/21/19 00:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/21/19 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120		11/21/19 00:44	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/21/19 00:44	1
Toluene-d8 (Surr)	110		80 - 120		11/21/19 00:44	1

Client Sample ID: TRIP BLANK
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/21/19 01:08	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/21/19 01:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/21/19 01:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/21/19 01:08	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/21/19 01:08	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/21/19 01:08	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/21/19 01:08	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/21/19 01:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/21/19 01:08	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/21/19 01:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/21/19 01:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/21/19 01:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/21/19 01:08	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/21/19 01:08	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/21/19 01:08	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/21/19 01:08	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/21/19 01:08	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: TRIP BLANK

Date Collected: 11/13/19 09:30

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/21/19 01:08	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/21/19 01:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/21/19 01:08	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/21/19 01:08	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/21/19 01:08	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/21/19 01:08	1
1,4-Dioxane	ND		40	9.3	ug/L			11/21/19 01:08	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/21/19 01:08	1
2-Butanone (MEK)	ND	*	10	1.3	ug/L			11/21/19 01:08	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/21/19 01:08	1
2-Hexanone	ND		5.0	1.2	ug/L			11/21/19 01:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/21/19 01:08	1
Acetone	ND		10	3.0	ug/L			11/21/19 01:08	1
Acetonitrile	ND		15	4.9	ug/L			11/21/19 01:08	1
Acrolein	ND		20	0.91	ug/L			11/21/19 01:08	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/21/19 01:08	1
Benzene	ND		1.0	0.41	ug/L			11/21/19 01:08	1
Bromobenzene	ND		1.0	0.80	ug/L			11/21/19 01:08	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/21/19 01:08	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/21/19 01:08	1
Bromoform	ND		1.0	0.26	ug/L			11/21/19 01:08	1
Bromomethane	ND		1.0	0.69	ug/L			11/21/19 01:08	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/21/19 01:08	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/21/19 01:08	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/21/19 01:08	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/21/19 01:08	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/21/19 01:08	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/21/19 01:08	1
Chloroethane	ND		1.0	0.32	ug/L			11/21/19 01:08	1
Chloroform	ND		1.0	0.34	ug/L			11/21/19 01:08	1
Chloromethane	ND		1.0	0.35	ug/L			11/21/19 01:08	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/21/19 01:08	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/21/19 01:08	1
Cyclohexane	ND		1.0	0.18	ug/L			11/21/19 01:08	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/21/19 01:08	1
Dibromomethane	ND		1.0	0.41	ug/L			11/21/19 01:08	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/21/19 01:08	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/21/19 01:08	1
Ethyl acetate	ND	*	1.0	0.66	ug/L			11/21/19 01:08	1
Ethyl ether	ND		1.0	0.72	ug/L			11/21/19 01:08	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/21/19 01:08	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/21/19 01:08	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/21/19 01:08	1
Hexane	ND		10	0.40	ug/L			11/21/19 01:08	1
Iodomethane	ND		1.0	0.30	ug/L			11/21/19 01:08	1
Isobutanol	ND	*	25	4.8	ug/L			11/21/19 01:08	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/21/19 01:08	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/21/19 01:08	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/21/19 01:08	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: TRIP BLANK

Date Collected: 11/13/19 09:30

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	ND		2.5	1.3	ug/L			11/21/19 01:08	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/21/19 01:08	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/21/19 01:08	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/21/19 01:08	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/21/19 01:08	1
Naphthalene	ND		1.0	0.43	ug/L			11/21/19 01:08	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/21/19 01:08	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/21/19 01:08	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/21/19 01:08	1
o-Xylene	ND		1.0	0.76	ug/L			11/21/19 01:08	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/21/19 01:08	1
p-Cymene	ND		1.0	0.31	ug/L			11/21/19 01:08	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/21/19 01:08	1
Styrene	ND		1.0	0.73	ug/L			11/21/19 01:08	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/21/19 01:08	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/21/19 01:08	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/21/19 01:08	1
Tetrahydrofuran	ND *		5.0	1.3	ug/L			11/21/19 01:08	1
Toluene	ND		1.0	0.51	ug/L			11/21/19 01:08	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/21/19 01:08	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/21/19 01:08	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/21/19 01:08	1
Trichloroethene	ND		1.0	0.46	ug/L			11/21/19 01:08	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/21/19 01:08	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/21/19 01:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/21/19 01:08	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/21/19 01:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/21/19 01:08	1
4-Bromofluorobenzene (Surr)	95		73 - 120		11/21/19 01:08	1
Toluene-d8 (Surr)	110		80 - 120		11/21/19 01:08	1

Method: 6010D - Metals (ICP) - Total Recoverable

Client Sample ID: MW-43

Date Collected: 11/13/19 09:30

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:32	1
Iron, Total	2.3	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 14:51	1

Client Sample ID: MW-29A

Date Collected: 11/13/19 10:25

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	0.0022	J	0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:34	1
Iron, Total	3.5	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 15:04	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 6010D - Metals (ICP) - Total Recoverable

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:37	1
Iron, Total	0.94	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 15:06	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:39	1
Iron, Total	0.20	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 15:09	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:42	1
Iron, Total	0.21	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 15:11	1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	4.9		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 22:37	1
Iron, Dissolved	ND		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 22:37	1
Magnesium, Dissolved	2.0		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 22:37	1
Potassium, Dissolved	0.64	J	1.0	0.24	mg/L		12/10/19 08:00	12/10/19 22:37	1
Sodium, Dissolved	2.5		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 22:37	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	6.0		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 22:50	1
Iron, Dissolved	3.4		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 22:50	1
Magnesium, Dissolved	3.5		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 22:50	1
Potassium, Dissolved	0.35	J	1.0	0.24	mg/L		12/10/19 08:00	12/10/19 22:50	1
Sodium, Dissolved	3.2		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 22:50	1

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	39		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 22:54	1
Iron, Dissolved	0.86		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 22:54	1
Magnesium, Dissolved	19		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 22:54	1
Potassium, Dissolved	1.2		1.0	0.24	mg/L		12/10/19 08:00	12/10/19 22:54	1
Sodium, Dissolved	14		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 22:54	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	14		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 22:57	1
Iron, Dissolved	0.12		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 22:57	1
Magnesium, Dissolved	7.3		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 22:57	1
Potassium, Dissolved	1.2		1.0	0.24	mg/L		12/10/19 08:00	12/10/19 22:57	1
Sodium, Dissolved	5.7		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 22:57	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	14		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 23:00	1
Iron, Dissolved	0.13		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 23:00	1
Magnesium, Dissolved	7.3		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 23:00	1
Potassium, Dissolved	1.2		1.0	0.24	mg/L		12/10/19 08:00	12/10/19 23:00	1
Sodium, Dissolved	5.7		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 23:00	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:27	1
Barium, Total	0.0051		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:27	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:27	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:27	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:27	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:27	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:27	1
Manganese, Total	0.018		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:13	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:27	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:13	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:27	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:27	1
Vanadium, Total	0.0025		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:27	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:27	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:31	1
Barium, Total	0.0068		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:31	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:31	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:31	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:31	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:31	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:31	1
Manganese, Total	1.2		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:17	1
Nickel, Total	0.0015	J	0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:31	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:17	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:31	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:31	1
Vanadium, Total	0.0018	J	0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:31	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:31	1

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:35	1
Barium, Total	0.0075		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:35	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:35	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:35	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:35	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:35	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:35	1
Manganese, Total	3.3		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:21	1
Nickel, Total	0.0017	J	0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:35	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:21	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:35	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:35	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:35	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:35	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:38	1
Barium, Total	0.0040		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:38	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:38	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:38	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:38	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:38	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:38	1
Manganese, Total	1.2		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:25	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:38	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:25	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:38	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:38	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:38	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:38	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:42	1
Barium, Total	0.0041		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:42	1

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Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:42	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:42	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:42	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:42	1
Lead, Total	0.00035	J	0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:42	1
Manganese, Total	1.1		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:29	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:42	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:29	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:42	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:42	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:42	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:42	1

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

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.0075		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 03:05	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	1.2		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 03:09	1

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	3.1		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 03:12	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	1.2		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 03:16	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	1.1		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 03:19	1

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

General Chemistry

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/08/19 05:00	1
Sulfate	ND		5.0	5.0	mg/L			12/08/19 05:00	1
Ammonia (as N)	ND		0.030	0.030	mg/L			11/20/19 12:40	1
Nitrate as N	0.71		0.050	0.050	mg/L			12/02/19 14:42	1
Alkalinity, Total (As CaCO3)	22		10	10	mg/L			11/21/19 14:14	1
Alkalinity, Bicarbonate (As CaCO3)	22		10	10	mg/L			11/21/19 14:14	1
Total Dissolved Solids (TDS)	55		5.0	5.0	mg/L			11/18/19 08:50	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/19/19 08:27	1
Total Organic Carbon - Average	1.2		1.0	1.0	mg/L			12/08/19 17:42	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	F1	3.0	3.0	mg/L			12/08/19 05:17	1
Sulfate	ND		5.0	5.0	mg/L			12/08/19 05:17	1
Ammonia (as N)	0.082		0.030	0.030	mg/L			11/20/19 12:58	1
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1
Alkalinity, Total (As CaCO3)	36		10	10	mg/L			11/20/19 17:04	1
Alkalinity, Bicarbonate (As CaCO3)	36		10	10	mg/L			11/20/19 17:04	1
Total Dissolved Solids (TDS)	55		5.0	5.0	mg/L			11/18/19 08:50	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/19/19 08:27	1
Total Organic Carbon - Average	1.5		1.0	1.0	mg/L			12/08/19 17:56	1

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		3.0	3.0	mg/L			12/08/19 06:27	1
Sulfate	16		5.0	5.0	mg/L			12/08/19 06:27	1
Ammonia (as N)	0.040		0.030	0.030	mg/L			11/20/19 13:00	1
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1
Alkalinity, Total (As CaCO3)	170		10	10	mg/L			11/21/19 14:20	1
Alkalinity, Bicarbonate (As CaCO3)	170		10	10	mg/L			11/21/19 14:20	1
Total Dissolved Solids (TDS)	260		5.0	5.0	mg/L			11/18/19 08:50	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/19/19 08:27	1
Total Organic Carbon - Average	1.7		1.0	1.0	mg/L			12/08/19 18:13	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/08/19 06:45	1
Sulfate	ND		5.0	5.0	mg/L			12/08/19 06:45	1
Ammonia (as N)	0.48		0.030	0.030	mg/L			11/20/19 13:02	1
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1
Alkalinity, Total (As CaCO3)	77		10	10	mg/L			11/20/19 17:25	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

General Chemistry (Continued)

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Bicarbonate (As CaCO3)	77		10	10	mg/L			11/20/19 17:25	1
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L			11/18/19 08:50	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/19/19 08:27	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/08/19 18:28	1

Client Sample ID: DUP2
Date Collected: 11/13/19 13:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/08/19 07:37	1
Sulfate	ND		5.0	5.0	mg/L			12/08/19 07:37	1
Ammonia (as N)	0.48		0.030	0.030	mg/L			11/20/19 13:04	1
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1
Alkalinity, Total (As CaCO3)	78		10	10	mg/L			11/20/19 17:30	1
Alkalinity, Bicarbonate (As CaCO3)	78		10	10	mg/L			11/20/19 17:30	1
Total Dissolved Solids (TDS)	100		5.0	5.0	mg/L			11/18/19 08:50	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/19/19 08:27	1
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/08/19 19:12	1

Method: Field Sampling - Field Sampling

Client Sample ID: MW-43
Date Collected: 11/13/19 09:30
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-1
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	26.76				ft			11/13/19 10:30	1
Specific Conductivity	56				umhos/cm			11/13/19 10:30	1
Dissolved Oxygen	2.00				mg/L			11/13/19 10:30	1
eH	320.5				millivolts			11/13/19 10:30	1
Turbidity	5.41				NTU			11/13/19 10:30	1
Temperature	10.03				Degrees C			11/13/19 10:30	1
pH	5.36				SU			11/13/19 10:30	1

Client Sample ID: MW-29A
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	15.28				ft			11/13/19 11:25	1
Specific Conductivity	89				umhos/cm			11/13/19 11:25	1
Dissolved Oxygen	0.25				mg/L			11/13/19 11:25	1
eH	138.7				millivolts			11/13/19 11:25	1
Turbidity	1.48				NTU			11/13/19 11:25	1
Temperature	10.74				Degrees C			11/13/19 11:25	1
pH	6.02				SU			11/13/19 11:25	1

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: Field Sampling - Field Sampling

Client Sample ID: MW-32
Date Collected: 11/13/19 11:47
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	2.43				ft			11/13/19 12:47	1
Specific Conductivity	415				umhos/cm			11/13/19 12:47	1
Dissolved Oxygen	0.53				mg/L			11/13/19 12:47	1
eH	49.1				millivolts			11/13/19 12:47	1
Turbidity	1.44				NTU			11/13/19 12:47	1
Temperature	11.43				Degrees C			11/13/19 12:47	1
pH	6.73				SU			11/13/19 12:47	1

Client Sample ID: MW-19C
Date Collected: 11/13/19 12:50
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	36.22				ft			11/13/19 13:50	1
Specific Conductivity	165				umhos/cm			11/13/19 13:50	1
Dissolved Oxygen	0.25				mg/L			11/13/19 13:50	1
eH	94.9				millivolts			11/13/19 13:50	1
Turbidity	2.07				NTU			11/13/19 13:50	1
Temperature	10.15				Degrees C			11/13/19 13:50	1
pH	6.76				SU			11/13/19 13:50	1

Surrogate Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (77-120)	BFB (73-120)	TOL (80-120)
280-130884-1	MW-43	108	97	111
280-130884-2	MW-29A	111	96	111
280-130884-3	MW-32	107	98	109
280-130884-4	MW-19C	113	95	114
280-130884-5	DUP2	110	99	110
280-130884-6	TRIP BLANK	107	95	110
LCS 480-505716/6	Lab Control Sample	108	98	109
LCSD 480-505716/7	Lab Control Sample Dup	106	94	108
MB 480-505716/9	Method Blank	112	96	112

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DBFM (50-150)	TBA (50-150)
280-130884-1	MW-43	106	88
280-130884-2	MW-29A	108	88
280-130884-3	MW-32	103	85
280-130884-4	MW-19C	107	85
280-130884-5	DUP2	108	83
280-130884-6	TRIP BLANK	108	95
LCS 480-505843/6	Lab Control Sample	109	87
LCSD 480-505843/7	Lab Control Sample Dup	109	87
MB 480-505843/9	Method Blank	110	80

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TBA = TBA-d9 (Surr)

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-505716/9
Matrix: Water
Analysis Batch: 505716

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/20/19 22:40	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/20/19 22:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/20/19 22:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/20/19 22:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/20/19 22:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/20/19 22:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/20/19 22:40	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/20/19 22:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 22:40	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/20/19 22:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/20/19 22:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/20/19 22:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/20/19 22:40	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/20/19 22:40	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/20/19 22:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/20/19 22:40	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/20/19 22:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/20/19 22:40	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/20/19 22:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/20/19 22:40	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/20/19 22:40	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/20/19 22:40	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/20/19 22:40	1
1,4-Dioxane	ND		40	9.3	ug/L			11/20/19 22:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/20/19 22:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/20/19 22:40	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/20/19 22:40	1
2-Hexanone	ND		5.0	1.2	ug/L			11/20/19 22:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/20/19 22:40	1
Acetone	ND		10	3.0	ug/L			11/20/19 22:40	1
Acetonitrile	ND		15	4.9	ug/L			11/20/19 22:40	1
Acrolein	ND		20	0.91	ug/L			11/20/19 22:40	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/20/19 22:40	1
Benzene	ND		1.0	0.41	ug/L			11/20/19 22:40	1
Bromobenzene	ND		1.0	0.80	ug/L			11/20/19 22:40	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/20/19 22:40	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/20/19 22:40	1
Bromoform	ND		1.0	0.26	ug/L			11/20/19 22:40	1
Bromomethane	ND		1.0	0.69	ug/L			11/20/19 22:40	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/20/19 22:40	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/20/19 22:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/20/19 22:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/20/19 22:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/20/19 22:40	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/20/19 22:40	1
Chloroethane	ND		1.0	0.32	ug/L			11/20/19 22:40	1
Chloroform	ND		1.0	0.34	ug/L			11/20/19 22:40	1
Chloromethane	ND		1.0	0.35	ug/L			11/20/19 22:40	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: MB 480-505716/9
Matrix: Water
Analysis Batch: 505716

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/20/19 22:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/20/19 22:40	1
Cyclohexane	ND		1.0	0.18	ug/L			11/20/19 22:40	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/20/19 22:40	1
Dibromomethane	ND		1.0	0.41	ug/L			11/20/19 22:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/20/19 22:40	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/20/19 22:40	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/20/19 22:40	1
Ethyl ether	ND		1.0	0.72	ug/L			11/20/19 22:40	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/20/19 22:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/20/19 22:40	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/20/19 22:40	1
Hexane	ND		10	0.40	ug/L			11/20/19 22:40	1
Iodomethane	ND		1.0	0.30	ug/L			11/20/19 22:40	1
Isobutanol	ND		25	4.8	ug/L			11/20/19 22:40	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/20/19 22:40	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/20/19 22:40	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/20/19 22:40	1
Methyl acetate	ND		2.5	1.3	ug/L			11/20/19 22:40	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/20/19 22:40	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/20/19 22:40	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/20/19 22:40	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/20/19 22:40	1
Naphthalene	ND		1.0	0.43	ug/L			11/20/19 22:40	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/20/19 22:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/20/19 22:40	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/20/19 22:40	1
o-Xylene	ND		1.0	0.76	ug/L			11/20/19 22:40	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/20/19 22:40	1
p-Cymene	ND		1.0	0.31	ug/L			11/20/19 22:40	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/20/19 22:40	1
Styrene	ND		1.0	0.73	ug/L			11/20/19 22:40	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/20/19 22:40	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/20/19 22:40	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/20/19 22:40	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/20/19 22:40	1
Toluene	ND		1.0	0.51	ug/L			11/20/19 22:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/20/19 22:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/20/19 22:40	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/20/19 22:40	1
Trichloroethene	ND		1.0	0.46	ug/L			11/20/19 22:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/20/19 22:40	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/20/19 22:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/20/19 22:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		77 - 120		11/20/19 22:40	1
4-Bromofluorobenzene (Surr)	96		73 - 120		11/20/19 22:40	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: MB 480-505716/9
Matrix: Water
Analysis Batch: 505716

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	112		80 - 120		11/20/19 22:40	1

Lab Sample ID: LCS 480-505716/6
Matrix: Water
Analysis Batch: 505716

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.3		ug/L		97	80 - 120
1,1,1-Trichloroethane	25.0	24.4		ug/L		97	73 - 126
1,1,2,2-Tetrachloroethane	25.0	28.6		ug/L		115	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.9		ug/L		92	61 - 148
1,1,2-Trichloroethane	25.0	28.1		ug/L		112	76 - 122
1,1-Dichloroethane	25.0	25.9		ug/L		104	77 - 120
1,1-Dichloroethene	25.0	24.0		ug/L		96	66 - 127
1,1-Dichloropropene	25.0	25.0		ug/L		100	72 - 122
1,2,3-Trichlorobenzene	25.0	23.3		ug/L		93	75 - 123
1,2,3-Trichloropropane	25.0	26.7		ug/L		107	68 - 122
1,2,4-Trichlorobenzene	25.0	23.2		ug/L		93	79 - 122
1,2,4-Trimethylbenzene	25.0	26.6		ug/L		106	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	25.6		ug/L		102	56 - 134
1,2-Dibromoethane (EDB)	25.0	25.8		ug/L		103	77 - 120
1,2-Dichlorobenzene	25.0	25.6		ug/L		103	80 - 124
1,2-Dichloroethane	25.0	25.1		ug/L		100	75 - 120
1,2-Dichloropropane	25.0	25.9		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	25.0	26.4		ug/L		106	77 - 121
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	77 - 120
1,3-Dichloropropane	25.0	27.2		ug/L		109	75 - 120
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	80 - 120
1,4-Dioxane	500	528		ug/L		106	50 - 150
2,2-Dichloropropane	25.0	22.5		ug/L		90	63 - 136
2-Butanone (MEK)	125	233	*	ug/L		187	57 - 140
2-Chloroethyl vinyl ether	25.0	28.1		ug/L		112	70 - 129
2-Hexanone	125	147		ug/L		118	65 - 127
4-Methyl-2-pentanone (MIBK)	125	140		ug/L		112	71 - 125
Acetone	125	113		ug/L		90	56 - 142
Acrolein	125	112		ug/L		90	52 - 143
Acrylonitrile	250	243		ug/L		97	63 - 125
Benzene	25.0	24.3		ug/L		97	71 - 124
Bromobenzene	25.0	25.7		ug/L		103	78 - 120
Bromochloromethane	25.0	22.3		ug/L		89	72 - 130
Bromodichloromethane	25.0	24.1		ug/L		96	80 - 122
Bromoform	25.0	23.1		ug/L		92	61 - 132
Bromomethane	25.0	23.4		ug/L		93	55 - 144
Butyl alcohol, tert-	250	240		ug/L		96	75 - 125
Carbon disulfide	25.0	24.7		ug/L		99	59 - 134
Carbon tetrachloride	25.0	22.8		ug/L		91	72 - 134
Chlorobenzene	25.0	25.6		ug/L		102	80 - 120
Chloroethane	25.0	25.4		ug/L		102	69 - 136

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: LCS 480-505716/6

Matrix: Water

Analysis Batch: 505716

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	25.0	21.3		ug/L		85	73 - 127
Chloromethane	25.0	24.1		ug/L		96	68 - 124
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	74 - 124
cis-1,3-Dichloropropene	25.0	25.2		ug/L		101	74 - 124
Cyclohexane	25.0	23.9		ug/L		96	59 - 135
Dibromochloromethane	25.0	25.7		ug/L		103	75 - 125
Dibromomethane	25.0	25.6		ug/L		102	76 - 127
Dichlorodifluoromethane	25.0	19.4		ug/L		78	59 - 135
Dichlorofluoromethane	25.0	24.1		ug/L		96	76 - 127
Ethyl ether	25.0	24.8		ug/L		99	76 - 123
Ethylbenzene	25.0	25.7		ug/L		103	77 - 123
Hexachlorobutadiene	25.0	19.9		ug/L		79	68 - 131
Iodomethane	25.0	23.3		ug/L		93	78 - 123
Isobutanol	625	554		ug/L		89	51 - 150
Isopropylbenzene	25.0	26.9		ug/L		108	77 - 122
Methyl acetate	50.0	50.4		ug/L		101	74 - 133
Methyl tert-butyl ether	25.0	24.4		ug/L		98	77 - 120
Methylcyclohexane	25.0	21.7		ug/L		87	68 - 134
Methylene Chloride	25.0	24.6		ug/L		98	75 - 124
m-Xylene & p-Xylene	25.0	25.2		ug/L		101	76 - 122
Naphthalene	25.0	24.8		ug/L		99	66 - 125
n-Butylbenzene	25.0	26.3		ug/L		105	71 - 128
N-Propylbenzene	25.0	27.3		ug/L		109	75 - 127
o-Chlorotoluene	25.0	26.7		ug/L		107	76 - 121
o-Xylene	25.0	25.2		ug/L		101	76 - 122
p-Chlorotoluene	25.0	27.4		ug/L		110	77 - 121
p-Cymene	25.0	25.5		ug/L		102	73 - 120
sec-Butylbenzene	25.0	26.6		ug/L		106	74 - 127
Styrene	25.0	25.7		ug/L		103	80 - 120
tert-Butylbenzene	25.0	26.1		ug/L		104	75 - 123
Tetrachloroethene	25.0	27.6		ug/L		110	74 - 122
Tetrahydrofuran	50.0	66.4	*	ug/L		133	62 - 132
Toluene	25.0	25.5		ug/L		102	80 - 122
trans-1,2-Dichloroethene	25.0	23.9		ug/L		95	73 - 127
trans-1,3-Dichloropropene	25.0	26.7		ug/L		107	80 - 120
trans-1,4-Dichloro-2-butene	25.0	25.6		ug/L		102	41 - 131
Trichloroethene	25.0	25.0		ug/L		100	74 - 123
Trichlorofluoromethane	25.0	22.6		ug/L		90	62 - 150
Vinyl acetate	50.0	59.8		ug/L		120	50 - 144
Vinyl chloride	25.0	24.9		ug/L		100	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		77 - 120
4-Bromofluorobenzene (Surr)	98		73 - 120
Toluene-d8 (Surr)	109		80 - 120

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: LCSD 480-505716/7

Matrix: Water

Analysis Batch: 505716

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	25.0	25.3		ug/L		101	80 - 120	4	20
1,1,1-Trichloroethane	25.0	24.4		ug/L		97	73 - 126	0	15
1,1,1,2-Tetrachloroethane	25.0	27.9		ug/L		112	76 - 120	3	15
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.3		ug/L		93	61 - 148	1	20
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	76 - 122	4	15
1,1-Dichloroethane	25.0	26.2		ug/L		105	77 - 120	1	20
1,1-Dichloroethene	25.0	24.1		ug/L		96	66 - 127	0	16
1,1-Dichloropropene	25.0	24.8		ug/L		99	72 - 122	0	20
1,2,3-Trichlorobenzene	25.0	25.4		ug/L		102	75 - 123	9	20
1,2,3-Trichloropropane	25.0	26.9		ug/L		108	68 - 122	1	14
1,2,4-Trichlorobenzene	25.0	24.9		ug/L		99	79 - 122	7	20
1,2,4-Trimethylbenzene	25.0	27.2		ug/L		109	76 - 121	2	20
1,2-Dibromo-3-Chloropropane	25.0	25.6		ug/L		102	56 - 134	0	15
1,2-Dibromoethane (EDB)	25.0	25.3		ug/L		101	77 - 120	2	15
1,2-Dichlorobenzene	25.0	26.3		ug/L		105	80 - 124	3	20
1,2-Dichloroethane	25.0	25.1		ug/L		100	75 - 120	0	20
1,2-Dichloropropane	25.0	25.5		ug/L		102	76 - 120	2	20
1,3,5-Trimethylbenzene	25.0	26.7		ug/L		107	77 - 121	1	20
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	77 - 120	1	20
1,3-Dichloropropane	25.0	26.2		ug/L		105	75 - 120	4	20
1,4-Dichlorobenzene	25.0	24.8		ug/L		99	80 - 120	3	20
1,4-Dioxane	500	509		ug/L		102	50 - 150	4	20
2,2-Dichloropropane	25.0	24.6		ug/L		98	63 - 136	9	20
2-Butanone (MEK)	125	214 *		ug/L		171	57 - 140	9	20
2-Chloroethyl vinyl ether	25.0	25.1		ug/L		100	70 - 129	11	20
2-Hexanone	125	126		ug/L		101	65 - 127	15	15
4-Methyl-2-pentanone (MIBK)	125	133		ug/L		106	71 - 125	6	35
Acetone	125	105		ug/L		84	56 - 142	7	15
Acrolein	125	112		ug/L		90	52 - 143	0	20
Acrylonitrile	250	246		ug/L		98	63 - 125	1	20
Benzene	25.0	24.3		ug/L		97	71 - 124	0	13
Bromobenzene	25.0	25.4		ug/L		102	78 - 120	1	15
Bromochloromethane	25.0	23.1		ug/L		93	72 - 130	4	15
Bromodichloromethane	25.0	23.6		ug/L		94	80 - 122	2	15
Bromoform	25.0	22.5		ug/L		90	61 - 132	3	15
Bromomethane	25.0	23.9		ug/L		96	55 - 144	2	15
Butyl alcohol, tert-	250	237		ug/L		95	75 - 125	2	15
Carbon disulfide	25.0	25.0		ug/L		100	59 - 134	1	15
Carbon tetrachloride	25.0	23.1		ug/L		92	72 - 134	2	15
Chlorobenzene	25.0	25.1		ug/L		100	80 - 120	2	25
Chloroethane	25.0	26.3		ug/L		105	69 - 136	3	15
Chloroform	25.0	21.7		ug/L		87	73 - 127	2	20
Chloromethane	25.0	24.4		ug/L		97	68 - 124	1	15
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	74 - 124	1	15
cis-1,3-Dichloropropene	25.0	24.4		ug/L		98	74 - 124	3	15
Cyclohexane	25.0	24.0		ug/L		96	59 - 135	0	20
Dibromochloromethane	25.0	25.2		ug/L		101	75 - 125	2	15
Dibromomethane	25.0	25.4		ug/L		102	76 - 127	1	15

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: LCSD 480-505716/7
Matrix: Water
Analysis Batch: 505716

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	25.0	20.4		ug/L		82	59 - 135	5	20
Dichlorofluoromethane	25.0	24.3		ug/L		97	76 - 127	1	20
Ethyl ether	25.0	25.1		ug/L		101	76 - 123	1	15
Ethylbenzene	25.0	25.1		ug/L		101	77 - 123	2	15
Hexachlorobutadiene	25.0	22.0		ug/L		88	68 - 131	10	20
Iodomethane	25.0	23.8		ug/L		95	78 - 123	2	20
Isobutanol	625	444 *		ug/L		71	51 - 150	22	20
Isopropylbenzene	25.0	27.3		ug/L		109	77 - 122	1	20
Methyl acetate	50.0	47.7		ug/L		95	74 - 133	5	20
Methyl tert-butyl ether	25.0	25.0		ug/L		100	77 - 120	3	37
Methylcyclohexane	25.0	22.5		ug/L		90	68 - 134	4	20
Methylene Chloride	25.0	25.6		ug/L		103	75 - 124	4	15
m-Xylene & p-Xylene	25.0	24.7		ug/L		99	76 - 122	2	16
Naphthalene	25.0	27.0		ug/L		108	66 - 125	8	20
n-Butylbenzene	25.0	26.6		ug/L		107	71 - 128	1	15
N-Propylbenzene	25.0	26.9		ug/L		108	75 - 127	1	15
o-Chlorotoluene	25.0	27.1		ug/L		109	76 - 121	1	20
o-Xylene	25.0	25.3		ug/L		101	76 - 122	0	16
p-Chlorotoluene	25.0	27.1		ug/L		108	77 - 121	1	15
p-Cymene	25.0	26.3		ug/L		105	73 - 120	3	20
sec-Butylbenzene	25.0	27.3		ug/L		109	74 - 127	3	15
Styrene	25.0	24.7		ug/L		99	80 - 120	4	20
tert-Butylbenzene	25.0	26.7		ug/L		107	75 - 123	2	15
Tetrachloroethene	25.0	27.9		ug/L		111	74 - 122	1	20
Tetrahydrofuran	50.0	62.4		ug/L		125	62 - 132	6	20
Toluene	25.0	25.8		ug/L		103	80 - 122	1	15
trans-1,2-Dichloroethene	25.0	24.4		ug/L		98	73 - 127	2	20
trans-1,3-Dichloropropene	25.0	25.6		ug/L		103	80 - 120	4	15
trans-1,4-Dichloro-2-butene	25.0	21.6		ug/L		86	41 - 131	17	20
Trichloroethene	25.0	25.2		ug/L		101	74 - 123	1	16
Trichlorofluoromethane	25.0	23.0		ug/L		92	62 - 150	2	20
Vinyl acetate	50.0	58.7		ug/L		117	50 - 144	2	23
Vinyl chloride	25.0	24.9		ug/L		100	65 - 133	0	15

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	106		77 - 120
4-Bromofluorobenzene (Surr)	94		73 - 120
Toluene-d8 (Surr)	108		80 - 120

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

Lab Sample ID: MB 480-505843/9
Matrix: Water
Analysis Batch: 505843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/21/19 11:38	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: MB 480-505843/9
Matrix: Water
Analysis Batch: 505843

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	110		50 - 150		11/21/19 11:38	1
TBA-d9 (Surr)	80		50 - 150		11/21/19 11:38	1

Lab Sample ID: LCS 480-505843/6
Matrix: Water
Analysis Batch: 505843

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	109		50 - 150
TBA-d9 (Surr)	87		50 - 150

Lab Sample ID: LCSD 480-505843/7
Matrix: Water
Analysis Batch: 505843

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	109		50 - 150
TBA-d9 (Surr)	87		50 - 150

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:24	1

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron, Total	0.0291	J	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 13:53	1

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron, Total	10.0	10.5		mg/L		105	89 - 115

Lab Sample ID: 280-130756-D-1-D MS
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	0.0018	J	1.00	1.04		mg/L		104	82 - 119

Lab Sample ID: 280-130756-D-1-D MS
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Iron, Total	39	B	10.0	47.8		mg/L		91	75 - 125

Lab Sample ID: 280-130756-D-1-E MSD
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cobalt, Total	0.0018	J	1.00	1.03		mg/L		102	82 - 119	1	20

Lab Sample ID: 280-130756-D-1-E MSD
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron, Total	39	B	10.0	47.2		mg/L		85	75 - 125	1	20

Lab Sample ID: MB 280-479874/1-A
Matrix: Water
Analysis Batch: 480246

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	ND		0.20	0.078	mg/L		12/10/19 08:00	12/11/19 10:27	1
Iron, Dissolved	ND		0.060	0.022	mg/L		12/10/19 08:00	12/11/19 10:27	1
Magnesium, Dissolved	ND		0.050	0.026	mg/L		12/10/19 08:00	12/11/19 10:27	1
Potassium, Dissolved	ND		1.0	0.24	mg/L		12/10/19 08:00	12/11/19 10:27	1
Sodium, Dissolved	ND		1.0	0.37	mg/L		12/10/19 08:00	12/11/19 10:27	1

Lab Sample ID: LCS 280-479874/2-A
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium, Dissolved	50.0	50.7		mg/L		101	90 - 111
Iron, Dissolved	10.0	10.0		mg/L		100	89 - 115
Magnesium, Dissolved	50.0	49.7		mg/L		99	90 - 113
Potassium, Dissolved	50.0	48.0		mg/L		96	89 - 114

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-479874/2-A
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium, Dissolved	50.0	48.1		mg/L		96	90 - 115

Lab Sample ID: 280-130884-1 MS
Matrix: Water
Analysis Batch: 480200

Client Sample ID: MW-43
Prep Type: Dissolved
Prep Batch: 479874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium, Dissolved	4.9		50.0	57.6		mg/L		105	75 - 125
Iron, Dissolved	ND		10.0	10.3		mg/L		103	75 - 125
Magnesium, Dissolved	2.0		50.0	53.6		mg/L		103	75 - 125
Potassium, Dissolved	0.64	J	50.0	50.1		mg/L		99	76 - 125
Sodium, Dissolved	2.5		50.0	52.2		mg/L		99	75 - 125

Lab Sample ID: 280-130884-1 MSD
Matrix: Water
Analysis Batch: 480200

Client Sample ID: MW-43
Prep Type: Dissolved
Prep Batch: 479874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium, Dissolved	4.9		50.0	56.4		mg/L		103	75 - 125	2	20
Iron, Dissolved	ND		10.0	10.1		mg/L		101	75 - 125	2	20
Magnesium, Dissolved	2.0		50.0	52.5		mg/L		101	75 - 125	2	20
Potassium, Dissolved	0.64	J	50.0	49.5		mg/L		98	76 - 125	1	20
Sodium, Dissolved	2.5		50.0	51.4		mg/L		98	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-477906/1-A
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:09	1

Lab Sample ID: LCS 280-477906/2-A
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477906

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese, Dissolved	0.0400	0.0412		mg/L		103	89 - 119

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 22:29	1
Barium, Total	ND		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 22:29	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 22:29	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 22:29	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 22:29	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 22:29	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 22:29	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 22:29	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 22:29	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 22:29	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 22:29	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 22:29	1

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Total	ND		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 15:16	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 15:16	1

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony, Total	0.0400	0.0409		mg/L		102	80 - 111
Barium, Total	0.0400	0.0444		mg/L		111	92 - 117
Beryllium, Total	0.0400	0.0435		mg/L		109	87 - 118
Cadmium, Total	0.0400	0.0398		mg/L		100	91 - 114
Chromium, Total	0.0400	0.0383		mg/L		96	91 - 114
Copper, Total	0.0400	0.0380		mg/L		95	89 - 116
Lead, Total	0.0400	0.0425		mg/L		106	95 - 116
Nickel, Total	0.0400	0.0396		mg/L		99	92 - 116
Silver, Total	0.0400	0.0404		mg/L		101	93 - 118
Thallium, Total	0.0400	0.0417		mg/L		104	94 - 115
Vanadium, Total	0.0400	0.0377		mg/L		94	91 - 114
Zinc, Total	0.0400	0.0388		mg/L		97	86 - 120

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese, Total	0.0400	0.0431		mg/L		108	89 - 119
Selenium, Total	0.0400	0.0401		mg/L		100	90 - 115

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony, Total	ND		0.0400	0.0403		mg/L		101	80 - 111
Barium, Total	0.0033		0.0400	0.0455		mg/L		105	92 - 117
Beryllium, Total	0.00014	J	0.0400	0.0457		mg/L		114	87 - 118

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

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

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Cadmium, Total	ND		0.0400	0.0394		mg/L		98	91 - 114	
Chromium, Total	0.0023	J	0.0400	0.0393		mg/L		92	91 - 114	
Copper, Total	ND		0.0400	0.0362		mg/L		91	89 - 116	
Lead, Total	ND		0.0400	0.0416		mg/L		104	95 - 116	
Nickel, Total	ND		0.0400	0.0367		mg/L		92	92 - 116	
Silver, Total	ND		0.0400	0.0403		mg/L		101	93 - 118	
Thallium, Total	ND		0.0400	0.0409		mg/L		102	94 - 115	
Vanadium, Total	0.0041		0.0400	0.0421		mg/L		95	91 - 114	
Zinc, Total	ND		0.0400	0.0370		mg/L		93	86 - 120	

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Manganese, Total	0.00034	J	0.0400	0.0415		mg/L		103	89 - 119	
Selenium, Total	ND		0.0400	0.0391		mg/L		98	90 - 115	

Lab Sample ID: 280-130796-D-1-E MSD
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	
				Result	Qualifier				Limits		RPD	Limit
Antimony, Total	ND		0.0400	0.0414		mg/L		104	80 - 111	3	20	
Barium, Total	0.0033		0.0400	0.0458		mg/L		106	92 - 117	1	20	
Beryllium, Total	0.00014	J	0.0400	0.0444		mg/L		111	87 - 118	3	20	
Cadmium, Total	ND		0.0400	0.0400		mg/L		100	91 - 114	2	20	
Chromium, Total	0.0023	J	0.0400	0.0406		mg/L		96	91 - 114	3	20	
Copper, Total	ND		0.0400	0.0377		mg/L		94	89 - 116	4	20	
Lead, Total	ND		0.0400	0.0427		mg/L		107	95 - 116	3	20	
Nickel, Total	ND		0.0400	0.0388		mg/L		97	92 - 116	6	20	
Silver, Total	ND		0.0400	0.0422		mg/L		106	93 - 118	5	20	
Thallium, Total	ND		0.0400	0.0418		mg/L		105	94 - 115	2	20	
Vanadium, Total	0.0041		0.0400	0.0426		mg/L		96	91 - 114	1	20	
Zinc, Total	ND		0.0400	0.0386		mg/L		97	86 - 120	4	20	

Lab Sample ID: 280-130796-D-1-E MSD
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	
				Result	Qualifier				Limits		RPD	Limit
Manganese, Total	0.00034	J	0.0400	0.0418		mg/L		104	89 - 119	1	20	
Selenium, Total	ND		0.0400	0.0405		mg/L		101	90 - 115	3	20	

Lab Sample ID: 280-130796-E-8-B MS
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 477906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Manganese, Dissolved	3.9		0.0400	4.09	4	mg/L		343	89 - 119	

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: 280-130796-E-8-C MSD
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 477906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese, Dissolved	3.9		0.0400	3.98	4	mg/L		78	89 - 119	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-479905/6
Matrix: Water
Analysis Batch: 479905

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/07/19 13:36	1
Sulfate	ND		5.0	5.0	mg/L			12/07/19 13:36	1

Lab Sample ID: MB 280-479905/89
Matrix: Water
Analysis Batch: 479905

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/08/19 16:04	1
Sulfate	ND		5.0	5.0	mg/L			12/08/19 16:04	1

Lab Sample ID: LCS 280-479905/4
Matrix: Water
Analysis Batch: 479905

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	94.7		mg/L		95	90 - 110
Sulfate	100	94.3		mg/L		94	90 - 110

Lab Sample ID: LCS 280-479905/87
Matrix: Water
Analysis Batch: 479905

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.7		mg/L		99	90 - 110
Sulfate	100	97.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-479905/5
Matrix: Water
Analysis Batch: 479905

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	94.8		mg/L		95	90 - 110	0	10
Sulfate	100	94.2		mg/L		94	90 - 110	0	10

Lab Sample ID: LCSD 280-479905/88
Matrix: Water
Analysis Batch: 479905

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.9		mg/L		99	90 - 110	0	10

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-479905/88
Matrix: Water
Analysis Batch: 479905

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	97.6		mg/L		98	90 - 110	0	10

Lab Sample ID: MRL 280-479905/3
Matrix: Water
Analysis Batch: 479905

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.00	4.31		mg/L		86	50 - 150		
Sulfate	5.00	ND		mg/L		79	50 - 150		

Lab Sample ID: 280-130884-2 MS
Matrix: Water
Analysis Batch: 479905

Client Sample ID: MW-29A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND	F1	50.0	60.6	F1	mg/L		121	80 - 120		
Sulfate	ND		50.0	57.9		mg/L		116	80 - 120		

Lab Sample ID: 280-130884-2 MSD
Matrix: Water
Analysis Batch: 479905

Client Sample ID: MW-29A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND	F1	50.0	60.7	F1	mg/L		121	80 - 120	0	20
Sulfate	ND		50.0	58.0		mg/L		116	80 - 120	0	20

Lab Sample ID: 280-130884-2 DU
Matrix: Water
Analysis Batch: 479905

Client Sample ID: MW-29A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND	F1		ND		mg/L				NC	15
Sulfate	ND			ND		mg/L				NC	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-478349/61
Matrix: Water
Analysis Batch: 478349

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/20/19 12:38	1

Lab Sample ID: LCS 280-478349/59
Matrix: Water
Analysis Batch: 478349

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.50		mg/L		100	90 - 110		

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCSD 280-478349/60
 Matrix: Water
 Analysis Batch: 478349

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.51		mg/L		101	90 - 110	0	10

Method: 353.2 - Nitrate

Lab Sample ID: MB 280-479329/1
 Matrix: Water
 Analysis Batch: 479329

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-478392/5
 Matrix: Water
 Analysis Batch: 478392

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/20/19 15:15	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/20/19 15:15	1

Lab Sample ID: LCS 280-478392/4
 Matrix: Water
 Analysis Batch: 478392

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	203		mg/L		101	89 - 109

Lab Sample ID: 280-130829-A-1 DU
 Matrix: Water
 Analysis Batch: 478392

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	780		779		mg/L		0.2	10

Lab Sample ID: MB 280-478520/5
 Matrix: Water
 Analysis Batch: 478520

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/21/19 13:47	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/21/19 13:47	1

Lab Sample ID: LCS 280-478520/4
 Matrix: Water
 Analysis Batch: 478520

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	204		mg/L		102	89 - 109

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 280-131114-A-2 DU
 Matrix: Water
 Analysis Batch: 478520

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	65		64.9		mg/L		0	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-477990/1
 Matrix: Water
 Analysis Batch: 477990

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	5.0	mg/L			11/18/19 08:50	1

Lab Sample ID: LCS 280-477990/2
 Matrix: Water
 Analysis Batch: 477990

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	485		mg/L		97	93 - 110

Lab Sample ID: LCSD 280-477990/3
 Matrix: Water
 Analysis Batch: 477990

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	501	497		mg/L		99	93 - 110	2	20

Lab Sample ID: 280-130878-A-8 DU
 Matrix: Water
 Analysis Batch: 477990

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	5100		5250		mg/L		3	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-478121/1
 Matrix: Water
 Analysis Batch: 478121

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			11/19/19 08:27	1

Lab Sample ID: LCS 280-478121/2
 Matrix: Water
 Analysis Batch: 478121

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	88.4		mg/L		88	79 - 114

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCSD 280-478121/3
Matrix: Water
Analysis Batch: 478121

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	96.8		mg/L		97	79 - 114	9	20

Lab Sample ID: 280-130884-2 DU
Matrix: Water
Analysis Batch: 478121

Client Sample ID: MW-29A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		ND		mg/L		NC	10

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

Lab Sample ID: MB 280-479998/6
Matrix: Water
Analysis Batch: 479998

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/08/19 15:57	1

Lab Sample ID: LCS 280-479998/4
Matrix: Water
Analysis Batch: 479998

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	23.8		mg/L		95	88 - 112

Lab Sample ID: LCSD 280-479998/5
Matrix: Water
Analysis Batch: 479998

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	26.0		mg/L		104	88 - 112	9	15

Lab Sample ID: 280-130823-B-4 MS
Matrix: Water
Analysis Batch: 479998

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	ND		25.0	27.0		mg/L		108	88 - 112

Lab Sample ID: 280-130823-B-4 MSD
Matrix: Water
Analysis Batch: 479998

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	ND		25.0	27.1		mg/L		108	88 - 112	0	15

QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

GC/MS VOA

Analysis Batch: 505716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	8260C	
280-130884-2	MW-29A	Total/NA	Water	8260C	
280-130884-3	MW-32	Total/NA	Water	8260C	
280-130884-4	MW-19C	Total/NA	Water	8260C	
280-130884-5	DUP2	Total/NA	Water	8260C	
280-130884-6	TRIP BLANK	Total/NA	Water	8260C	
MB 480-505716/9	Method Blank	Total/NA	Water	8260C	
LCS 480-505716/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-505716/7	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 505843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	8260C SIM	
280-130884-2	MW-29A	Total/NA	Water	8260C SIM	
280-130884-3	MW-32	Total/NA	Water	8260C SIM	
280-130884-4	MW-19C	Total/NA	Water	8260C SIM	
280-130884-5	DUP2	Total/NA	Water	8260C SIM	
280-130884-6	TRIP BLANK	Total/NA	Water	8260C SIM	
MB 480-505843/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-505843/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-505843/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Metals

Prep Batch: 477906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Dissolved	Water	3005A	
280-130884-2	MW-29A	Dissolved	Water	3005A	
280-130884-3	MW-32	Dissolved	Water	3005A	
280-130884-4	MW-19C	Dissolved	Water	3005A	
280-130884-5	DUP2	Dissolved	Water	3005A	
MB 280-477906/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-477906/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130796-E-8-B MS	Matrix Spike	Dissolved	Water	3005A	
280-130796-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 479199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total Recoverable	Water	3005A	
280-130884-2	MW-29A	Total Recoverable	Water	3005A	
280-130884-3	MW-32	Total Recoverable	Water	3005A	
280-130884-4	MW-19C	Total Recoverable	Water	3005A	
280-130884-5	DUP2	Total Recoverable	Water	3005A	
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	3005A	
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 479765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total Recoverable	Water	6010D	479199

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Metals (Continued)

Analysis Batch: 479765 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-2	MW-29A	Total Recoverable	Water	6010D	479199
280-130884-3	MW-32	Total Recoverable	Water	6010D	479199
280-130884-4	MW-19C	Total Recoverable	Water	6010D	479199
280-130884-5	DUP2	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	6010D	479199
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	479199

Prep Batch: 479864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total Recoverable	Water	3005A	
280-130884-2	MW-29A	Total Recoverable	Water	3005A	
280-130884-3	MW-32	Total Recoverable	Water	3005A	
280-130884-4	MW-19C	Total Recoverable	Water	3005A	
280-130884-5	DUP2	Total Recoverable	Water	3005A	
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	3005A	
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 479874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Dissolved	Water	3005A	
280-130884-2	MW-29A	Dissolved	Water	3005A	
280-130884-3	MW-32	Dissolved	Water	3005A	
280-130884-4	MW-19C	Dissolved	Water	3005A	
280-130884-5	DUP2	Dissolved	Water	3005A	
MB 280-479874/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479874/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130884-1 MS	MW-43	Dissolved	Water	3005A	
280-130884-1 MSD	MW-43	Dissolved	Water	3005A	

Analysis Batch: 479958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total Recoverable	Water	6010D	479199
280-130884-2	MW-29A	Total Recoverable	Water	6010D	479199
280-130884-3	MW-32	Total Recoverable	Water	6010D	479199
280-130884-4	MW-19C	Total Recoverable	Water	6010D	479199
280-130884-5	DUP2	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	6010D	479199
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	479199

Analysis Batch: 480078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Dissolved	Water	6020B	477906
280-130884-2	MW-29A	Dissolved	Water	6020B	477906
280-130884-3	MW-32	Dissolved	Water	6020B	477906
280-130884-4	MW-19C	Dissolved	Water	6020B	477906

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Metals (Continued)

Analysis Batch: 480078 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-5	DUP2	Dissolved	Water	6020B	477906
MB 280-477906/1-A	Method Blank	Total Recoverable	Water	6020B	477906
LCS 280-477906/2-A	Lab Control Sample	Total Recoverable	Water	6020B	477906
280-130796-E-8-B MS	Matrix Spike	Dissolved	Water	6020B	477906
280-130796-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	477906

Analysis Batch: 480200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Dissolved	Water	6010D	479874
280-130884-2	MW-29A	Dissolved	Water	6010D	479874
280-130884-3	MW-32	Dissolved	Water	6010D	479874
280-130884-4	MW-19C	Dissolved	Water	6010D	479874
280-130884-5	DUP2	Dissolved	Water	6010D	479874
LCS 280-479874/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479874
280-130884-1 MS	MW-43	Dissolved	Water	6010D	479874
280-130884-1 MSD	MW-43	Dissolved	Water	6010D	479874

Analysis Batch: 480246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-479874/1-A	Method Blank	Total Recoverable	Water	6010D	479874

Analysis Batch: 480312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total Recoverable	Water	6020B	479864
280-130884-2	MW-29A	Total Recoverable	Water	6020B	479864
280-130884-3	MW-32	Total Recoverable	Water	6020B	479864
280-130884-4	MW-19C	Total Recoverable	Water	6020B	479864
280-130884-5	DUP2	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	6020B	479864
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020B	479864

Analysis Batch: 480448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total Recoverable	Water	6020B	479864
280-130884-2	MW-29A	Total Recoverable	Water	6020B	479864
280-130884-3	MW-32	Total Recoverable	Water	6020B	479864
280-130884-4	MW-19C	Total Recoverable	Water	6020B	479864
280-130884-5	DUP2	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	6020B	479864
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020B	479864

General Chemistry

Analysis Batch: 477990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	SM 2540C	
280-130884-2	MW-29A	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

General Chemistry (Continued)

Analysis Batch: 477990 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-3	MW-32	Total/NA	Water	SM 2540C	
280-130884-4	MW-19C	Total/NA	Water	SM 2540C	
280-130884-5	DUP2	Total/NA	Water	SM 2540C	
MB 280-477990/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-477990/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-477990/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-130878-A-8 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 478121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	SM 2540D	
280-130884-2	MW-29A	Total/NA	Water	SM 2540D	
280-130884-3	MW-32	Total/NA	Water	SM 2540D	
280-130884-4	MW-19C	Total/NA	Water	SM 2540D	
280-130884-5	DUP2	Total/NA	Water	SM 2540D	
MB 280-478121/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-478121/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-478121/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-130884-2 DU	MW-29A	Total/NA	Water	SM 2540D	

Analysis Batch: 478349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	350.1	
280-130884-2	MW-29A	Total/NA	Water	350.1	
280-130884-3	MW-32	Total/NA	Water	350.1	
280-130884-4	MW-19C	Total/NA	Water	350.1	
280-130884-5	DUP2	Total/NA	Water	350.1	
MB 280-478349/61	Method Blank	Total/NA	Water	350.1	
LCS 280-478349/59	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-478349/60	Lab Control Sample Dup	Total/NA	Water	350.1	
280-130884-1 MS	MW-43	Total/NA	Water	350.1	
280-130884-1 MSD	MW-43	Total/NA	Water	350.1	

Analysis Batch: 478392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-2	MW-29A	Total/NA	Water	SM 2320B	
280-130884-4	MW-19C	Total/NA	Water	SM 2320B	
280-130884-5	DUP2	Total/NA	Water	SM 2320B	
MB 280-478392/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478392/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-130829-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 478520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	SM 2320B	
280-130884-3	MW-32	Total/NA	Water	SM 2320B	
MB 280-478520/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478520/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-131114-A-2 DU	Duplicate	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

General Chemistry

Analysis Batch: 479329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	353.2	
280-130884-2	MW-29A	Total/NA	Water	353.2	
280-130884-3	MW-32	Total/NA	Water	353.2	
280-130884-4	MW-19C	Total/NA	Water	353.2	
280-130884-5	DUP2	Total/NA	Water	353.2	
MB 280-479329/1	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 479905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	300.0	
280-130884-2	MW-29A	Total/NA	Water	300.0	
280-130884-3	MW-32	Total/NA	Water	300.0	
280-130884-4	MW-19C	Total/NA	Water	300.0	
280-130884-5	DUP2	Total/NA	Water	300.0	
MB 280-479905/6	Method Blank	Total/NA	Water	300.0	
MB 280-479905/89	Method Blank	Total/NA	Water	300.0	
LCS 280-479905/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-479905/87	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-479905/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-479905/88	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-479905/3	Lab Control Sample	Total/NA	Water	300.0	
280-130884-2 MS	MW-29A	Total/NA	Water	300.0	
280-130884-2 MSD	MW-29A	Total/NA	Water	300.0	
280-130884-2 DU	MW-29A	Total/NA	Water	300.0	

Analysis Batch: 479998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	SM 5310B	
280-130884-2	MW-29A	Total/NA	Water	SM 5310B	
280-130884-3	MW-32	Total/NA	Water	SM 5310B	
280-130884-4	MW-19C	Total/NA	Water	SM 5310B	
280-130884-5	DUP2	Total/NA	Water	SM 5310B	
MB 280-479998/6	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-479998/4	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 280-479998/5	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
280-130823-B-4 MS	Matrix Spike	Total/NA	Water	SM 5310B	
280-130823-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Field Service / Mobile Lab

Analysis Batch: 480614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-1	MW-43	Total/NA	Water	Field Sampling	
280-130884-2	MW-29A	Total/NA	Water	Field Sampling	
280-130884-3	MW-32	Total/NA	Water	Field Sampling	
280-130884-4	MW-19C	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: MW-43

Lab Sample ID: 280-130884-1

Date Collected: 11/13/19 09:30

Matrix: Water

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505716	11/20/19 23:05	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505843	11/21/19 12:07	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 22:37	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:32	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 14:51	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 03:05	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:27	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:13	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479905	12/08/19 05:00	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478349	11/20/19 12:40	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478520	11/21/19 14:14	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477990	11/18/19 08:50	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478121	11/19/19 08:27	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479998	12/08/19 17:42	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/13/19 10:30	K11	TAL DEN

Client Sample ID: MW-29A

Lab Sample ID: 280-130884-2

Date Collected: 11/13/19 10:25

Matrix: Water

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505716	11/20/19 23:29	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505843	11/21/19 12:32	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 22:50	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:34	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 15:04	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 03:09	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:31	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:17	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479905	12/08/19 05:17	JAP	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: MW-29A

Date Collected: 11/13/19 10:25

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	478349	11/20/19 12:58	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 17:04	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477990	11/18/19 08:50	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478121	11/19/19 08:27	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479998	12/08/19 17:56	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/13/19 11:25	K1I	TAL DEN

Client Sample ID: MW-32

Date Collected: 11/13/19 11:47

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505716	11/20/19 23:53	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505843	11/21/19 12:56	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 22:54	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:37	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 15:06	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 03:12	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:35	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:21	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479905	12/08/19 06:27	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478349	11/20/19 13:00	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478520	11/21/19 14:20	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477990	11/18/19 08:50	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478121	11/19/19 08:27	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479998	12/08/19 18:13	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/13/19 12:47	K1I	TAL DEN

Client Sample ID: MW-19C

Date Collected: 11/13/19 12:50

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505716	11/21/19 00:20	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505843	11/21/19 13:20	CDC	TAL BUF

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: MW-19C

Lab Sample ID: 280-130884-4

Date Collected: 11/13/19 12:50

Matrix: Water

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 22:57	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:39	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 15:09	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 03:16	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:38	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:25	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479905	12/08/19 06:45	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478349	11/20/19 13:02	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 17:25	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477990	11/18/19 08:50	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478121	11/19/19 08:27	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479998	12/08/19 18:28	SGB	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/13/19 13:50	K1I	TAL DEN

Client Sample ID: DUP2

Lab Sample ID: 280-130884-5

Date Collected: 11/13/19 13:00

Matrix: Water

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505716	11/21/19 00:44	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505843	11/21/19 13:44	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 23:00	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:42	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 15:11	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 03:19	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:42	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:29	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	479905	12/08/19 07:37	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478349	11/20/19 13:04	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF-GW

Job ID: 280-130884-1

Client Sample ID: DUP2

Date Collected: 11/13/19 13:00

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 17:30	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	477990	11/18/19 08:50	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478121	11/19/19 08:27	ECL	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479998	12/08/19 19:12	SGB	TAL DEN

Client Sample ID: TRIP BLANK

Date Collected: 11/13/19 09:30

Date Received: 11/14/19 09:20

Lab Sample ID: 280-130884-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	505716	11/21/19 01:08	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	505843	11/21/19 14:09	CDC	TAL BUF

Laboratory References:

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

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

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



03 December 2019

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.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19K0265	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 enclosed 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.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **19K0265**
 ARI Client Company: **SCS Engineers**
 Client Contact: **Dan Venchiarutti**
 Client Project Name: **OVSL**



Turn-around Requested: **Standard**
 Phone: **425-289-5455**
 Date: **11/14/19**
 Page: **1** of **2**
 No. of Coolers: **1** Cooler Temps: **1.3**

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		Notes/Comments	
					Low level	Total Arsenic		
MW-34C	11/11/19	1051	Water	1	X			
MW-34A	↓	1140	↓	↓	↓			
MW-36A	↓	1233	↓	↓	↓			
MW-15R	↓	1325	↓	↓	↓			
MW-13A	↓	1430	↓	↓	↓			
MW-13B	↓	1508	↓	↓	↓			
MW-35	11/12/19	910	↓	↓	↓			
MW-16	↓	1020	↓	↓	↓			
MW-39	↓	1135	↓	↓	↓			
MW-33A	↓	1305	↓	↓	↓			
Comments/Special Instructions	Relinquished by: <i>[Signature]</i> Printed Name: Sam Greber Company: SCS Date & Time: 11/14/19 1430				Received by: <i>[Signature]</i> Printed Name: Kenny Dang Company: ARI Date & Time: 11/18/19 1047			

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: 121K0265 Turn-around Requested: **Standard** Date: **11/14/19**

ARI Client Company: **SCS Engineers** Phone: **425-289-5455** Page: 2 of 2

Client Contact: **Dan Venchiarutti** No. of Coolers: 1 Cooler Temps: 1.3

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					Notes/Comments	
MW-33C	11/12/19	1350	Water	1							
MW-42	↓	1510									
DUP-1	↓	1530									
MW-43	11/13/19	930									
MW-29A	↓	1025									
MW-32	↓	1147									
MW-19C	↓	1250									
DUP-2	↓	1300									
LP-LCD	↓	1400									
Comments/Special Instructions	Relinquished by: (Signature)	[Signature]		Received by: (Signature)	[Signature]		Relinquished by: (Signature)	[Signature]		Received by: (Signature)	
	Printed Name:	Sam Gaber		Printed Name:	Kenny Dang		Printed Name:	[Blank]		Printed Name:	
	Company:	SCS		Company:	ARI		Company:	[Blank]		Company:	
	Date & Time:	11/14/19 1430		Date & Time:	11/18/19 1047		Date & Time:	[Blank]		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
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-34C	19K0265-01	Water	11-Nov-2019 10:51	18-Nov-2019 10:47
MW-34A	19K0265-02	Water	11-Nov-2019 11:40	18-Nov-2019 10:47
MW-36A	19K0265-03	Water	11-Nov-2019 12:33	18-Nov-2019 10:47
MW-15R	19K0265-04	Water	11-Nov-2019 13:25	18-Nov-2019 10:47
MW-13A	19K0265-05	Water	11-Nov-2019 14:30	18-Nov-2019 10:47
MW-13B	19K0265-06	Water	11-Nov-2019 15:08	18-Nov-2019 10:47
MW-35	19K0265-07	Water	12-Nov-2019 09:10	18-Nov-2019 10:47
MW-16	19K0265-08	Water	12-Nov-2019 10:20	18-Nov-2019 10:47
MW-39	19K0265-09	Water	12-Nov-2019 11:35	18-Nov-2019 10:47
MW-33A	19K0265-10	Water	12-Nov-2019 13:05	18-Nov-2019 10:47
MW-33C	19K0265-11	Water	12-Nov-2019 13:50	18-Nov-2019 10:47
MW-42	19K0265-12	Water	12-Nov-2019 15:10	18-Nov-2019 10:47
DUP-1	19K0265-13	Water	12-Nov-2019 15:30	18-Nov-2019 10:47
MW-43	19K0265-14	Water	13-Nov-2019 09:30	18-Nov-2019 10:47
MW-29A	19K0265-15	Water	13-Nov-2019 10:25	18-Nov-2019 10:47
MW-32	19K0265-16	Water	13-Nov-2019 11:47	18-Nov-2019 10:47
MW-19C	19K0265-17	Water	13-Nov-2019 12:50	18-Nov-2019 10:47
DUP-2	19K0265-18	Water	13-Nov-2019 13:00	18-Nov-2019 10:47
LP-LCD	19K0265-19	Water	13-Nov-2019 14:00	18-Nov-2019 10:47





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 18, 2019 under ARI work order 19K0265. 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.



Cooler Receipt Form

ARI Client: SCS engineers
 COC No(s): _____
 Assigned ARI Job No: 19K0265 (NA)

Project Name: OUGL
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1250 1.3 _____
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 11/18/19 Time: 1047

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
 How were bottles sealed in plastic bags? Individually Grouped
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI NA
 Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: L Bill Date: 11/18/19 Time: 1335 Labels checked by: AB

**** 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: _____



WORK ORDER

19K0265

Client: Test America - Denver	Project Manager: Amanda Volgardsen
Project: OVSL	Project Number: 04204027.20

Preservation Confirmation

Container ID	Container Type	pH	
19K0265-01 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-02 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-03 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-04 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-05 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-06 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-07 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-08 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-09 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-10 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-11 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-12 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-13 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-14 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-15 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-16 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-17 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-18 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-19 A	Miscellaneous container, 1:1 HN03	LL	Pass


Preservation Confirmed By

11/18/19
Date



Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34C
19K0265-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 10:51
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:31
Sample Preparation:	Extract ID: 19K0265-01 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.0000800	0.0199	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34A
19K0265-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 11:40
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:00
Sample Preparation:	Extract ID: 19K0265-02 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000441	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-36A
19K0265-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 12:33
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:39
Sample Preparation:	Extract ID: 19K0265-03 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000507	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-15R
19K0265-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 13:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:46
Sample Preparation:	Extract ID: 19K0265-04 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000198	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13A
19K0265-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 14:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:53
Sample Preparation:	Extract ID: 19K0265-05 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000205	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13B
19K0265-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 15:08
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:42
Sample Preparation:	Extract ID: 19K0265-06 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000322	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-35
19K0265-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 09:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:49
Sample Preparation:	Extract ID: 19K0265-07 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000996	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-16
19K0265-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 10:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:56
Sample Preparation:	Extract ID: 19K0265-08 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000413	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-39
19K0265-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 11:35
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:03
Sample Preparation:	Extract ID: 19K0265-09 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00179	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33A
19K0265-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:05
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:10
Sample Preparation:	Extract ID: 19K0265-10 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000216	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33C
19K0265-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:17
Sample Preparation:	Extract ID: 19K0265-11 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00268	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-42
19K0265-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:23
Sample Preparation:	Extract ID: 19K0265-12 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00181	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-1
19K0265-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:29
Sample Preparation:	Extract ID: 19K0265-13 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00182	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-43
19K0265-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 09:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:35
Sample Preparation:	Extract ID: 19K0265-14 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000514	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-29A
19K0265-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 10:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:41
Sample Preparation:	Extract ID: 19K0265-15 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	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 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-32
19K0265-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 11:47
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:01
Sample Preparation:	Extract ID: 19K0265-16 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0101	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-19C
19K0265-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 12:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:47
Sample Preparation:	Extract ID: 19K0265-17 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00300	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-2
19K0265-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 13:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:07
Sample Preparation:	Extract ID: 19K0265-18 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00289	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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LP-LCD
19K0265-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 14:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:13
Sample Preparation:	Extract ID: 19K0265-19 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	0.0101	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHK0757 - 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 (BHK0757-BLK1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:23					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHK0757-BS1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:27					
Arsenic	75a	0.00461	0.0000400	mg/L	0.00500		92.1	80-120			





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHL0006 - 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 (BHL0006-BLK1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:14					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHL0006-BS1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:19					
Arsenic	75a	0.00456	0.0000400	mg/L	0.00500		91.3	80-120			





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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 reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Chain of Custody Record

Client Information
 Client Contact: Mr. Patrick Madej
 Company: Waste Management
 Address: 2615 Davis Street
 City: San Leandro
 State, Zip: CA, 94577
 Phone: 425-766-3362
 Email: Gorator@wmsengineers.com
 Project Name: WA02(Olympic View Sanitary LF)
 Event Desc: SemiAnnual GW Appl/II - May Nov
 Site: Washington

Sampler: Samba
 Lab PM: Sara, Betsy A
 E-Mail: betsy.sara@testamericainc.com
 Carrier Tracking No(s): 8113 9338 8516
 8113 9338 3527
 COC No: 280-17318-3224.1
 Page: 1 of 1
 Job #: 24204027.22

Due Date Requested: Standard
TAT Requested (days):
PO #:
WO #:
Project #: 28002692
SSOW#:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoli, BT=Trace, A=Air)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		TDS/AI/CS/ISO/NO3(cad)		Dissolved Metals		Ammonia/TOC		8260B - long list (TA Buffalo)		8260B SIM (TA Buffalo)		Total Metals		TSS		Total Arsenic (direct sub to ARI)		Special Instructions/Note:
					Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
MW-43	11/13/19	430	G	W	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Short Hold: NO3(cad) Arsenic - Direct sub to ARI
MW-29A		1025	G	W	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
MW-32		1147	G	W	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
MW-19C		1250	G	W	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
DUP-2		1300	G	W	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
Trip blank					Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	

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
 Other:

Preservation Codes:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - NCAAA
 W - ph 4-5
 Z - other (specify)

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/OC Requirements:

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: 11/13/19 1630 Company: 505
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seal No.: 1044437 1044436
 Custody Seals Intact: Yes No
 Cooler Temperature(s) °C and Other Remarks: 8.9, 0.4, 2.0, 0.9 IR & JL 11-14-19



4955 Yarrow Street
 Arvada, CO 80002
 Phone (303) 738-0100 Fax (303) 431-7171

Chain of Custody Record

Denver TestAmerica
 #280

THE LEADER IN ENVIRONMENTAL TESTING

Client Information
 Client Contact: Mr. Patrick Madel
 Company: Waste Management
 Address: 2615 Davis Street
 City: San Leandro
 State, Zip: CA, 94577
 Phone: 415-716-3362
 Email: patrick.madel@waste.com

Sampler: Sara Belsy
 Lab PM: Sara Belsy A
 E-Mail: belsy.sara@testamericainc.com
 Carrier Tracking No(s): 813 9338 8516
 813 9338 8527
 Job #: 2420402722
 Page: 1 of 1
 COC No: 280-17318-3224.1

Due Date Requested: Standard 2
 TAT Requested (days):
 PO #:
 WO #:
 Project #: 28002692
 Event Desc: Semi-Annual GW Appl/II - May Nov
 SSSOW #:
 Site: Washington

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)
 Preservation Codes:
 A - HCl
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Ascorbic Acid
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2S03
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4.5
 Z - other (Specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Yewar, Ssolid, O-wastwat, A-wat)	Preservation Code	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:
MW-43	11/13/19	0930	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	11	Short Hold: NO3(cad)
MW-29A		1025	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	Arsenic - Direct sub to ARI
MW-32		1147	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	
MW-19C		1250	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	
Dup-2		1300	G	W		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	
Trp Blank						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: _____ Date/Time: 11/13/19 1630 Company: 305

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seal No.: 1044437 1044436

Custody Seal Intact: Yes No

Received by: _____ Date/Time: 11-14-19 0920 Company: _____

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Cooling Temperature(s) °C and Other Remarks: 0-9, 0-9, 0-9, 0-9 IR 8 JL 11-14-19

Special Instructions/OC Requirements: Return To Client Disposal By Lab Archive For _____ Months

Method of Shipment: _____

IN ID:PWTA

SHIP DATE: 13NOV19
ACTWGT: 59.40 LB
CAD: /SSFE2021
DIMS: 25x13x14 IN

TO TEST AMERICA
TEST AMERICA
4955 YARROW ST

567J1/F330/05R2

ARVADA CO 80002

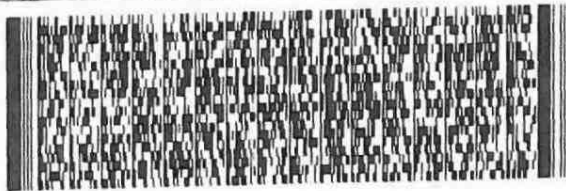
(US)

(303) 736-0100

REF:

DEPT:

INU:
PG:



FedEx
Express



31021110010021

TRK# 8113 9338 8516

0667

THU - 14 NOV 10:30A

PRIORITY OVERNIGHT

AHS

80002

CO-US DEN

XH WHHA



FedEx Express Expanded Billable Stamp

Use only for shipments within the U.S.
Saturday delivery available.

1 From

ORDER: 00834319

612 440 2930

Package Weight

**FedEx
Priority
Overnight®**

Release Signature

For nonresidential deliveries.

For FedEx Use Only

Base Charges

Employee Number

Other

Total Charges

By signing this bill, you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

2 To

Shipment will not be accepted if address below is altered.

M-10091 Rev. 3/10

SAMPLE RECEIVING
TESTAMERICA DENVER
4955 YARROW ST
ARVADA, CO 80002
(303) 736-0100

NONREDEEMABLE
Please see the back of the receipt for important terms and conditions.

SATURDAY DELIVERY!
Shipments tendered on Friday are delivered on Saturday to most locations.



Form ID
0667

8113 9338 8527

There is an official watermark on this document. Hold at an angle to view.

811393388527

- 1
- 2
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- 12
- 13
- 14
- 15

FIELD INFORMATION FORM



Site Name: OU5C
 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): 11/13/19
 PURGE TIME (2400 Hr Clock): 9:10
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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 D-Bailer
 B-Peristaltic Pump E-Piston Pump
 Sampling Device: C C-QED Bladder 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 C-Vacuum
 B-Pressure X-Other
 A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 2676 (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.

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)
9:10	300	4.93	161	10.06		13.42	315.6	
9:15		5.05	160	10.04		12.40	318.9	
9:18		5.14	160	10.04		12.28	319.4	
9:21		5.21	159	10.03		12.15	321.3	
9:24		5.27	157	10.03		12.09	321.5	
9:27		5.31	158	10.05		12.05	321.5	
9:30	✓	5.36	156	10.03	5.41	12.00	320.5	2676

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW 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): 11/13/19
 pH (std): 5.36
 CONDUCTANCE (µmhos/cm @ 25°C): 156
 TEMP. (°C): 10.03
 TURBIDITY (ntu): 5.41
 DO (mg/L - ppm): 2.00
 eH/ORP (mV): 320.5
 Other: OU5C
 Units:
 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 orange Odor: Color: Other:
 Weather Conditions (required daily, or as conditions change): Direction/Speed: Outlook: Precipitation: Y or N

FIELD COMMENTS
9/6/230 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/13/19 Sam Graber
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 0USC
 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): 111319 PURGE TIME (2400 Hr Clock): 110105 ELAPSED HRS (hrs:min): 120
 WATER VOL IN CASING (Gallons): ACTUAL VOL PURGED (Gallons): WELL VOLs PURGED:

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 D-Bailer Filter Type: A A-In-line Disposable C-Vacuum
 B-Peristaltic Pump E-Piston Pump B-Pressure X-Other:
 Sampling Device: C C-QED Bladder Pump F-Dipper/Bottle
 X-Other: Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 1523 (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.

Sample Time (2400 Hr Clock)	Rate/Unit (gal/min)	pH (std)	Conductance (SC/EC) (μmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
110105	300	5.59	89	10.86		1460	3412	
110110		5.84	88	10.75		1058	2946	
110113		5.89	89	10.75		1040	2557	
110116		5.93	87	10.74		1036	2230	
110119		5.98	88	10.73		1029	1741	
110122		6.00	87	10.74		1027	1526	
110125	↓	6.02	89	10.74	148	1025	1387	1582

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp.: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 111319 pH (std): 6.02 CONDUCTANCE (μmhos/cm @ 25°C): 89 TEMP. (°C): 10.74 TURBIDITY (ntu): 148 DO (mg/L-ppm): 0.25 eH/ORP (mV): 1387 Other:
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: Precipitation: Y or N

FIELD COMMENTS
10/5/20 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11, 13, 19 Sam Graber SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 0USC
 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): 11/13/19
 PURGE TIME (2400 Hr Clock): 11:27
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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: or
 Purging Device: C A-Submersible Pump D-Bailer
 Sampling Device: C B-Peristaltic Pump E-Piston Pump
 X-Other: C-QED Bladder Pump F-Dipper/Bottle
 Filter Device: or 0.45 μ or μ (circle or fill in)
 Filter Type: A A-In-line Disposable C-Vacuum
 B-Pressure X-Other:
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC): (ft/msl) Depth to Water (DTW) (from TOC): 243 (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)
		11:27	350	6.12	1389	11.43		1.07	1194.4
	11:32		6.53	1412	11.42		1.00	141.2	
	11:35		6.62	1413	11.42		1.068	107.1	
	11:38		6.66	1414	11.43		1.052	87.7	
	11:41		6.69	1414	11.44		1.058	70.4	
	11:44		6.72	1414	11.44		1.056	58.8	
	11:47	↓	6.73	1415	11.43	1.44	1.053	49.1	

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2, Conductance +/- 3%, Temp. --, Turbidity --, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW 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: <u>DTW</u>
	11/13/19	6.73	1415	11.43	1.44	0.53	49.1	243

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: Precipitation: Y or

Specific Comments (including purge/well volume calculations if required):
9/16/19 psi

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11/13/19 Sam Brater SCS
 Date Name Signature Company

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

FIELD INFORMATION FORM



Site Name: 05SC
 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): 11 13 19
 PURGE TIME (2400 Hr Clock): 12 30
 ELAPSED HRS (hrs:min): 20
 WATER VOL IN CASING (Gallons):
 ACTUAL VOL PURGED (Gallons):
 WELL VOLs PURGED:

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: or N
 Purging Device: C A-Submersible Pump D-Bailer
 B-Peristaltic Pump E-Piston Pump
 Sampling Device: C C-QED Bladder Pump F-Dipper/Bottle
 X-Other:
 Filter Device: or N 0.45 μ or μ (circle or fill in)
 Filter Type: A A-In-line Disposable C-Vacuum
 B-Pressure X-Other
 Sample Tube Type: D A-Teflon C-PVC X-Other:
 B-Stainless Steel D-Polypropylene

WELL DATA
 Well Elevation (at TOC) (ft/msl) Depth to Water (DTW) (from TOC) 36 22 (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)
1121310	340	6.89	1165	10.20		1.70	177.8	
1121315		6.810	1164	10.15		0.48	152.9	
1121320		6.718	1164	10.15		0.37	135.0	
1121411		6.77	1163	10.16		0.34	125.7	
1121414		6.77	1165	10.14		0.29	113.4	
1121417		6.716	1164	10.15		0.27	104.0	
1121510		6.716	1165	10.15	12.07	0.25	94.9	36.22

Suggested range for 3 consec. readings or note Permit/State requirements:
 pH: +/- 0.2 Conductance: +/- 3% Temp: -- Turbidity: -- D.O.: +/- 10% eH/ORP: +/- 25 mV DTW: 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): 11 13 19
 pH (std): 6.76
 CONDUCTANCE (umhos/cm @ 25°C): 165
 TEMP. (°C): 10.15
 TURBIDITY (ntu): 2.07
 DO (mg/L-ppm): 0.25
 eH/ORP (mV): 94.9
 Other: DTW
 Units: 36.22

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: Precipitation: Y or N

FIELD COMMENTS
 Specific Comments (including purge/well volume calculations if required):
9/6/60 psi
Dup 2 collected at 1300

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):
11.13.19 Sam Graber SCS
 Date Name Signature Company

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

Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-130884-1

Login Number: 130884

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Pottruff, Reed W

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: 280-130884-1

Login Number: 130884

List Number: 2

Creator: Hulbert, Michael J

List Source: Eurofins TestAmerica, Buffalo

List Creation: 11/19/19 03:53 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	2.9 #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	



ANALYTICAL REPORT

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

Laboratory Job ID: 280-130886-1

Client Project/Site: WA02|Olympic View Sanitary LF
Sampling Event: Semiannual Leachate Appl/II - May Nov

For:

Waste Management
2615 Davis Street
San Leandro, California 94577

Attn: Mr. Patrick Madej



Authorized for release by:
12/19/2019 4:43:34 PM

Betsy Sara, Project Manager II
(303)736-0189
betsy.sara@testamericainc.com

LINKS

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results through
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www.testamericainc.com

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

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

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



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Definitions/Glossary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD 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.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Job ID: 280-130886-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF

Report Number: 280-130886-1

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

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

Sample Receiving

The sample was received on 11/14/2019; the sample arrived in good condition and on ice. The temperature of the cooler at receipt was 1.8 C.

Holding Times

All holding times were within established control limits.

Method Blanks

Chloroform Method 8260C and Total Iron Method 6010D 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.

All other Method Blank recoveries were within established control limits.

Laboratory Control Samples (LCS)

The Method 8260C LCS recoveries for 2-Butanone (MEK) and Tetrahydrofuran were above control limits. Because the data are considered to be biased high and the associated sample was non-detect above the reporting limits for 2-Butanone (MEK) and Tetrahydrofuran, corrective action was deemed unnecessary.

All other 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 DUP01 (130796) 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.

Sample OBWL-TD-111819 (280-131057-1) was selected to fulfill the laboratory batch quality control requirements for Method 353.2. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Nitrate Nitrite as N 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

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Job ID: 280-130886-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

to matrix interference and no corrective action was taken.

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

Organics

The sample LP-LCD was analyzed at a dilution for Method 8260C and Method 8260C SIM due to foamy matrix. As a result, the reporting limits were elevated.

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.

Metals

The Method 6020B Continuing Calibration Verification (CCV) sample was above the control limits for Total Beryllium. Because the data are considered biased high and Total Beryllium was not detected in the associated sample above the reporting limit, corrective action was deemed unnecessary.

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

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Client Sample ID: LP-LCD

Lab Sample ID: 280-130886-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.2	J	4.0	1.8	ug/L	4		8260C	Total/NA
Cobalt, Total	0.011		0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	0.92	B	0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	110		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	0.036	J	0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	70		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	78		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	630		1.0	0.37	mg/L	1		6010D	Dissolved
Antimony, Total	0.0035		0.0010	0.00040	mg/L	1		6020B	Total Recoverable
Arsenic, Total	0.010		0.0050	0.00033	mg/L	1		6020B	Total Recoverable
Barium, Total	0.17		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Beryllium, Total	0.00026	J ^	0.0010	0.000080	mg/L	1		6020B	Total Recoverable
Cadmium, Total	0.00031		0.00030	0.00027	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0029	J	0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Copper, Total	0.011		0.0020	0.00056	mg/L	1		6020B	Total Recoverable
Lead, Total	0.0042		0.0010	0.00018	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.62		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.087		0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Selenium, Total	0.00067	J	0.0010	0.00037	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.0087		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Zinc, Total	0.020		0.0050	0.0020	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	0.77		0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	620		30	30	mg/L	10		300.0	Total/NA
Sulfate	340		50	50	mg/L	10		300.0	Total/NA
Ammonia (as N)	0.91		0.030	0.030	mg/L	1		350.1	Total/NA
Nitrate as N	10		0.050	0.050	mg/L	1		353.2	Total/NA
Nitrate Nitrite as N	10		0.20	0.20	mg/L	2		353.2	Total/NA
Chemical Oxygen Demand (COD)	140		20	20	mg/L	2		410.4	Total/NA
Alkalinity, Total	850		10	10	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	850		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	2600		10	10	mg/L	1		SM 2540C	Total/NA
Total Organic Carbon - Average	43		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Specific Conductivity	4024				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	7.35				mg/L	1		Field Sampling	Total/NA
eH	201.3				millivolts	1		Field Sampling	Total/NA
Turbidity	9.54				NTU	1		Field Sampling	Total/NA
Temperature	13.19				Degrees C	1		Field Sampling	Total/NA
pH	7.26				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010D	Metals (ICP)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
350.1	Nitrogen, Ammonia	MCAWW	TAL DEN
353.2	Nitrate	EPA	TAL DEN
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL DEN
410.4	COD	MCAWW	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL DEN
SM5210B	BOD, 5 Day	SM	TAL DEN
Field Sampling	Field Sampling	EPA	TAL DEN
Subcontract	Total Arsenic (ARI)	None	SC0056
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
5030C	Purge and Trap	SW846	TAL BUF

Protocol 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.

None = None

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

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

Laboratory References:

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

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

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

Sample Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-130886-1	LP-LCD	Water	11/13/19 14:00	11/14/19 09:20	

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Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.040	ug/L			11/21/19 14:33	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	111		50 - 150					11/21/19 14:33	10
TBA-d9 (Surr)	98		50 - 150					11/21/19 14:33	10

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.0	1.4	ug/L			11/22/19 12:27	4
1,1,1-Trichloroethane	ND		4.0	3.3	ug/L			11/22/19 12:27	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			11/22/19 12:27	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			11/22/19 12:27	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			11/22/19 12:27	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			11/22/19 12:27	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			11/22/19 12:27	4
1,1-Dichloropropene	ND		4.0	2.9	ug/L			11/22/19 12:27	4
1,2,3-Trichlorobenzene	ND		4.0	1.6	ug/L			11/22/19 12:27	4
1,2,3-Trichloropropane	ND		4.0	3.6	ug/L			11/22/19 12:27	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			11/22/19 12:27	4
1,2,4-Trimethylbenzene	ND		4.0	3.0	ug/L			11/22/19 12:27	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			11/22/19 12:27	4
1,2-Dibromoethane (EDB)	ND		4.0	2.9	ug/L			11/22/19 12:27	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			11/22/19 12:27	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			11/22/19 12:27	4
1,2-Dichloroethene, Total	ND		8.0	3.2	ug/L			11/22/19 12:27	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			11/22/19 12:27	4
1,3,5-Trichlorobenzene	ND		4.0	0.92	ug/L			11/22/19 12:27	4
1,3,5-Trimethylbenzene	ND		4.0	3.1	ug/L			11/22/19 12:27	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			11/22/19 12:27	4
1,3-Dichloropropane	ND		4.0	3.0	ug/L			11/22/19 12:27	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			11/22/19 12:27	4
1,4-Dioxane	ND		160	37	ug/L			11/22/19 12:27	4
2,2-Dichloropropane	ND		4.0	1.6	ug/L			11/22/19 12:27	4
2-Butanone (MEK)	ND *		40	5.3	ug/L			11/22/19 12:27	4
2-Chloroethyl vinyl ether	ND		20	3.8	ug/L			11/22/19 12:27	4
2-Hexanone	ND		20	5.0	ug/L			11/22/19 12:27	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			11/22/19 12:27	4
Acetone	ND		40	12	ug/L			11/22/19 12:27	4
Acetonitrile	ND		60	20	ug/L			11/22/19 12:27	4
Acrolein	ND		80	3.6	ug/L			11/22/19 12:27	4
Acrylonitrile	ND		20	3.3	ug/L			11/22/19 12:27	4
Benzene	ND		4.0	1.6	ug/L			11/22/19 12:27	4
Bromobenzene	ND		4.0	3.2	ug/L			11/22/19 12:27	4
Bromochloromethane	ND		4.0	3.5	ug/L			11/22/19 12:27	4
Bromodichloromethane	ND		4.0	1.6	ug/L			11/22/19 12:27	4
Bromoform	ND		4.0	1.0	ug/L			11/22/19 12:27	4

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		4.0	2.8	ug/L			11/22/19 12:27	4
Butyl alcohol, n-	ND		160	35	ug/L			11/22/19 12:27	4
Butyl alcohol, tert-	ND		40	13	ug/L			11/22/19 12:27	4
Carbon disulfide	ND		4.0	0.76	ug/L			11/22/19 12:27	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			11/22/19 12:27	4
Chlorobenzene	ND		4.0	3.0	ug/L			11/22/19 12:27	4
Chlorodifluoromethane	ND		4.0	1.0	ug/L			11/22/19 12:27	4
Chloroethane	ND		4.0	1.3	ug/L			11/22/19 12:27	4
Chloroform	ND		4.0	1.4	ug/L			11/22/19 12:27	4
Chloromethane	ND		4.0	1.4	ug/L			11/22/19 12:27	4
cis-1,2-Dichloroethene	ND		4.0	3.2	ug/L			11/22/19 12:27	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			11/22/19 12:27	4
Cyclohexane	ND		4.0	0.72	ug/L			11/22/19 12:27	4
Dibromochloromethane	ND		4.0	1.3	ug/L			11/22/19 12:27	4
Dibromomethane	ND		4.0	1.6	ug/L			11/22/19 12:27	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			11/22/19 12:27	4
Dichlorofluoromethane	ND		4.0	1.4	ug/L			11/22/19 12:27	4
Ethyl acetate	ND	*	4.0	2.6	ug/L			11/22/19 12:27	4
Ethyl ether	ND		4.0	2.9	ug/L			11/22/19 12:27	4
Ethyl tert-butyl ether	ND		4.0	1.2	ug/L			11/22/19 12:27	4
Ethylbenzene	ND		4.0	3.0	ug/L			11/22/19 12:27	4
Hexachlorobutadiene	ND		8.0	1.1	ug/L			11/22/19 12:27	4
Hexane	ND		40	1.6	ug/L			11/22/19 12:27	4
Iodomethane	ND		4.0	1.2	ug/L			11/22/19 12:27	4
Isobutanol	ND		100	19	ug/L			11/22/19 12:27	4
Isopropyl ether	ND		4.0	2.4	ug/L			11/22/19 12:27	4
Isopropylbenzene	ND		4.0	3.2	ug/L			11/22/19 12:27	4
Methacrylonitrile	ND		20	2.8	ug/L			11/22/19 12:27	4
Methyl acetate	ND		10	5.2	ug/L			11/22/19 12:27	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			11/22/19 12:27	4
Methylcyclohexane	ND		4.0	0.64	ug/L			11/22/19 12:27	4
Methylene Chloride	2.2	J	4.0	1.8	ug/L			11/22/19 12:27	4
m-Xylene & p-Xylene	ND		8.0	2.6	ug/L			11/22/19 12:27	4
Naphthalene	ND		4.0	1.7	ug/L			11/22/19 12:27	4
n-Butylbenzene	ND		4.0	2.6	ug/L			11/22/19 12:27	4
N-Propylbenzene	ND		4.0	2.8	ug/L			11/22/19 12:27	4
o-Chlorotoluene	ND		4.0	3.4	ug/L			11/22/19 12:27	4
o-Xylene	ND		4.0	3.0	ug/L			11/22/19 12:27	4
p-Chlorotoluene	ND		4.0	3.4	ug/L			11/22/19 12:27	4
p-Cymene	ND		4.0	1.2	ug/L			11/22/19 12:27	4
sec-Butylbenzene	ND		4.0	3.0	ug/L			11/22/19 12:27	4
Styrene	ND		4.0	2.9	ug/L			11/22/19 12:27	4
Tert-amyl methyl ether	ND		4.0	1.1	ug/L			11/22/19 12:27	4
tert-Butylbenzene	ND		4.0	3.2	ug/L			11/22/19 12:27	4
Tetrachloroethene	ND		4.0	1.4	ug/L			11/22/19 12:27	4
Tetrahydrofuran	ND	*	20	5.0	ug/L			11/22/19 12:27	4
Toluene	ND		4.0	2.0	ug/L			11/22/19 12:27	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			11/22/19 12:27	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			11/22/19 12:27	4

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.0	0.88	ug/L			11/22/19 12:27	4
Trichloroethene	ND		4.0	1.8	ug/L			11/22/19 12:27	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			11/22/19 12:27	4
Vinyl acetate	ND		20	3.4	ug/L			11/22/19 12:27	4
Vinyl chloride	ND		4.0	3.6	ug/L			11/22/19 12:27	4

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/22/19 12:27	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/22/19 12:27	4
4-Bromofluorobenzene (Surr)	92		73 - 120		11/22/19 12:27	4
Toluene-d8 (Surr)	108		80 - 120		11/22/19 12:27	4

Method: 6010D - Metals (ICP) - Total Recoverable

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	0.011		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 22:45	1
Iron, Total	0.92	B	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 15:14	1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	110		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 23:17	1
Iron, Dissolved	0.036	J	0.060	0.022	mg/L		12/10/19 08:00	12/10/19 23:17	1
Magnesium, Dissolved	70		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 23:17	1
Potassium, Dissolved	78		1.0	0.24	mg/L		12/10/19 08:00	12/10/19 23:17	1
Sodium, Dissolved	630		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 23:17	1

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	0.0035		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:54	1
Arsenic, Total	0.010		0.0050	0.00033	mg/L		12/11/19 07:50	12/11/19 23:54	1
Barium, Total	0.17		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:54	1
Beryllium, Total	0.00026	J ^	0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:54	1
Cadmium, Total	0.00031		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:54	1
Chromium, Total	0.0029	J	0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:54	1
Copper, Total	0.011		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:54	1
Lead, Total	0.0042		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:54	1
Manganese, Total	0.62		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:48	1
Nickel, Total	0.087		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:54	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Total	0.00067	J	0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:48	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:54	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:54	1
Vanadium, Total	0.0087		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:54	1
Zinc, Total	0.020		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:54	1

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

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.77		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:37	1

General Chemistry

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	620		30	30	mg/L			12/10/19 15:34	10
Sulfate	340		50	50	mg/L			12/10/19 15:34	10
Ammonia (as N)	0.91		0.030	0.030	mg/L			11/20/19 14:28	1
Nitrate as N	10		0.050	0.050	mg/L			12/02/19 14:42	1
Nitrate Nitrite as N	10		0.20	0.20	mg/L			11/27/19 19:46	2
Chemical Oxygen Demand (COD)	140		20	20	mg/L			11/22/19 15:41	2
Alkalinity, Total	850		10	10	mg/L			11/20/19 18:31	1
Bicarbonate Alkalinity as CaCO3	850		10	10	mg/L			11/20/19 18:31	1
Total Dissolved Solids (TDS)	2600		10	10	mg/L			11/18/19 08:50	1
Total Organic Carbon - Average	43		1.0	1.0	mg/L			12/05/19 11:10	1
Biochemical Oxygen Demand	ND		2.5	2.5	mg/L			11/14/19 18:01	1

Method: Field Sampling - Field Sampling

Client Sample ID: LP-LCD
Date Collected: 11/13/19 14:00
Date Received: 11/14/19 09:20

Lab Sample ID: 280-130886-1
Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductivity	4024				umhos/cm			11/13/19 15:00	1
Dissolved Oxygen	7.35				mg/L			11/13/19 15:00	1
eH	201.3				millivolts			11/13/19 15:00	1
Turbidity	9.54				NTU			11/13/19 15:00	1
Temperature	13.19				Degrees C			11/13/19 15:00	1
pH	7.26				SU			11/13/19 15:00	1

Surrogate Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (77-120)	BFB (73-120)	TOL (80-120)
280-130886-1	LP-LCD	102	92	108
LCS 480-506108/5	Lab Control Sample	104	94	105
MB 480-506108/8	Method Blank	104	93	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBFM (50-150)	TBA (50-150)
280-130886-1	LP-LCD	111	98
LCS 480-505843/6	Lab Control Sample	109	87
LCSD 480-505843/7	Lab Control Sample Dup	109	87
MB 480-505843/9	Method Blank	110	80

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TBA = TBA-d9 (Surr)

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-506108/8
Matrix: Water
Analysis Batch: 506108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/22/19 11:22	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/22/19 11:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/22/19 11:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/22/19 11:22	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/22/19 11:22	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/22/19 11:22	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/22/19 11:22	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/22/19 11:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 11:22	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/22/19 11:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 11:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/22/19 11:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/22/19 11:22	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/22/19 11:22	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/22/19 11:22	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/22/19 11:22	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/22/19 11:22	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/22/19 11:22	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/22/19 11:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/22/19 11:22	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/22/19 11:22	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/22/19 11:22	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/22/19 11:22	1
1,4-Dioxane	ND		40	9.3	ug/L			11/22/19 11:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/22/19 11:22	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/22/19 11:22	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/22/19 11:22	1
2-Hexanone	ND		5.0	1.2	ug/L			11/22/19 11:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/22/19 11:22	1
Acetone	ND		10	3.0	ug/L			11/22/19 11:22	1
Acetonitrile	ND		15	4.9	ug/L			11/22/19 11:22	1
Acrolein	ND		20	0.91	ug/L			11/22/19 11:22	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/22/19 11:22	1
Benzene	ND		1.0	0.41	ug/L			11/22/19 11:22	1
Bromobenzene	ND		1.0	0.80	ug/L			11/22/19 11:22	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/22/19 11:22	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/22/19 11:22	1
Bromoform	ND		1.0	0.26	ug/L			11/22/19 11:22	1
Bromomethane	ND		1.0	0.69	ug/L			11/22/19 11:22	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/22/19 11:22	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/22/19 11:22	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/22/19 11:22	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/22/19 11:22	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/22/19 11:22	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/22/19 11:22	1
Chloroethane	ND		1.0	0.32	ug/L			11/22/19 11:22	1
Chloroform	0.588	J	1.0	0.34	ug/L			11/22/19 11:22	1
Chloromethane	ND		1.0	0.35	ug/L			11/22/19 11:22	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: MB 480-506108/8
Matrix: Water
Analysis Batch: 506108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/22/19 11:22	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/22/19 11:22	1
Cyclohexane	ND		1.0	0.18	ug/L			11/22/19 11:22	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/22/19 11:22	1
Dibromomethane	ND		1.0	0.41	ug/L			11/22/19 11:22	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/22/19 11:22	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/22/19 11:22	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/22/19 11:22	1
Ethyl ether	ND		1.0	0.72	ug/L			11/22/19 11:22	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/22/19 11:22	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/22/19 11:22	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/22/19 11:22	1
Hexane	ND		10	0.40	ug/L			11/22/19 11:22	1
Iodomethane	ND		1.0	0.30	ug/L			11/22/19 11:22	1
Isobutanol	ND		25	4.8	ug/L			11/22/19 11:22	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/22/19 11:22	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/22/19 11:22	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/22/19 11:22	1
Methyl acetate	ND		2.5	1.3	ug/L			11/22/19 11:22	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/22/19 11:22	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/22/19 11:22	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/22/19 11:22	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/22/19 11:22	1
Naphthalene	ND		1.0	0.43	ug/L			11/22/19 11:22	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/22/19 11:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/22/19 11:22	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/22/19 11:22	1
o-Xylene	ND		1.0	0.76	ug/L			11/22/19 11:22	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/22/19 11:22	1
p-Cymene	ND		1.0	0.31	ug/L			11/22/19 11:22	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/22/19 11:22	1
Styrene	ND		1.0	0.73	ug/L			11/22/19 11:22	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/22/19 11:22	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/22/19 11:22	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/22/19 11:22	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/22/19 11:22	1
Toluene	ND		1.0	0.51	ug/L			11/22/19 11:22	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/22/19 11:22	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/22/19 11:22	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/22/19 11:22	1
Trichloroethene	ND		1.0	0.46	ug/L			11/22/19 11:22	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/22/19 11:22	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/22/19 11:22	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/22/19 11:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/22/19 11:22	1
4-Bromofluorobenzene (Surr)	93		73 - 120		11/22/19 11:22	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: MB 480-506108/8
Matrix: Water
Analysis Batch: 506108

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 120		11/22/19 11:22	1

Lab Sample ID: LCS 480-506108/5
Matrix: Water
Analysis Batch: 506108

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.1		ug/L		96	80 - 120
1,1,1-Trichloroethane	25.0	24.8		ug/L		99	73 - 126
1,1,2,2-Tetrachloroethane	25.0	27.7		ug/L		111	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	61 - 148
1,1,2-Trichloroethane	25.0	27.5		ug/L		110	76 - 122
1,1-Dichloroethane	25.0	26.4		ug/L		105	77 - 120
1,1-Dichloroethene	25.0	24.8		ug/L		99	66 - 127
1,1-Dichloropropene	25.0	25.4		ug/L		101	72 - 122
1,2,3-Trichlorobenzene	25.0	23.2		ug/L		93	75 - 123
1,2,3-Trichloropropane	25.0	26.6		ug/L		106	68 - 122
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		94	79 - 122
1,2,4-Trimethylbenzene	25.0	26.0		ug/L		104	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	25.5		ug/L		102	56 - 134
1,2-Dibromoethane (EDB)	25.0	25.7		ug/L		103	77 - 120
1,2-Dichlorobenzene	25.0	25.1		ug/L		101	80 - 124
1,2-Dichloroethane	25.0	25.1		ug/L		100	75 - 120
1,2-Dichloropropane	25.0	26.1		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	25.0	26.0		ug/L		104	77 - 121
1,3-Dichlorobenzene	25.0	24.3		ug/L		97	77 - 120
1,3-Dichloropropane	25.0	27.0		ug/L		108	75 - 120
1,4-Dichlorobenzene	25.0	24.5		ug/L		98	80 - 120
1,4-Dioxane	500	598		ug/L		120	50 - 150
2,2-Dichloropropane	25.0	25.7		ug/L		103	63 - 136
2-Butanone (MEK)	125	240	*	ug/L		192	57 - 140
2-Chloroethyl vinyl ether	25.0	27.6		ug/L		110	70 - 129
2-Hexanone	125	142		ug/L		113	65 - 127
4-Methyl-2-pentanone (MIBK)	125	141		ug/L		113	71 - 125
Acetone	125	134		ug/L		107	56 - 142
Acrolein	125	123		ug/L		99	52 - 143
Acrylonitrile	250	263		ug/L		105	63 - 125
Benzene	25.0	24.5		ug/L		98	71 - 124
Bromobenzene	25.0	25.1		ug/L		100	78 - 120
Bromochloromethane	25.0	22.8		ug/L		91	72 - 130
Bromodichloromethane	25.0	24.0		ug/L		96	80 - 122
Bromoform	25.0	22.7		ug/L		91	61 - 132
Bromomethane	25.0	19.3		ug/L		77	55 - 144
Butyl alcohol, tert-	250	279		ug/L		112	75 - 125
Carbon disulfide	25.0	25.7		ug/L		103	59 - 134
Carbon tetrachloride	25.0	23.0		ug/L		92	72 - 134
Chlorobenzene	25.0	25.4		ug/L		102	80 - 120
Chloroethane	25.0	25.5		ug/L		102	69 - 136

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: LCS 480-506108/5

Matrix: Water

Analysis Batch: 506108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	25.0	21.7		ug/L		87	73 - 127
Chloromethane	25.0	24.8		ug/L		99	68 - 124
cis-1,2-Dichloroethene	25.0	24.1		ug/L		96	74 - 124
cis-1,3-Dichloropropene	25.0	25.8		ug/L		103	74 - 124
Cyclohexane	25.0	23.9		ug/L		96	59 - 135
Dibromochloromethane	25.0	25.5		ug/L		102	75 - 125
Dibromomethane	25.0	25.7		ug/L		103	76 - 127
Dichlorodifluoromethane	25.0	19.0		ug/L		76	59 - 135
Dichlorofluoromethane	25.0	23.5		ug/L		94	76 - 127
Ethyl ether	25.0	25.0		ug/L		100	76 - 123
Ethylbenzene	25.0	25.3		ug/L		101	77 - 123
Hexachlorobutadiene	25.0	21.0		ug/L		84	68 - 131
Iodomethane	25.0	23.8		ug/L		95	78 - 123
Isobutanol	625	705		ug/L		113	51 - 150
Isopropylbenzene	25.0	26.3		ug/L		105	77 - 122
Methyl acetate	50.0	54.4		ug/L		109	74 - 133
Methyl tert-butyl ether	25.0	24.9		ug/L		100	77 - 120
Methylcyclohexane	25.0	22.2		ug/L		89	68 - 134
Methylene Chloride	25.0	25.1		ug/L		100	75 - 124
m-Xylene & p-Xylene	25.0	25.2		ug/L		101	76 - 122
Naphthalene	25.0	25.1		ug/L		100	66 - 125
n-Butylbenzene	25.0	26.4		ug/L		106	71 - 128
N-Propylbenzene	25.0	26.4		ug/L		105	75 - 127
o-Chlorotoluene	25.0	26.3		ug/L		105	76 - 121
o-Xylene	25.0	25.2		ug/L		101	76 - 122
p-Chlorotoluene	25.0	26.5		ug/L		106	77 - 121
p-Cymene	25.0	25.3		ug/L		101	73 - 120
sec-Butylbenzene	25.0	26.3		ug/L		105	74 - 127
Styrene	25.0	25.2		ug/L		101	80 - 120
tert-Butylbenzene	25.0	26.1		ug/L		104	75 - 123
Tetrachloroethene	25.0	25.4		ug/L		102	74 - 122
Tetrahydrofuran	50.0	68.4	*	ug/L		137	62 - 132
Toluene	25.0	25.5		ug/L		102	80 - 122
trans-1,2-Dichloroethene	25.0	24.4		ug/L		98	73 - 127
trans-1,3-Dichloropropene	25.0	27.0		ug/L		108	80 - 120
trans-1,4-Dichloro-2-butene	25.0	24.9		ug/L		99	41 - 131
Trichloroethene	25.0	25.1		ug/L		100	74 - 123
Trichlorofluoromethane	25.0	20.7		ug/L		83	62 - 150
Vinyl acetate	50.0	65.8		ug/L		132	50 - 144
Vinyl chloride	25.0	24.9		ug/L		99	65 - 133

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	104		77 - 120
4-Bromofluorobenzene (Surr)	94		73 - 120
Toluene-d8 (Surr)	105		80 - 120

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: MB 480-505843/9
Matrix: Water
Analysis Batch: 505843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/21/19 11:38	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	110		50 - 150					11/21/19 11:38	1
TBA-d9 (Surr)	80		50 - 150					11/21/19 11:38	1

Lab Sample ID: LCS 480-505843/6
Matrix: Water
Analysis Batch: 505843

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Vinyl chloride	0.200	0.175		ug/L		88	50 - 150	
Surrogate	%Recovery	LCS Qualifier	Limits					
Dibromofluoromethane (Surr)	109		50 - 150					
TBA-d9 (Surr)	87		50 - 150					

Lab Sample ID: LCSD 480-505843/7
Matrix: Water
Analysis Batch: 505843

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	0.200	0.188		ug/L		94	50 - 150	7	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
Dibromofluoromethane (Surr)	109		50 - 150						
TBA-d9 (Surr)	87		50 - 150						

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/05/19 07:55	12/05/19 21:24	1

Lab Sample ID: MB 280-479199/1-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Total	0.0291	J	0.060	0.022	mg/L		12/05/19 07:55	12/06/19 13:53	1

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	1.00	1.05		mg/L		105	89 - 111

Lab Sample ID: LCS 280-479199/2-A
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron, Total	10.0	10.5		mg/L		105	89 - 115

Lab Sample ID: 280-130756-D-1-D MS
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	0.0018	J	1.00	1.04		mg/L		104	82 - 119

Lab Sample ID: 280-130756-D-1-D MS
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Iron, Total	39	B	10.0	47.8		mg/L		91	75 - 125

Lab Sample ID: 280-130756-D-1-E MSD
Matrix: Water
Analysis Batch: 479765

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Cobalt, Total	0.0018	J	1.00	1.03		mg/L		102	82 - 119	1	20

Lab Sample ID: 280-130756-D-1-E MSD
Matrix: Water
Analysis Batch: 479958

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479199
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Iron, Total	39	B	10.0	47.2		mg/L		85	75 - 125	1	20

Lab Sample ID: MB 280-479874/1-A
Matrix: Water
Analysis Batch: 480246

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	ND		0.20	0.078	mg/L		12/10/19 08:00	12/11/19 10:27	1
Iron, Dissolved	ND		0.060	0.022	mg/L		12/10/19 08:00	12/11/19 10:27	1
Magnesium, Dissolved	ND		0.050	0.026	mg/L		12/10/19 08:00	12/11/19 10:27	1
Potassium, Dissolved	ND		1.0	0.24	mg/L		12/10/19 08:00	12/11/19 10:27	1
Sodium, Dissolved	ND		1.0	0.37	mg/L		12/10/19 08:00	12/11/19 10:27	1

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-479874/2-A
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium, Dissolved	50.0	50.7		mg/L		101	90 - 111
Iron, Dissolved	10.0	10.0		mg/L		100	89 - 115
Magnesium, Dissolved	50.0	49.7		mg/L		99	90 - 113
Potassium, Dissolved	50.0	48.0		mg/L		96	89 - 114
Sodium, Dissolved	50.0	48.1		mg/L		96	90 - 115

Lab Sample ID: 280-130884-E-1-C MS
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 479874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium, Dissolved	4.9		50.0	57.6		mg/L		105	75 - 125
Iron, Dissolved	ND		10.0	10.3		mg/L		103	75 - 125
Magnesium, Dissolved	2.0		50.0	53.6		mg/L		103	75 - 125
Potassium, Dissolved	0.64	J	50.0	50.1		mg/L		99	76 - 125
Sodium, Dissolved	2.5		50.0	52.2		mg/L		99	75 - 125

Lab Sample ID: 280-130884-E-1-D MSD
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 479874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium, Dissolved	4.9		50.0	56.4		mg/L		103	75 - 125	2	20
Iron, Dissolved	ND		10.0	10.1		mg/L		101	75 - 125	2	20
Magnesium, Dissolved	2.0		50.0	52.5		mg/L		101	75 - 125	2	20
Potassium, Dissolved	0.64	J	50.0	49.5		mg/L		98	76 - 125	1	20
Sodium, Dissolved	2.5		50.0	51.4		mg/L		98	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-477906/1-A
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 477906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	ND		0.0010	0.00031	mg/L		12/06/19 07:50	12/10/19 02:09	1

Lab Sample ID: LCS 280-477906/2-A
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 477906

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Manganese, Dissolved	0.0400	0.0412		mg/L		103	89 - 119

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 22:29	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Total	ND		0.0050	0.00033	mg/L		12/11/19 07:50	12/11/19 22:29	1
Barium, Total	ND		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 22:29	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 22:29	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 22:29	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 22:29	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 22:29	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 22:29	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 22:29	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 22:29	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 22:29	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 22:29	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 22:29	1

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Total	ND		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 15:16	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 15:16	1

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony, Total	0.0400	0.0409		mg/L		102	80 - 111
Arsenic, Total	0.0400	0.0388		mg/L		97	92 - 112
Barium, Total	0.0400	0.0444		mg/L		111	92 - 117
Beryllium, Total	0.0400	0.0435		mg/L		109	87 - 118
Cadmium, Total	0.0400	0.0398		mg/L		100	91 - 114
Chromium, Total	0.0400	0.0383		mg/L		96	91 - 114
Copper, Total	0.0400	0.0380		mg/L		95	89 - 116
Lead, Total	0.0400	0.0425		mg/L		106	95 - 116
Nickel, Total	0.0400	0.0396		mg/L		99	92 - 116
Silver, Total	0.0400	0.0404		mg/L		101	93 - 118
Thallium, Total	0.0400	0.0417		mg/L		104	94 - 115
Vanadium, Total	0.0400	0.0377		mg/L		94	91 - 114
Zinc, Total	0.0400	0.0388		mg/L		97	86 - 120

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese, Total	0.0400	0.0431		mg/L		108	89 - 119
Selenium, Total	0.0400	0.0401		mg/L		100	90 - 115

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits	%Rec.
	Result	Qualifier	Added	Result	Qualifier					
Antimony, Total	ND		0.0400	0.0403		mg/L		101	80 - 111	
Arsenic, Total	ND		0.0400	0.0369		mg/L		92	92 - 112	
Barium, Total	0.0033		0.0400	0.0455		mg/L		105	92 - 117	
Beryllium, Total	0.00014	J	0.0400	0.0457		mg/L		114	87 - 118	
Cadmium, Total	ND		0.0400	0.0394		mg/L		98	91 - 114	
Chromium, Total	0.0023	J	0.0400	0.0393		mg/L		92	91 - 114	
Copper, Total	ND		0.0400	0.0362		mg/L		91	89 - 116	
Lead, Total	ND		0.0400	0.0416		mg/L		104	95 - 116	
Nickel, Total	ND		0.0400	0.0367		mg/L		92	92 - 116	
Silver, Total	ND		0.0400	0.0403		mg/L		101	93 - 118	
Thallium, Total	ND		0.0400	0.0409		mg/L		102	94 - 115	
Vanadium, Total	0.0041		0.0400	0.0421		mg/L		95	91 - 114	
Zinc, Total	ND		0.0400	0.0370		mg/L		93	86 - 120	

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits	%Rec.
	Result	Qualifier	Added	Result	Qualifier					
Manganese, Total	0.00034	J	0.0400	0.0415		mg/L		103	89 - 119	
Selenium, Total	ND		0.0400	0.0391		mg/L		98	90 - 115	

Lab Sample ID: 280-130796-D-1-E MSD
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Antimony, Total	ND		0.0400	0.0414		mg/L		104	80 - 111	3	20
Arsenic, Total	ND		0.0400	0.0381		mg/L		95	92 - 112	3	20
Barium, Total	0.0033		0.0400	0.0458		mg/L		106	92 - 117	1	20
Beryllium, Total	0.00014	J	0.0400	0.0444		mg/L		111	87 - 118	3	20
Cadmium, Total	ND		0.0400	0.0400		mg/L		100	91 - 114	2	20
Chromium, Total	0.0023	J	0.0400	0.0406		mg/L		96	91 - 114	3	20
Copper, Total	ND		0.0400	0.0377		mg/L		94	89 - 116	4	20
Lead, Total	ND		0.0400	0.0427		mg/L		107	95 - 116	3	20
Nickel, Total	ND		0.0400	0.0388		mg/L		97	92 - 116	6	20
Silver, Total	ND		0.0400	0.0422		mg/L		106	93 - 118	5	20
Thallium, Total	ND		0.0400	0.0418		mg/L		105	94 - 115	2	20
Vanadium, Total	0.0041		0.0400	0.0426		mg/L		96	91 - 114	1	20
Zinc, Total	ND		0.0400	0.0386		mg/L		97	86 - 120	4	20

Lab Sample ID: 280-130796-D-1-E MSD
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Manganese, Total	0.00034	J	0.0400	0.0418		mg/L		104	89 - 119	1	20
Selenium, Total	ND		0.0400	0.0405		mg/L		101	90 - 115	3	20

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: 280-130796-E-8-B MS
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 477906
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Manganese, Dissolved	3.9		0.0400	4.09	4	mg/L		343	89 - 119

Lab Sample ID: 280-130796-E-8-C MSD
Matrix: Water
Analysis Batch: 480078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 477906
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Manganese, Dissolved	3.9		0.0400	3.98	4	mg/L		78	89 - 119	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-480021/6
Matrix: Water
Analysis Batch: 480021

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/09/19 12:47	1
Sulfate	ND		5.0	5.0	mg/L			12/09/19 12:47	1

Lab Sample ID: MB 280-480021/81
Matrix: Water
Analysis Batch: 480021

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/10/19 13:32	1
Sulfate	ND		5.0	5.0	mg/L			12/10/19 13:32	1

Lab Sample ID: LCS 280-480021/4
Matrix: Water
Analysis Batch: 480021

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	95.4		mg/L		95	90 - 110
Sulfate	100	94.4		mg/L		94	90 - 110

Lab Sample ID: LCS 280-480021/79
Matrix: Water
Analysis Batch: 480021

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.7		mg/L		99	90 - 110
Sulfate	100	96.8		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-480021/5
Matrix: Water
Analysis Batch: 480021

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	100	95.4		mg/L		95	90 - 110	0	10
Sulfate	100	94.1		mg/L		94	90 - 110	0	10

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-480021/80
Matrix: Water
Analysis Batch: 480021

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.5		mg/L		99	90 - 110	0	10
Sulfate	100	96.5		mg/L		97	90 - 110	0	10

Lab Sample ID: MRL 280-480021/3
Matrix: Water
Analysis Batch: 480021

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.00	4.40		mg/L		88	50 - 150		
Sulfate	5.00	ND		mg/L		81	50 - 150		

Lab Sample ID: 280-130851-N-4 MS
Matrix: Water
Analysis Batch: 480021

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	35		500	516		mg/L		96	80 - 120		
Sulfate	1100		500	1540		mg/L		90	80 - 120		

Lab Sample ID: 280-130851-N-4 MSD
Matrix: Water
Analysis Batch: 480021

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	35		500	522		mg/L		97	80 - 120	1	20
Sulfate	1100		500	1550		mg/L		94	80 - 120	1	20

Lab Sample ID: 280-130851-N-4 DU
Matrix: Water
Analysis Batch: 480021

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	35		500	35.1		mg/L				0.3	15
Sulfate	1100		500	1090		mg/L				0.4	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-478348/59
Matrix: Water
Analysis Batch: 478348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/20/19 12:54	1

Lab Sample ID: LCS 280-478348/57
Matrix: Water
Analysis Batch: 478348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.60		mg/L		104	90 - 110		

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCSD 280-478348/58
Matrix: Water
Analysis Batch: 478348

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.54		mg/L		102	90 - 110	2	10

Lab Sample ID: 280-131060-B-13 MS
Matrix: Water
Analysis Batch: 478348

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		1.00	1.07		mg/L		107	90 - 110

Lab Sample ID: 280-131060-B-13 MSD
Matrix: Water
Analysis Batch: 478348

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		1.00	1.01		mg/L		101	90 - 110	6	10

Method: 353.2 - Nitrate

Lab Sample ID: MB 280-479329/1
Matrix: Water
Analysis Batch: 479329

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-479040/22
Matrix: Water
Analysis Batch: 479040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.10	mg/L			11/27/19 19:34	1

Lab Sample ID: LCS 280-479040/21
Matrix: Water
Analysis Batch: 479040

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.04		mg/L		101	90 - 110

Lab Sample ID: 280-131057-D-1 MS
Matrix: Water
Analysis Batch: 479040

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.18	F1	4.00	3.89		mg/L		93	90 - 110

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 280-131057-D-1 MSD
Matrix: Water
Analysis Batch: 479040

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.18	F1	4.00	3.71	F1	mg/L		88	90 - 110	5	10

Method: 410.4 - COD

Lab Sample ID: MB 280-478604/5
Matrix: Water
Analysis Batch: 478604

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (COD)	ND		10	10	mg/L			11/22/19 15:41	1

Lab Sample ID: LCS 280-478604/3
Matrix: Water
Analysis Batch: 478604

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand (COD)	100	96.8		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-478604/4
Matrix: Water
Analysis Batch: 478604

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand (COD)	100	95.0		mg/L		95	90 - 110	2	11

Lab Sample ID: 280-130858-E-1 MS
Matrix: Water
Analysis Batch: 478604

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand (COD)	2300		1000	3300		mg/L		104	90 - 110

Lab Sample ID: 280-130858-E-1 MSD
Matrix: Water
Analysis Batch: 478604

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand (COD)	2300		1000	3290		mg/L		103	90 - 110	0	11

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-478392/5
Matrix: Water
Analysis Batch: 478392

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		10	10	mg/L			11/20/19 15:15	1
Bicarbonate Alkalinity as CaCO3	ND		10	10	mg/L			11/20/19 15:15	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-478392/4
 Matrix: Water
 Analysis Batch: 478392

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	200	203		mg/L		101	89 - 109

Lab Sample ID: 280-130829-A-1 DU
 Matrix: Water
 Analysis Batch: 478392

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total	780		779		mg/L		0.2	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-477990/1
 Matrix: Water
 Analysis Batch: 477990

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	5.0	mg/L			11/18/19 08:50	1

Lab Sample ID: LCS 280-477990/2
 Matrix: Water
 Analysis Batch: 477990

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	485		mg/L		97	93 - 110

Lab Sample ID: LCSD 280-477990/3
 Matrix: Water
 Analysis Batch: 477990

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	501	497		mg/L		99	93 - 110	2	20

Lab Sample ID: 280-130886-1 DU
 Matrix: Water
 Analysis Batch: 477990

Client Sample ID: LP-LCD
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	2600		2540		mg/L		0.9	10

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

Lab Sample ID: MB 280-479713/37
 Matrix: Water
 Analysis Batch: 479713

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/05/19 04:32	1

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

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

Lab Sample ID: LCS 280-479713/35
Matrix: Water
Analysis Batch: 479713

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	25.3		mg/L		101	88 - 112

Lab Sample ID: LCSD 280-479713/36
Matrix: Water
Analysis Batch: 479713

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	25.6		mg/L		103	88 - 112	1	15

Lab Sample ID: 280-130796-C-8 MS
Matrix: Water
Analysis Batch: 479713

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	5.6		25.0	31.4		mg/L		103	88 - 112

Lab Sample ID: 280-130796-C-8 MSD
Matrix: Water
Analysis Batch: 479713

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	5.6		25.0	31.4		mg/L		103	88 - 112	0	15

Method: SM5210B - BOD, 5 Day

Lab Sample ID: MB 280-477691/4
Matrix: Water
Analysis Batch: 477691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			11/14/19 18:01	1

Lab Sample ID: SCB 280-477691/1
Matrix: Water
Analysis Batch: 477691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	SCB Result	SCB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			11/14/19 18:01	1

Lab Sample ID: USB 280-477691/2
Matrix: Water
Analysis Batch: 477691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			11/14/19 18:01	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: LCS 280-477691/3
Matrix: Water
Analysis Batch: 477691

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	202		mg/L		102	85 - 115

Lab Sample ID: 280-130867-A-1 DU
Matrix: Water
Analysis Batch: 477691

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	ND		ND		mg/L		NC	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

GC/MS VOA

Analysis Batch: 505843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	8260C SIM	
MB 480-505843/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-505843/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-505843/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 506108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	8260C	
MB 480-506108/8	Method Blank	Total/NA	Water	8260C	
LCS 480-506108/5	Lab Control Sample	Total/NA	Water	8260C	

Metals

Prep Batch: 477906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Dissolved	Water	3005A	
MB 280-477906/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-477906/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130796-E-8-B MS	Matrix Spike	Dissolved	Water	3005A	
280-130796-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 479199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total Recoverable	Water	3005A	
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	3005A	
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 479765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	6010D	479199
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	479199

Prep Batch: 479864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total Recoverable	Water	3005A	
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	3005A	
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 479874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Dissolved	Water	3005A	
MB 280-479874/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479874/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130884-E-1-C MS	Matrix Spike	Dissolved	Water	3005A	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Metals (Continued)

Prep Batch: 479874 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130884-E-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Analysis Batch: 479958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total Recoverable	Water	6010D	479199
MB 280-479199/1-A	Method Blank	Total Recoverable	Water	6010D	479199
LCS 280-479199/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479199
280-130756-D-1-D MS	Matrix Spike	Total Recoverable	Water	6010D	479199
280-130756-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	479199

Analysis Batch: 480078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Dissolved	Water	6020B	477906
MB 280-477906/1-A	Method Blank	Total Recoverable	Water	6020B	477906
LCS 280-477906/2-A	Lab Control Sample	Total Recoverable	Water	6020B	477906
280-130796-E-8-B MS	Matrix Spike	Dissolved	Water	6020B	477906
280-130796-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	477906

Analysis Batch: 480200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Dissolved	Water	6010D	479874
LCS 280-479874/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479874
280-130884-E-1-C MS	Matrix Spike	Dissolved	Water	6010D	479874
280-130884-E-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	6010D	479874

Analysis Batch: 480246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-479874/1-A	Method Blank	Total Recoverable	Water	6010D	479874

Analysis Batch: 480312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	6020B	479864
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020B	479864

Analysis Batch: 480448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	6020B	479864
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020B	479864

General Chemistry

Analysis Batch: 477691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	SM5210B	
MB 280-477691/4	Method Blank	Total/NA	Water	SM5210B	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

General Chemistry (Continued)

Analysis Batch: 477691 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
SCB 280-477691/1	Method Blank	Total/NA	Water	SM5210B	
USB 280-477691/2	Method Blank	Total/NA	Water	SM5210B	
LCS 280-477691/3	Lab Control Sample	Total/NA	Water	SM5210B	
280-130867-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

Analysis Batch: 477990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	SM 2540C	
MB 280-477990/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-477990/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-477990/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-130886-1 DU	LP-LCD	Total/NA	Water	SM 2540C	

Analysis Batch: 478348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	350.1	
MB 280-478348/59	Method Blank	Total/NA	Water	350.1	
LCS 280-478348/57	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-478348/58	Lab Control Sample Dup	Total/NA	Water	350.1	
280-131060-B-13 MS	Matrix Spike	Total/NA	Water	350.1	
280-131060-B-13 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 478392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	SM 2320B	
MB 280-478392/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478392/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-130829-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 478604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	410.4	
MB 280-478604/5	Method Blank	Total/NA	Water	410.4	
LCS 280-478604/3	Lab Control Sample	Total/NA	Water	410.4	
LCSD 280-478604/4	Lab Control Sample Dup	Total/NA	Water	410.4	
280-130858-E-1 MS	Matrix Spike	Total/NA	Water	410.4	
280-130858-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 479040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	353.2	
MB 280-479040/22	Method Blank	Total/NA	Water	353.2	
LCS 280-479040/21	Lab Control Sample	Total/NA	Water	353.2	
280-131057-D-1 MS	Matrix Spike	Total/NA	Water	353.2	
280-131057-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Analysis Batch: 479329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	353.2	
MB 280-479329/1	Method Blank	Total/NA	Water	353.2	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

General Chemistry

Analysis Batch: 479713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	SM 5310B	
MB 280-479713/37	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-479713/35	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 280-479713/36	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
280-130796-C-8 MS	Matrix Spike	Total/NA	Water	SM 5310B	
280-130796-C-8 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 480021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	300.0	
MB 280-480021/6	Method Blank	Total/NA	Water	300.0	
MB 280-480021/81	Method Blank	Total/NA	Water	300.0	
LCS 280-480021/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-480021/79	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-480021/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-480021/80	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-480021/3	Lab Control Sample	Total/NA	Water	300.0	
280-130851-N-4 MS	Matrix Spike	Total/NA	Water	300.0	
280-130851-N-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-130851-N-4 DU	Duplicate	Total/NA	Water	300.0	

Field Service / Mobile Lab

Analysis Batch: 480614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130886-1	LP-LCD	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-130886-1

Client Sample ID: LP-LCD

Lab Sample ID: 280-130886-1

Date Collected: 11/13/19 14:00

Matrix: Water

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	5 mL	5 mL	506108	11/22/19 12:27	BTP	TAL BUF
Total/NA	Analysis	8260C SIM		10	25 mL	25 mL	505843	11/21/19 14:33	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 23:17	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479765	12/05/19 22:45	CRR	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479199	12/05/19 07:55	AL	TAL DEN
Total Recoverable	Analysis	6010D		1			479958	12/06/19 15:14	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	477906	12/06/19 07:50	AL	TAL DEN
Dissolved	Analysis	6020B		1			480078	12/10/19 02:37	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:54	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:48	LMT	TAL DEN
Total/NA	Analysis	300.0		10	5 mL	5 mL	480021	12/10/19 15:34	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478348	11/20/19 14:28	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	353.2		2	100 mL	100 mL	479040	11/27/19 19:46	SVC	TAL DEN
Total/NA	Analysis	410.4		2	2 mL	2 mL	478604	11/22/19 15:41	KES	TAL DEN
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 18:31	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	477990	11/18/19 08:50	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	479713	12/05/19 11:10	SGB	TAL DEN
Total/NA	Analysis	SM5210B		1	240 mL	300 mL	477691	11/14/19 18:01	EC	TAL DEN
Total/NA	Analysis	Field Sampling		1			480614	11/13/19 15:00	K1I	TAL DEN

Laboratory References:

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

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

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



03 December 2019

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.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19K0265	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 enclosed 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.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **19K0265**
 Turn-around Requested: **Standard**
 Phone: **425-289-5455**
 ARI Client Company: **SCS Engineers**
 Client Contact: **Dan Venchiarutti**
 Client Project Name: **OVSL**



Date: **11/14/19**
 Page: **1** of **2**
 No. of Coolers: **1**
 Cooler Temps: **1.3**

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		Notes/Comments	
					Low level	Total Arsenic		
MW-34C	11/11/19	1051	Water	1	X			
MW-34A	↓	1140	↓	↓	↓			
MW-36A	↓	1233	↓	↓	↓			
MW-15R	↓	1325	↓	↓	↓			
MW-13A	↓	1430	↓	↓	↓			
MW-13B	↓	1508	↓	↓	↓			
MW-35	11/12/19	910	↓	↓	↓			
MW-16	↓	1020	↓	↓	↓			
MW-39	↓	1135	↓	↓	↓			
MW-33A	↓	1305	↓	↓	↓			
Comments/Special Instructions	Relinquished by: <i>[Signature]</i> Printed Name: Sam Greber Company: SCS Date & Time: 11/14/19 1430				Received by: <i>[Signature]</i> Printed Name: Kenny Dang Company: ARI Date & Time: 11/18/19 1047			

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

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)



Date: 11/14/19
 Page: 2 of 2
 No. of Coolers: 1
 Cooler Temps: 1.3

Turn-around Requested: Standard
 Phone: 425-289-5455
 Client Contact: Dan Venchiarutti
 Client Project Name: OVSL

Client Project #: 04204027.22
 Samplers: Sam G.

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments	
MW-33C	11/12/19	1350	Water	1							
MW-42	↓	1510									
DUP-1	↓	1530									
MW-43	11/13/19	930									
MW-29A	↓	1025									
MW-32	↓	1147									
MW-19C	↓	1250									
DUP-2	↓	1300									
LP-LCD	↓	1400									
Comments/Special Instructions	Relinquished by: (Signature) [Signature]				Received by: (Signature) [Signature]				Notes/Comments		
	Printed Name: Sam Gaber				Printed Name: Kenny Dang						
	Company: SCS				Company: ARI						
	Date & Time: 11/14/19 1430				Date & Time: 11/18/19 1047						

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
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-34C	19K0265-01	Water	11-Nov-2019 10:51	18-Nov-2019 10:47
MW-34A	19K0265-02	Water	11-Nov-2019 11:40	18-Nov-2019 10:47
MW-36A	19K0265-03	Water	11-Nov-2019 12:33	18-Nov-2019 10:47
MW-15R	19K0265-04	Water	11-Nov-2019 13:25	18-Nov-2019 10:47
MW-13A	19K0265-05	Water	11-Nov-2019 14:30	18-Nov-2019 10:47
MW-13B	19K0265-06	Water	11-Nov-2019 15:08	18-Nov-2019 10:47
MW-35	19K0265-07	Water	12-Nov-2019 09:10	18-Nov-2019 10:47
MW-16	19K0265-08	Water	12-Nov-2019 10:20	18-Nov-2019 10:47
MW-39	19K0265-09	Water	12-Nov-2019 11:35	18-Nov-2019 10:47
MW-33A	19K0265-10	Water	12-Nov-2019 13:05	18-Nov-2019 10:47
MW-33C	19K0265-11	Water	12-Nov-2019 13:50	18-Nov-2019 10:47
MW-42	19K0265-12	Water	12-Nov-2019 15:10	18-Nov-2019 10:47
DUP-1	19K0265-13	Water	12-Nov-2019 15:30	18-Nov-2019 10:47
MW-43	19K0265-14	Water	13-Nov-2019 09:30	18-Nov-2019 10:47
MW-29A	19K0265-15	Water	13-Nov-2019 10:25	18-Nov-2019 10:47
MW-32	19K0265-16	Water	13-Nov-2019 11:47	18-Nov-2019 10:47
MW-19C	19K0265-17	Water	13-Nov-2019 12:50	18-Nov-2019 10:47
DUP-2	19K0265-18	Water	13-Nov-2019 13:00	18-Nov-2019 10:47
LP-LCD	19K0265-19	Water	13-Nov-2019 14:00	18-Nov-2019 10:47





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 18, 2019 under ARI work order 19K0265. 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.



Cooler Receipt Form

ARI Client: SCS engineers
 COC No(s): _____
 Assigned ARI Job No: 19K0265 (NA)

Project Name: OUGL
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1250 1.3 _____
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 11/18/19 Time: 1047

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
 How were bottles sealed in plastic bags? Individually Grouped
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI NA
 Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: L Bill Date: 11/18/19 Time: 1335 Labels checked by: AB

**** 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: _____



WORK ORDER

19K0265

Client: Test America - Denver	Project Manager: Amanda Volgardsen
Project: OVSL	Project Number: 04204027.20

Preservation Confirmation

Container ID	Container Type	pH	
19K0265-01 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-02 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-03 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-04 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-05 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-06 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-07 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-08 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-09 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-10 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-11 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-12 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-13 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-14 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-15 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-16 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-17 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-18 A	Miscellaneous container, 1:1 HN03	LL	Pass
19K0265-19 A	Miscellaneous container, 1:1 HN03	LL	Pass


Preservation Confirmed By

11/18/19
Date



Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34C
19K0265-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 10:51
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:31
Sample Preparation:	Extract ID: 19K0265-01 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.0000800	0.0199	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-34A
19K0265-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 11:40
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:00
Sample Preparation:	Extract ID: 19K0265-02 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000441	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-36A
19K0265-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 12:33
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:39
Sample Preparation:	Extract ID: 19K0265-03 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000507	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-15R
19K0265-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 13:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:46
Sample Preparation:	Extract ID: 19K0265-04 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000198	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13A
19K0265-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 14:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 14:53
Sample Preparation:	Extract ID: 19K0265-05 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000205	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-13B
19K0265-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/11/2019 15:08
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:42
Sample Preparation:	Extract ID: 19K0265-06 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000322	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-35
19K0265-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 09:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:49
Sample Preparation:	Extract ID: 19K0265-07 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000996	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-16
19K0265-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 10:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 15:56
Sample Preparation:	Extract ID: 19K0265-08 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000413	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-39
19K0265-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 11:35
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:03
Sample Preparation:	Extract ID: 19K0265-09 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00179	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33A
19K0265-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:05
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:10
Sample Preparation:	Extract ID: 19K0265-10 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.000216	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-33C
19K0265-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 13:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 11/29/2019 16:17
Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	Extract ID: 19K0265-11 A 01
Preparation Batch: BHK0757	Sample Size: 100 mL
Prepared: 27-Nov-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00268	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-42
19K0265-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:23
Sample Preparation:	Extract ID: 19K0265-12 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00181	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-1
19K0265-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/12/2019 15:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:29
Sample Preparation:	Extract ID: 19K0265-13 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00182	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-43
19K0265-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 09:30
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:35
Sample Preparation:	Extract ID: 19K0265-14 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0000514	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-29A
19K0265-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 10:25
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:41
Sample Preparation:	Extract ID: 19K0265-15 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	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 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-32
19K0265-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 11:47
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:01
Sample Preparation:	Extract ID: 19K0265-16 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.0101	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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MW-19C
19K0265-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 12:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 17:47
Sample Preparation:	Extract ID: 19K0265-17 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00300	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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DUP-2
19K0265-18 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 13:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:07
Sample Preparation:	Extract ID: 19K0265-18 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00289	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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LP-LCD
19K0265-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/13/2019 14:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:13
Sample Preparation:	Extract ID: 19K0265-19 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	5	0.000200	0.0101	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHK0757 - 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 (BHK0757-BLK1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:23					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHK0757-BS1)						Prepared: 27-Nov-2019 Analyzed: 29-Nov-2019 14:27					
Arsenic	75a	0.00461	0.0000400	mg/L	0.00500		92.1	80-120			





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 04204027.22 Project Manager: Betsy Sara	Reported: 03-Dec-2019 16:54
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Metals and Metallic Compounds - Quality Control

Batch BHL0006 - 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 (BHL0006-BLK1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:14					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHL0006-BS1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:19					
Arsenic	75a	0.00456	0.0000400	mg/L	0.00500		91.3	80-120			





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara

Reported:
03-Dec-2019 16:54

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	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 04204027.22
Project Manager: Betsy Sara


Reported:
03-Dec-2019 16:54

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 reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Chain of Custody Record

Client Information Client Contact: <u>Dan Pat Mudey</u> Company: <u>Waste Management</u> Address: <u>Olympic View Transfer Station 9300 Southwest Barney White Rd</u> City: <u>Bremerton</u> State, Zip: <u>WA, 98312</u> Phone: <u>360-766-3362</u> Email: <u>cluckie@wm.com</u> Project Name: <u>WA02/Olympic View Sanitary LF</u> Site: <u>Washington</u>		Lab PM: <u>Sara, Betsy A</u> E-Mail: <u>betsy.sara@testamericainc.com</u> Carrier Tracking No(s): <u>9113 9338 5516</u> COC No: <u>280-31456-972.1</u> Page: <u>Page 1 of 1</u> Job #: <u>0720240722</u>	
Due Date Requested: <u>Standard</u> TAT Requested (days): <u>7</u> PO #: <u></u> WO #: <u></u> Project #: <u>28002692-Semiannual Leachate Appl/II - May Nov</u> SSOWN: <u></u>		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <u>Y</u> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> <u>N</u> C/SO4/AI/ks/TDS/NO3/35.2-cad <input checked="" type="checkbox"/> <u>X</u> Total Metals <input checked="" type="checkbox"/> <u>X</u> Ammonia/TOC/COD/NOXT <input checked="" type="checkbox"/> <u>X</u> BOD <input checked="" type="checkbox"/> <u>X</u> Total Arsenic (direct sub to ARI) <input checked="" type="checkbox"/> <u>X</u> Long List 8260C (TA Buffalo) <input checked="" type="checkbox"/> <u>X</u> 8260C SIM (TA Buffalo) <input checked="" type="checkbox"/> <u>X</u> Dissolved Metals <input checked="" type="checkbox"/> <u>X</u> Total Number of Containers <input checked="" type="checkbox"/> <u>12</u> Special Instructions/Note: <u>short holds: BOD and Nitrate (353.2-cad)</u> <u>Total LL Arsenic - direct sub from field to ARI</u>	
Sample Identification LP-LCD <u>Temp</u> Sample Date: <u>11/13/19</u> Sample Time: <u>1400</u> Sample Type (C=comp, G=grab): <u>G</u> Matrix (W=water, S=solid, O=other, T=tissue, A=air): <u>Water</u> Preservation Code: <u>6</u>		Barcode:  280-130886 Chain of Custody	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/QC Requirements Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>MAA</u> Date/Time: <u>11/13/19 1630</u> Company: <u>SCS</u> Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: <u>1044437</u> Custody Seal No.: <u>1044437</u> Δ Yes Δ No			



Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-130886-1

Login Number: 130886

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Pottruff, Reed W

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: 280-130886-1

Login Number: 130886

List Number: 2

Creator: Hulbert, Michael J

List Source: Eurofins TestAmerica, Buffalo

List Creation: 11/19/19 03:53 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	2.9 #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	

ANALYTICAL REPORT

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

Laboratory Job ID: 280-131057-1

Client Project/Site: WA02|Olympic View Sanitary LF
Sampling Event: Annual OBW-TB/L-INF App I/II -Dec

For:

Waste Management
2615 Davis Street
San Leandro, California 94577

Attn: Mr. Patrick Madej



Authorized for release by:
12/20/2019 4:53:22 PM

Betsy Sara, Project Manager II
(303)736-0189
betsy.sara@testamericainc.com

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

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

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



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Definitions/Glossary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Job ID: 280-131057-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Waste Management

Project: WA02|Olympic View Sanitary LF

Report Number: 280-131057-1

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

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

Sample Receiving

The samples were received on 11/19/2019; the samples arrived in good condition and on ice. The temperature of the cooler at receipt was 2.8 C.

Trip Blank

Tetrahydrofuran was detected in the trip blank sample at a level below the requested reporting limit. Tetrahydrofuran was also detected in the sample OBWL-TD-111819 at a similar level, therefore indicating the possibility of field or laboratory contamination of Tetrahydrofuran in this sample. Tetrahydrofuran was also detected in the associated sample L-INF-111819, however at a level greater than ten times the trip blank sample.

Methylene Chloride was detected in the trip blank sample at a level below the requested reporting limit. Methylene Chloride was also detected in the associated sample L-INF-111819, however at a level greater than ten times the trip blank sample, and therefore, no corrective action was performed. Methylene Chloride was not detected in the sample OBWL-TD-111819.

Holding Times

The original Biochemical Oxygen Demand (BOD) analysis was performed within the 48-hour holding time, however due to an analyst error, the read back data was lost and the samples required reanalysis past the 48-hour holding time. The client was notified.

All other holding times were within established control limits.

Method Blanks

Methylene Chloride Method 8260B 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.

Dissolved Manganese Method 6020B was detected in the Method Blank above the project established reporting limit. Because the associated samples had levels of Dissolved Manganese greater than ten times that of the Method Blank value, corrective action was deemed unnecessary.

All other Method Blank recoveries were within established control limits.

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Job ID: 280-131057-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Laboratory Control Samples (LCS)

The Method 8260C Laboratory Control Sample (LCS) exhibited a recovery below the lower control limit for Dichlorofluoromethane at 61% (control limits 76%-127%). All other spike recoveries, quality control indicators, including sample specific surrogate recoveries, were acceptable, a reporting limit (RL) standard was successfully analyzed, and therefore corrective action was deemed unnecessary.

All other 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 OBWL-TD-111819 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.

Sample OBWL-TD-111819 was selected to fulfill the laboratory batch quality control requirements for Method 353.2. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Nitrate/Nitrite 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.

Sample OBWL-TD-111819 was selected to fulfill the laboratory batch quality control requirements for Method 410.4. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Chemical Oxygen Demand (COD) 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 sample L-INF-111819 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 sample L-INF-111819 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 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-111819 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.

Metals

The Method 6020B Continuing Calibration Verification (CCV) sample was above the control limits for Total Beryllium. Because the data are considered biased high and Total Beryllium was not detected in the associated sample above the reporting limit, corrective action was deemed unnecessary.

Case Narrative

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Job ID: 280-131057-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

General Comments

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.

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

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
Phone: 716-691-2600

Detection Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Client Sample ID: OBWL-TD-111819

Lab Sample ID: 280-131057-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.7	J	10	3.0	ug/L	1		8260C	Total/NA
Butyl alcohol, tert-p-Cymene	59		10	3.3	ug/L	1		8260C	Total/NA
	1.1		1.0	0.31	ug/L	1		8260C	Total/NA
Tetrahydrofuran	4.7	J	5.0	1.3	ug/L	1		8260C	Total/NA
Cobalt, Total	0.0032		0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	4.8		0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	15		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	4.0		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	3.6		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	1.5		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	5.6		1.0	0.37	mg/L	1		6010D	Dissolved
Antimony, Total	0.0096		0.0010	0.00040	mg/L	1		6020B	Total Recoverable
Arsenic, Total	0.0046	J	0.0050	0.00033	mg/L	1		6020B	Total Recoverable
Barium, Total	0.023		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Beryllium, Total	0.00010	J ^	0.0010	0.000080	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.016		0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Copper, Total	0.059		0.0020	0.00056	mg/L	1		6020B	Total Recoverable
Lead, Total	0.00025	J	0.0010	0.00018	mg/L	1		6020B	Total Recoverable
Manganese, Total	0.64		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.033		0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Zinc, Total	0.75		0.0050	0.0020	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved Sulfate	0.55	B	0.0010	0.00031	mg/L	1		6020B	Dissolved
Ammonia (as N)	130		5.0	5.0	mg/L	1		300.0	Total/NA
Nitrate as N	4.2		0.030	0.030	mg/L	1		350.1	Total/NA
Nitrate/Nitrite	0.18		0.050	0.050	mg/L	1		353.2	Total/NA
Chemical Oxygen Demand (COD)	0.18	F1	0.050	0.050	mg/L	1		353.2	Total/NA
Total Dissolved Solids (TDS)	26	F1	10	10	mg/L	1		410.4	Total/NA
Total Suspended Solids	170		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Total Organic Carbon - Average	4.4		4.0	4.0	mg/L	1		SM 2540D	Total/NA
Depth to water	3.7		1.0	1.0	mg/L	1		SM 5310B	Total/NA
Specific Conductivity	8.25				ft	1		Field Sampling	Total/NA
Dissolved Oxygen	314.0				umhos/cm	1		Field Sampling	Total/NA
eH	6.1				mg/L	1		Field Sampling	Total/NA
Turbidity	366.0				millivolts	1		Field Sampling	Total/NA
Temperature	5.5				NTU	1		Field Sampling	Total/NA
pH	11.9				Degrees C	1		Field Sampling	Total/NA
	3.08				SU	1		Field Sampling	Total/NA

Client Sample ID: L-INF-111819

Lab Sample ID: 280-131057-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl alcohol, tert-	350		100	33	ug/L	10		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Client Sample ID: L-INF-111819 (Continued)

Lab Sample ID: 280-131057-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	3.8	J	10	3.4	ug/L	10		8260C	Total/NA
Methylene Chloride	26	B	10	4.4	ug/L	10		8260C	Total/NA
Tetrahydrofuran	81		50	13	ug/L	10		8260C	Total/NA
Cobalt, Total	0.017		0.0030	0.0012	mg/L	1		6010D	Total Recoverable
Iron, Total	2.4		0.060	0.022	mg/L	1		6010D	Total Recoverable
Calcium, Dissolved	120		0.20	0.078	mg/L	1		6010D	Dissolved
Iron, Dissolved	1.2		0.060	0.022	mg/L	1		6010D	Dissolved
Magnesium, Dissolved	100		0.050	0.026	mg/L	1		6010D	Dissolved
Potassium, Dissolved	140		1.0	0.24	mg/L	1		6010D	Dissolved
Sodium, Dissolved	1100		10	3.7	mg/L	10		6010D	Dissolved
Antimony, Total	0.00088	J	0.0010	0.00040	mg/L	1		6020B	Total Recoverable
Arsenic, Total	0.0052		0.0050	0.00033	mg/L	1		6020B	Total Recoverable
Barium, Total	0.26		0.0010	0.00029	mg/L	1		6020B	Total Recoverable
Beryllium, Total	0.00011	J ^	0.0010	0.000080	mg/L	1		6020B	Total Recoverable
Chromium, Total	0.0097		0.0030	0.00050	mg/L	1		6020B	Total Recoverable
Copper, Total	0.0065		0.0020	0.00056	mg/L	1		6020B	Total Recoverable
Lead, Total	0.00025	J	0.0010	0.00018	mg/L	1		6020B	Total Recoverable
Manganese, Total	2.1		0.0010	0.00031	mg/L	1		6020B	Total Recoverable
Nickel, Total	0.099		0.0040	0.00030	mg/L	1		6020B	Total Recoverable
Selenium, Total	0.00081	J	0.0010	0.00037	mg/L	1		6020B	Total Recoverable
Vanadium, Total	0.017		0.0020	0.0012	mg/L	1		6020B	Total Recoverable
Zinc, Total	0.0082		0.0050	0.0020	mg/L	1		6020B	Total Recoverable
Manganese, Dissolved	2.1	B	0.0010	0.00031	mg/L	1		6020B	Dissolved
Chloride	1500		30	30	mg/L	10		300.0	Total/NA
Sulfate	280		10	10	mg/L	2		300.0	Total/NA
Ammonia (as N)	290		3.0	3.0	mg/L	100		350.1	Total/NA
Nitrate/Nitrite	0.24		0.050	0.050	mg/L	1		353.2	Total/NA
Chemical Oxygen Demand (COD)	520		50	50	mg/L	5		410.4	Total/NA
Alkalinity, Total (As CaCO3)	2100		10	10	mg/L	1		SM 2320B	Total/NA
Alkalinity, Bicarbonate (As CaCO3)	2100		10	10	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	4000		20	20	mg/L	1		SM 2540C	Total/NA
Total Organic Carbon - Average	160		5.0	5.0	mg/L	5		SM 5310B	Total/NA
Biochemical Oxygen Demand	11	H	5.0	5.0	mg/L	1		SM5210B	Total/NA
Specific Conductivity	7176				umhos/cm	1		Field Sampling	Total/NA
Dissolved Oxygen	2.7				mg/L	1		Field Sampling	Total/NA
eH	335.7				millivolts	1		Field Sampling	Total/NA
Turbidity	34.2				NTU	1		Field Sampling	Total/NA
Temperature	13.6				Degrees C	1		Field Sampling	Total/NA
pH	7.47				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-131057-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	0.61	J B	1.0	0.44	ug/L	1		8260C	Total/NA
Tetrahydrofuran	1.8	J	5.0	1.3	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver



Method Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010D	Metals (ICP)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
350.1	Nitrogen, Ammonia	MCAWW	TAL DEN
353.2	Nitrate	EPA	TAL DEN
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL DEN
410.4	COD	MCAWW	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL DEN
SM5210B	BOD, 5 Day	SM	TAL DEN
Field Sampling	Field Sampling	EPA	TAL DEN
Subcontract	Total Arsenic (ARI)	None	SC0056
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
5030C	Purge and Trap	SW846	TAL BUF

Protocol 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.

None = None

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

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

Laboratory References:

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

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

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

Sample Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-131057-1	OBWL-TD-111819	Water	11/18/19 11:35	11/19/19 09:20	
280-131057-2	L-INF-111819	Water	11/18/19 13:00	11/19/19 09:20	
280-131057-3	TRIP BLANK	Water	11/18/19 13:00	11/19/19 09:20	

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Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/22/19 13:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		50 - 150					11/22/19 13:10	1
TBA-d9 (Surr)	96		50 - 150					11/22/19 13:10	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.040	ug/L			11/22/19 13:34	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	107		50 - 150					11/22/19 13:34	10
TBA-d9 (Surr)	105		50 - 150					11/22/19 13:34	10

Client Sample ID: TRIP BLANK

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/22/19 13:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	107		50 - 150					11/22/19 13:58	1
TBA-d9 (Surr)	98		50 - 150					11/22/19 13:58	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/22/19 18:11	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/22/19 18:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/22/19 18:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/22/19 18:11	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/22/19 18:11	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/22/19 18:11	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/22/19 18:11	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/22/19 18:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 18:11	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/22/19 18:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 18:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/22/19 18:11	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/22/19 18:11	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/22/19 18:11	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/22/19 18:11	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/22/19 18:11	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/22/19 18:11	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/22/19 18:11	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/22/19 18:11	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/22/19 18:11	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/22/19 18:11	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/22/19 18:11	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/22/19 18:11	1
1,4-Dioxane	ND		40	9.3	ug/L			11/22/19 18:11	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/22/19 18:11	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/22/19 18:11	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/22/19 18:11	1
2-Hexanone	ND		5.0	1.2	ug/L			11/22/19 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/22/19 18:11	1
Acetone	3.7	J	10	3.0	ug/L			11/22/19 18:11	1
Acetonitrile	ND		15	4.9	ug/L			11/22/19 18:11	1
Acrolein	ND		20	0.91	ug/L			11/22/19 18:11	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/22/19 18:11	1
Benzene	ND		1.0	0.41	ug/L			11/22/19 18:11	1
Bromobenzene	ND		1.0	0.80	ug/L			11/22/19 18:11	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/22/19 18:11	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/22/19 18:11	1
Bromoform	ND		1.0	0.26	ug/L			11/22/19 18:11	1
Bromomethane	ND		1.0	0.69	ug/L			11/22/19 18:11	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/22/19 18:11	1
Butyl alcohol, tert-	59		10	3.3	ug/L			11/22/19 18:11	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/22/19 18:11	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/22/19 18:11	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/22/19 18:11	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/22/19 18:11	1
Chloroethane	ND		1.0	0.32	ug/L			11/22/19 18:11	1
Chloroform	ND		1.0	0.34	ug/L			11/22/19 18:11	1
Chloromethane	ND		1.0	0.35	ug/L			11/22/19 18:11	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/22/19 18:11	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/22/19 18:11	1
Cyclohexane	ND		1.0	0.18	ug/L			11/22/19 18:11	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/22/19 18:11	1
Dibromomethane	ND		1.0	0.41	ug/L			11/22/19 18:11	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/22/19 18:11	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/22/19 18:11	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/22/19 18:11	1
Ethyl ether	ND		1.0	0.72	ug/L			11/22/19 18:11	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/22/19 18:11	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/22/19 18:11	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/22/19 18:11	1
Hexane	ND		10	0.40	ug/L			11/22/19 18:11	1
Iodomethane	ND		1.0	0.30	ug/L			11/22/19 18:11	1
Isobutanol	ND		25	4.8	ug/L			11/22/19 18:11	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/22/19 18:11	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/22/19 18:11	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/22/19 18:11	1
Methyl acetate	ND		2.5	1.3	ug/L			11/22/19 18:11	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/22/19 18:11	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	ND		1.0	0.16	ug/L			11/22/19 18:11	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/22/19 18:11	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/22/19 18:11	1
Naphthalene	ND		1.0	0.43	ug/L			11/22/19 18:11	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/22/19 18:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/22/19 18:11	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/22/19 18:11	1
o-Xylene	ND		1.0	0.76	ug/L			11/22/19 18:11	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/22/19 18:11	1
p-Cymene	1.1		1.0	0.31	ug/L			11/22/19 18:11	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/22/19 18:11	1
Styrene	ND		1.0	0.73	ug/L			11/22/19 18:11	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/22/19 18:11	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/22/19 18:11	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/22/19 18:11	1
Tetrahydrofuran	4.7 J		5.0	1.3	ug/L			11/22/19 18:11	1
Toluene	ND		1.0	0.51	ug/L			11/22/19 18:11	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/22/19 18:11	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/22/19 18:11	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/22/19 18:11	1
Trichloroethene	ND		1.0	0.46	ug/L			11/22/19 18:11	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/22/19 18:11	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/22/19 18:11	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/22/19 18:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/22/19 18:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		77 - 120		11/22/19 18:11	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/22/19 18:11	1
Toluene-d8 (Surr)	96		80 - 120		11/22/19 18:11	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	3.5	ug/L			11/22/19 23:16	10
1,1,1-Trichloroethane	ND		10	8.2	ug/L			11/22/19 23:16	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			11/22/19 23:16	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	3.1	ug/L			11/22/19 23:16	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			11/22/19 23:16	10
1,1-Dichloroethane	ND		10	3.8	ug/L			11/22/19 23:16	10
1,1-Dichloroethene	ND		10	2.9	ug/L			11/22/19 23:16	10
1,1-Dichloropropene	ND		10	7.2	ug/L			11/22/19 23:16	10
1,2,3-Trichlorobenzene	ND		10	4.1	ug/L			11/22/19 23:16	10
1,2,3-Trichloropropane	ND		10	8.9	ug/L			11/22/19 23:16	10
1,2,4-Trichlorobenzene	ND		10	4.1	ug/L			11/22/19 23:16	10
1,2,4-Trimethylbenzene	ND		10	7.5	ug/L			11/22/19 23:16	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			11/22/19 23:16	10

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		10	7.3	ug/L			11/22/19 23:16	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			11/22/19 23:16	10
1,2-Dichloroethane	ND		10	2.1	ug/L			11/22/19 23:16	10
1,2-Dichloroethene, Total	ND		20	8.1	ug/L			11/22/19 23:16	10
1,2-Dichloropropane	ND		10	7.2	ug/L			11/22/19 23:16	10
1,3,5-Trichlorobenzene	ND		10	2.3	ug/L			11/22/19 23:16	10
1,3,5-Trimethylbenzene	ND		10	7.7	ug/L			11/22/19 23:16	10
1,3-Dichlorobenzene	ND		10	7.8	ug/L			11/22/19 23:16	10
1,3-Dichloropropane	ND		10	7.5	ug/L			11/22/19 23:16	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			11/22/19 23:16	10
1,4-Dioxane	ND		400	93	ug/L			11/22/19 23:16	10
2,2-Dichloropropane	ND		10	4.0	ug/L			11/22/19 23:16	10
2-Butanone (MEK)	ND		100	13	ug/L			11/22/19 23:16	10
2-Chloroethyl vinyl ether	ND		50	9.6	ug/L			11/22/19 23:16	10
2-Hexanone	ND		50	12	ug/L			11/22/19 23:16	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			11/22/19 23:16	10
Acetone	ND		100	30	ug/L			11/22/19 23:16	10
Acetonitrile	ND		150	49	ug/L			11/22/19 23:16	10
Acrolein	ND		200	9.1	ug/L			11/22/19 23:16	10
Acrylonitrile	ND		50	8.3	ug/L			11/22/19 23:16	10
Benzene	ND		10	4.1	ug/L			11/22/19 23:16	10
Bromobenzene	ND		10	8.0	ug/L			11/22/19 23:16	10
Bromochloromethane	ND		10	8.7	ug/L			11/22/19 23:16	10
Bromodichloromethane	ND		10	3.9	ug/L			11/22/19 23:16	10
Bromoform	ND		10	2.6	ug/L			11/22/19 23:16	10
Bromomethane	ND		10	6.9	ug/L			11/22/19 23:16	10
Butyl alcohol, n-	ND		400	89	ug/L			11/22/19 23:16	10
Butyl alcohol, tert-	350		100	33	ug/L			11/22/19 23:16	10
Carbon disulfide	ND		10	1.9	ug/L			11/22/19 23:16	10
Carbon tetrachloride	ND		10	2.7	ug/L			11/22/19 23:16	10
Chlorobenzene	ND		10	7.5	ug/L			11/22/19 23:16	10
Chlorodifluoromethane	ND		10	2.6	ug/L			11/22/19 23:16	10
Chloroethane	ND		10	3.2	ug/L			11/22/19 23:16	10
Chloroform	3.8 J		10	3.4	ug/L			11/22/19 23:16	10
Chloromethane	ND		10	3.5	ug/L			11/22/19 23:16	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			11/22/19 23:16	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			11/22/19 23:16	10
Cyclohexane	ND		10	1.8	ug/L			11/22/19 23:16	10
Dibromochloromethane	ND		10	3.2	ug/L			11/22/19 23:16	10
Dibromomethane	ND		10	4.1	ug/L			11/22/19 23:16	10
Dichlorodifluoromethane	ND		10	6.8	ug/L			11/22/19 23:16	10
Dichlorofluoromethane	ND *		10	3.4	ug/L			11/22/19 23:16	10
Ethyl acetate	ND		10	6.6	ug/L			11/22/19 23:16	10
Ethyl ether	ND		10	7.2	ug/L			11/22/19 23:16	10
Ethyl tert-butyl ether	ND		10	2.9	ug/L			11/22/19 23:16	10
Ethylbenzene	ND		10	7.4	ug/L			11/22/19 23:16	10
Hexachlorobutadiene	ND		20	2.8	ug/L			11/22/19 23:16	10
Hexane	ND		100	4.0	ug/L			11/22/19 23:16	10
Iodomethane	ND		10	3.0	ug/L			11/22/19 23:16	10

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutanol	ND		250	48	ug/L			11/22/19 23:16	10
Isopropyl ether	ND		10	5.9	ug/L			11/22/19 23:16	10
Isopropylbenzene	ND		10	7.9	ug/L			11/22/19 23:16	10
Methacrylonitrile	ND		50	6.9	ug/L			11/22/19 23:16	10
Methyl acetate	ND		25	13	ug/L			11/22/19 23:16	10
Methyl tert-butyl ether	ND		10	1.6	ug/L			11/22/19 23:16	10
Methylcyclohexane	ND		10	1.6	ug/L			11/22/19 23:16	10
Methylene Chloride	26	B	10	4.4	ug/L			11/22/19 23:16	10
m-Xylene & p-Xylene	ND		20	6.6	ug/L			11/22/19 23:16	10
Naphthalene	ND		10	4.3	ug/L			11/22/19 23:16	10
n-Butylbenzene	ND		10	6.4	ug/L			11/22/19 23:16	10
N-Propylbenzene	ND		10	6.9	ug/L			11/22/19 23:16	10
o-Chlorotoluene	ND		10	8.6	ug/L			11/22/19 23:16	10
o-Xylene	ND		10	7.6	ug/L			11/22/19 23:16	10
p-Chlorotoluene	ND		10	8.4	ug/L			11/22/19 23:16	10
p-Cymene	ND		10	3.1	ug/L			11/22/19 23:16	10
sec-Butylbenzene	ND		10	7.5	ug/L			11/22/19 23:16	10
Styrene	ND		10	7.3	ug/L			11/22/19 23:16	10
Tert-amyl methyl ether	ND		10	2.7	ug/L			11/22/19 23:16	10
tert-Butylbenzene	ND		10	8.1	ug/L			11/22/19 23:16	10
Tetrachloroethene	ND		10	3.6	ug/L			11/22/19 23:16	10
Tetrahydrofuran	81		50	13	ug/L			11/22/19 23:16	10
Toluene	ND		10	5.1	ug/L			11/22/19 23:16	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			11/22/19 23:16	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			11/22/19 23:16	10
trans-1,4-Dichloro-2-butene	ND		10	2.2	ug/L			11/22/19 23:16	10
Trichloroethene	ND		10	4.6	ug/L			11/22/19 23:16	10
Trichlorofluoromethane	ND		10	8.8	ug/L			11/22/19 23:16	10
Vinyl acetate	ND		50	8.5	ug/L			11/22/19 23:16	10
Vinyl chloride	ND		10	9.0	ug/L			11/22/19 23:16	10

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/22/19 23:16	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120		11/22/19 23:16	10
4-Bromofluorobenzene (Surr)	104		73 - 120		11/22/19 23:16	10
Toluene-d8 (Surr)	93		80 - 120		11/22/19 23:16	10

Client Sample ID: TRIP BLANK

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/22/19 23:40	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/22/19 23:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/22/19 23:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/22/19 23:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/22/19 23:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/22/19 23:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/22/19 23:40	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: TRIP BLANK

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/22/19 23:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 23:40	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/22/19 23:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 23:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/22/19 23:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/22/19 23:40	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/22/19 23:40	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/22/19 23:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/22/19 23:40	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/22/19 23:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/22/19 23:40	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/22/19 23:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/22/19 23:40	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/22/19 23:40	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/22/19 23:40	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/22/19 23:40	1
1,4-Dioxane	ND		40	9.3	ug/L			11/22/19 23:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/22/19 23:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/22/19 23:40	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/22/19 23:40	1
2-Hexanone	ND		5.0	1.2	ug/L			11/22/19 23:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/22/19 23:40	1
Acetone	ND		10	3.0	ug/L			11/22/19 23:40	1
Acetonitrile	ND		15	4.9	ug/L			11/22/19 23:40	1
Acrolein	ND		20	0.91	ug/L			11/22/19 23:40	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/22/19 23:40	1
Benzene	ND		1.0	0.41	ug/L			11/22/19 23:40	1
Bromobenzene	ND		1.0	0.80	ug/L			11/22/19 23:40	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/22/19 23:40	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/22/19 23:40	1
Bromoform	ND		1.0	0.26	ug/L			11/22/19 23:40	1
Bromomethane	ND		1.0	0.69	ug/L			11/22/19 23:40	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/22/19 23:40	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/22/19 23:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/22/19 23:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/22/19 23:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/22/19 23:40	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/22/19 23:40	1
Chloroethane	ND		1.0	0.32	ug/L			11/22/19 23:40	1
Chloroform	ND		1.0	0.34	ug/L			11/22/19 23:40	1
Chloromethane	ND		1.0	0.35	ug/L			11/22/19 23:40	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/22/19 23:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/22/19 23:40	1
Cyclohexane	ND		1.0	0.18	ug/L			11/22/19 23:40	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/22/19 23:40	1
Dibromomethane	ND		1.0	0.41	ug/L			11/22/19 23:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/22/19 23:40	1
Dichlorofluoromethane	ND	*	1.0	0.34	ug/L			11/22/19 23:40	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/22/19 23:40	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: TRIP BLANK

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	ND		1.0	0.72	ug/L			11/22/19 23:40	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/22/19 23:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/22/19 23:40	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/22/19 23:40	1
Hexane	ND		10	0.40	ug/L			11/22/19 23:40	1
Iodomethane	ND		1.0	0.30	ug/L			11/22/19 23:40	1
Isobutanol	ND		25	4.8	ug/L			11/22/19 23:40	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/22/19 23:40	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/22/19 23:40	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/22/19 23:40	1
Methyl acetate	ND		2.5	1.3	ug/L			11/22/19 23:40	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/22/19 23:40	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/22/19 23:40	1
Methylene Chloride	0.61	J B	1.0	0.44	ug/L			11/22/19 23:40	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/22/19 23:40	1
Naphthalene	ND		1.0	0.43	ug/L			11/22/19 23:40	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/22/19 23:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/22/19 23:40	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/22/19 23:40	1
o-Xylene	ND		1.0	0.76	ug/L			11/22/19 23:40	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/22/19 23:40	1
p-Cymene	ND		1.0	0.31	ug/L			11/22/19 23:40	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/22/19 23:40	1
Styrene	ND		1.0	0.73	ug/L			11/22/19 23:40	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/22/19 23:40	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/22/19 23:40	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/22/19 23:40	1
Tetrahydrofuran	1.8	J	5.0	1.3	ug/L			11/22/19 23:40	1
Toluene	ND		1.0	0.51	ug/L			11/22/19 23:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/22/19 23:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/22/19 23:40	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/22/19 23:40	1
Trichloroethene	ND		1.0	0.46	ug/L			11/22/19 23:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/22/19 23:40	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/22/19 23:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/22/19 23:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane TIC	ND		ug/L			67-72-1		11/22/19 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		77 - 120		11/22/19 23:40	1
4-Bromofluorobenzene (Surr)	106		73 - 120		11/22/19 23:40	1
Toluene-d8 (Surr)	92		80 - 120		11/22/19 23:40	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 6010D - Metals (ICP) - Total Recoverable

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	0.0032		0.0030	0.0012	mg/L		12/16/19 10:25	12/18/19 02:12	1
Iron, Total	4.8		0.060	0.022	mg/L		12/16/19 10:25	12/18/19 02:12	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	0.017		0.0030	0.0012	mg/L		12/16/19 10:25	12/18/19 02:16	1
Iron, Total	2.4		0.060	0.022	mg/L		12/16/19 10:25	12/18/19 02:16	1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	15		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 23:21	1
Iron, Dissolved	4.0		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 23:21	1
Magnesium, Dissolved	3.6		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 23:21	1
Potassium, Dissolved	1.5		1.0	0.24	mg/L		12/10/19 08:00	12/10/19 23:21	1
Sodium, Dissolved	5.6		1.0	0.37	mg/L		12/10/19 08:00	12/10/19 23:21	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	120		0.20	0.078	mg/L		12/10/19 08:00	12/10/19 23:24	1
Iron, Dissolved	1.2		0.060	0.022	mg/L		12/10/19 08:00	12/10/19 23:24	1
Magnesium, Dissolved	100		0.050	0.026	mg/L		12/10/19 08:00	12/10/19 23:24	1
Potassium, Dissolved	140		1.0	0.24	mg/L		12/10/19 08:00	12/10/19 23:24	1
Sodium, Dissolved	1100		10	3.7	mg/L		12/10/19 08:00	12/11/19 18:35	10

Method: 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	0.0096		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 23:58	1
Arsenic, Total	0.0046	J	0.0050	0.00033	mg/L		12/11/19 07:50	12/11/19 23:58	1
Barium, Total	0.023		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 23:58	1
Beryllium, Total	0.00010	J ^	0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 23:58	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 23:58	1
Chromium, Total	0.016		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 23:58	1
Copper, Total	0.059		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 23:58	1
Lead, Total	0.00025	J	0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 23:58	1
Manganese, Total	0.64		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:52	1
Nickel, Total	0.033		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 23:58	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:52	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 23:58	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 23:58	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 23:58	1
Zinc, Total	0.75		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 23:58	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	0.00088	J	0.0010	0.00040	mg/L		12/11/19 07:50	12/12/19 00:02	1
Arsenic, Total	0.0052		0.0050	0.00033	mg/L		12/11/19 07:50	12/12/19 00:02	1
Barium, Total	0.26		0.0010	0.00029	mg/L		12/11/19 07:50	12/12/19 00:02	1
Beryllium, Total	0.00011	J ^	0.0010	0.000080	mg/L		12/11/19 07:50	12/12/19 00:02	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/12/19 00:02	1
Chromium, Total	0.0097		0.0030	0.00050	mg/L		12/11/19 07:50	12/12/19 00:02	1
Copper, Total	0.0065		0.0020	0.00056	mg/L		12/11/19 07:50	12/12/19 00:02	1
Lead, Total	0.00025	J	0.0010	0.00018	mg/L		12/11/19 07:50	12/12/19 00:02	1
Manganese, Total	2.1		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 16:56	1
Nickel, Total	0.099		0.0040	0.00030	mg/L		12/11/19 07:50	12/12/19 00:02	1
Selenium, Total	0.00081	J	0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 16:56	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/12/19 00:02	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/12/19 00:02	1
Vanadium, Total	0.017		0.0020	0.0012	mg/L		12/11/19 07:50	12/12/19 00:02	1
Zinc, Total	0.0082		0.0050	0.0020	mg/L		12/11/19 07:50	12/12/19 00:02	1

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

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	0.55	B	0.0010	0.00031	mg/L		12/16/19 10:25	12/17/19 14:09	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Dissolved	2.1	B	0.0010	0.00031	mg/L		12/16/19 10:25	12/17/19 14:27	1

General Chemistry

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/09/19 16:48	1
Sulfate	130		5.0	5.0	mg/L			12/09/19 16:48	1
Ammonia (as N)	4.2		0.030	0.030	mg/L			11/20/19 12:46	1
Nitrate as N	0.18		0.050	0.050	mg/L			12/02/19 14:42	1
Nitrate/Nitrite	0.18	F1	0.050	0.050	mg/L			11/27/19 19:36	1
Chemical Oxygen Demand (COD)	26	F1	10	10	mg/L			12/06/19 09:56	1
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/22/19 20:07	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/22/19 20:07	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

General Chemistry (Continued)

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	170		5.0	5.0	mg/L			11/20/19 08:54	1
Total Suspended Solids	4.4		4.0	4.0	mg/L			11/20/19 08:57	1
Total Organic Carbon - Average	3.7		1.0	1.0	mg/L			12/11/19 18:25	1
Biochemical Oxygen Demand	ND	H	2.0	2.0	mg/L			12/03/19 18:25	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500		30	30	mg/L			12/09/19 17:37	10
Sulfate	280		10	10	mg/L			12/09/19 17:20	2
Ammonia (as N)	290		3.0	3.0	mg/L			11/20/19 14:26	100
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1
Nitrate/Nitrite	0.24		0.050	0.050	mg/L			11/27/19 19:42	1
Chemical Oxygen Demand (COD)	520		50	50	mg/L			12/06/19 09:56	5
Alkalinity, Total (As CaCO3)	2100		10	10	mg/L			11/22/19 00:43	1
Alkalinity, Bicarbonate (As CaCO3)	2100		10	10	mg/L			11/22/19 00:43	1
Total Dissolved Solids (TDS)	4000		20	20	mg/L			11/20/19 08:54	1
Total Suspended Solids	ND		4.0	4.0	mg/L			11/20/19 08:57	1
Total Organic Carbon - Average	160		5.0	5.0	mg/L			12/16/19 20:43	5
Biochemical Oxygen Demand	11	H	5.0	5.0	mg/L			12/03/19 18:25	1

Method: Field Sampling - Field Sampling

Client Sample ID: OBWL-TD-111819

Date Collected: 11/18/19 11:35

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-1

Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Depth to water	8.25				ft			11/18/19 11:35	1
Specific Conductivity	314.0				umhos/cm			11/18/19 11:35	1
Dissolved Oxygen	6.1				mg/L			11/18/19 11:35	1
eH	366.0				millivolts			11/18/19 11:35	1
Turbidity	5.5				NTU			11/18/19 11:35	1
Temperature	11.9				Degrees C			11/18/19 11:35	1
pH	3.08				SU			11/18/19 11:35	1

Client Sample ID: L-INF-111819

Date Collected: 11/18/19 13:00

Date Received: 11/19/19 09:20

Lab Sample ID: 280-131057-2

Matrix: Water

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductivity	7176				umhos/cm			11/18/19 13:00	1
Dissolved Oxygen	2.7				mg/L			11/18/19 13:00	1
eH	335.7				millivolts			11/18/19 13:00	1
Turbidity	34.2				NTU			11/18/19 13:00	1
Temperature	13.6				Degrees C			11/18/19 13:00	1
pH	7.47				SU			11/18/19 13:00	1

Eurofins TestAmerica, Denver

Surrogate Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (77-120)	BFB (73-120)	TOL (80-120)
280-131057-1	OBWL-TD-111819	93	100	96
280-131057-2	L-INF-111819	109	104	93
280-131057-3	TRIP BLANK	114	106	92
480-162908-C-5 MS	Matrix Spike	91	103	98
480-162908-C-5 MSD	Matrix Spike Duplicate	92	102	100
LCS 480-506111/6	Lab Control Sample	92	101	98
LCS 480-506255/5	Lab Control Sample	107	102	91
MB 480-506111/8	Method Blank	92	99	98
MB 480-506255/7	Method Blank	109	105	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DBFM (50-150)	TBA (50-150)
280-131057-1	OBWL-TD-111819	108	96
280-131057-2	L-INF-111819	107	105
280-131057-3	TRIP BLANK	107	98
LCS 480-506133/6	Lab Control Sample	104	106
LCSD 480-506133/7	Lab Control Sample Dup	103	111
MB 480-506133/9	Method Blank	108	100

Surrogate Legend

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

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-506111/8
Matrix: Water
Analysis Batch: 506111

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/22/19 10:36	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/22/19 10:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/22/19 10:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/22/19 10:36	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/22/19 10:36	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/22/19 10:36	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/22/19 10:36	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/22/19 10:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 10:36	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/22/19 10:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 10:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/22/19 10:36	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/22/19 10:36	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/22/19 10:36	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/22/19 10:36	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/22/19 10:36	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/22/19 10:36	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/22/19 10:36	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/22/19 10:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/22/19 10:36	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/22/19 10:36	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/22/19 10:36	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/22/19 10:36	1
1,4-Dioxane	ND		40	9.3	ug/L			11/22/19 10:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/22/19 10:36	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/22/19 10:36	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/22/19 10:36	1
2-Hexanone	ND		5.0	1.2	ug/L			11/22/19 10:36	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/22/19 10:36	1
Acetone	ND		10	3.0	ug/L			11/22/19 10:36	1
Acetonitrile	ND		15	4.9	ug/L			11/22/19 10:36	1
Acrolein	ND		20	0.91	ug/L			11/22/19 10:36	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/22/19 10:36	1
Benzene	ND		1.0	0.41	ug/L			11/22/19 10:36	1
Bromobenzene	ND		1.0	0.80	ug/L			11/22/19 10:36	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/22/19 10:36	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/22/19 10:36	1
Bromoform	ND		1.0	0.26	ug/L			11/22/19 10:36	1
Bromomethane	ND		1.0	0.69	ug/L			11/22/19 10:36	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/22/19 10:36	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/22/19 10:36	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/22/19 10:36	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/22/19 10:36	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/22/19 10:36	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/22/19 10:36	1
Chloroethane	ND		1.0	0.32	ug/L			11/22/19 10:36	1
Chloroform	ND		1.0	0.34	ug/L			11/22/19 10:36	1
Chloromethane	ND		1.0	0.35	ug/L			11/22/19 10:36	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: MB 480-506111/8
Matrix: Water
Analysis Batch: 506111

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/22/19 10:36	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/22/19 10:36	1
Cyclohexane	ND		1.0	0.18	ug/L			11/22/19 10:36	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/22/19 10:36	1
Dibromomethane	ND		1.0	0.41	ug/L			11/22/19 10:36	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/22/19 10:36	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/22/19 10:36	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/22/19 10:36	1
Ethyl ether	ND		1.0	0.72	ug/L			11/22/19 10:36	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/22/19 10:36	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/22/19 10:36	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/22/19 10:36	1
Hexane	ND		10	0.40	ug/L			11/22/19 10:36	1
Iodomethane	ND		1.0	0.30	ug/L			11/22/19 10:36	1
Isobutanol	ND		25	4.8	ug/L			11/22/19 10:36	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/22/19 10:36	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/22/19 10:36	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/22/19 10:36	1
Methyl acetate	ND		2.5	1.3	ug/L			11/22/19 10:36	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/22/19 10:36	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/22/19 10:36	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/22/19 10:36	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/22/19 10:36	1
Naphthalene	ND		1.0	0.43	ug/L			11/22/19 10:36	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/22/19 10:36	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/22/19 10:36	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/22/19 10:36	1
o-Xylene	ND		1.0	0.76	ug/L			11/22/19 10:36	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/22/19 10:36	1
p-Cymene	ND		1.0	0.31	ug/L			11/22/19 10:36	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/22/19 10:36	1
Styrene	ND		1.0	0.73	ug/L			11/22/19 10:36	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/22/19 10:36	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/22/19 10:36	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/22/19 10:36	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/22/19 10:36	1
Toluene	ND		1.0	0.51	ug/L			11/22/19 10:36	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/22/19 10:36	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/22/19 10:36	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/22/19 10:36	1
Trichloroethene	ND		1.0	0.46	ug/L			11/22/19 10:36	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/22/19 10:36	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/22/19 10:36	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/22/19 10:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		77 - 120		11/22/19 10:36	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/22/19 10:36	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: MB 480-506111/8
Matrix: Water
Analysis Batch: 506111

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98	MB MB	80 - 120		11/22/19 10:36	1

Lab Sample ID: LCS 480-506111/6
Matrix: Water
Analysis Batch: 506111

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	23.8		ug/L		95	80 - 120
1,1,1-Trichloroethane	25.0	22.5		ug/L		90	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.5		ug/L		98	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.3		ug/L		89	61 - 148
1,1,2-Trichloroethane	25.0	23.0		ug/L		92	76 - 122
1,1-Dichloroethane	25.0	23.2		ug/L		93	77 - 120
1,1-Dichloroethene	25.0	21.9		ug/L		88	66 - 127
1,1-Dichloropropene	25.0	23.2		ug/L		93	72 - 122
1,2,3-Trichlorobenzene	25.0	25.1		ug/L		101	75 - 123
1,2,3-Trichloropropane	25.0	24.9		ug/L		99	68 - 122
1,2,4-Trichlorobenzene	25.0	25.6		ug/L		102	79 - 122
1,2,4-Trimethylbenzene	25.0	25.3		ug/L		101	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	25.0		ug/L		100	56 - 134
1,2-Dibromoethane (EDB)	25.0	24.0		ug/L		96	77 - 120
1,2-Dichlorobenzene	25.0	23.9		ug/L		95	80 - 124
1,2-Dichloroethane	25.0	21.0		ug/L		84	75 - 120
1,2-Dichloropropane	25.0	22.9		ug/L		92	76 - 120
1,3,5-Trimethylbenzene	25.0	24.4		ug/L		98	77 - 121
1,3-Dichlorobenzene	25.0	23.3		ug/L		93	77 - 120
1,3-Dichloropropane	25.0	23.4		ug/L		94	75 - 120
1,4-Dichlorobenzene	25.0	23.8		ug/L		95	80 - 120
1,4-Dioxane	500	524		ug/L		105	50 - 150
2,2-Dichloropropane	25.0	22.9		ug/L		92	63 - 136
2-Butanone (MEK)	125	122		ug/L		97	57 - 140
2-Chloroethyl vinyl ether	25.0	26.1		ug/L		104	70 - 129
2-Hexanone	125	123		ug/L		99	65 - 127
4-Methyl-2-pentanone (MIBK)	125	121		ug/L		97	71 - 125
Acetone	125	111		ug/L		89	56 - 142
Acrolein	125	109		ug/L		87	52 - 143
Acrylonitrile	250	246		ug/L		99	63 - 125
Benzene	25.0	23.1		ug/L		92	71 - 124
Bromobenzene	25.0	24.0		ug/L		96	78 - 120
Bromochloromethane	25.0	22.9		ug/L		92	72 - 130
Bromodichloromethane	25.0	22.5		ug/L		90	80 - 122
Bromoform	25.0	25.9		ug/L		104	61 - 132
Bromomethane	25.0	19.9		ug/L		80	55 - 144
Butyl alcohol, tert-	250	251		ug/L		100	75 - 125
Carbon disulfide	25.0	22.4		ug/L		90	59 - 134
Carbon tetrachloride	25.0	23.7		ug/L		95	72 - 134
Chlorobenzene	25.0	22.5		ug/L		90	80 - 120
Chloroethane	25.0	21.1		ug/L		84	69 - 136

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: LCS 480-506111/6

Matrix: Water

Analysis Batch: 506111

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	25.0	22.8		ug/L		91	73 - 127
Chloromethane	25.0	25.8		ug/L		103	68 - 124
cis-1,2-Dichloroethene	25.0	22.8		ug/L		91	74 - 124
cis-1,3-Dichloropropene	25.0	24.4		ug/L		98	74 - 124
Cyclohexane	25.0	23.8		ug/L		95	59 - 135
Dibromochloromethane	25.0	23.5		ug/L		94	75 - 125
Dibromomethane	25.0	23.8		ug/L		95	76 - 127
Dichlorodifluoromethane	25.0	20.5		ug/L		82	59 - 135
Dichlorofluoromethane	25.0	21.3		ug/L		85	76 - 127
Ethyl ether	25.0	21.5		ug/L		86	76 - 123
Ethylbenzene	25.0	23.1		ug/L		92	77 - 123
Hexachlorobutadiene	25.0	24.2		ug/L		97	68 - 131
Iodomethane	25.0	23.3		ug/L		93	78 - 123
Isobutanol	625	660		ug/L		106	51 - 150
Isopropylbenzene	25.0	24.7		ug/L		99	77 - 122
Methyl acetate	50.0	45.2		ug/L		90	74 - 133
Methyl tert-butyl ether	25.0	23.6		ug/L		94	77 - 120
Methylcyclohexane	25.0	23.9		ug/L		95	68 - 134
Methylene Chloride	25.0	24.8		ug/L		99	75 - 124
m-Xylene & p-Xylene	25.0	24.1		ug/L		96	76 - 122
Naphthalene	25.0	26.7		ug/L		107	66 - 125
n-Butylbenzene	25.0	24.9		ug/L		100	71 - 128
N-Propylbenzene	25.0	24.5		ug/L		98	75 - 127
o-Chlorotoluene	25.0	25.4		ug/L		101	76 - 121
o-Xylene	25.0	23.8		ug/L		95	76 - 122
p-Chlorotoluene	25.0	24.3		ug/L		97	77 - 121
p-Cymene	25.0	24.8		ug/L		99	73 - 120
sec-Butylbenzene	25.0	25.0		ug/L		100	74 - 127
Styrene	25.0	24.0		ug/L		96	80 - 120
tert-Butylbenzene	25.0	25.4		ug/L		102	75 - 123
Tetrachloroethene	25.0	22.4		ug/L		90	74 - 122
Tetrahydrofuran	50.0	45.3		ug/L		91	62 - 132
Toluene	25.0	22.0		ug/L		88	80 - 122
trans-1,2-Dichloroethene	25.0	23.2		ug/L		93	73 - 127
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	80 - 120
trans-1,4-Dichloro-2-butene	25.0	24.1		ug/L		96	41 - 131
Trichloroethene	25.0	23.2		ug/L		93	74 - 123
Trichlorofluoromethane	25.0	22.1		ug/L		88	62 - 150
Vinyl acetate	50.0	46.4		ug/L		93	50 - 144
Vinyl chloride	25.0	24.8		ug/L		99	65 - 133

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		77 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Toluene-d8 (Surr)	98		80 - 120

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: 480-162908-C-5 MS

Matrix: Water

Analysis Batch: 506111

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		500	503		ug/L		101	80 - 120
1,1,1-Trichloroethane	ND		500	481		ug/L		96	73 - 126
1,1,2,2-Tetrachloroethane	ND		500	500		ug/L		100	76 - 120
1,1,2-Trichloroethane	ND		500	485		ug/L		97	76 - 122
1,1-Dichloroethane	ND		500	501		ug/L		100	77 - 120
1,1-Dichloroethene	ND		500	470		ug/L		94	66 - 127
1,1-Dichloropropene	ND		500	506		ug/L		101	72 - 122
1,2,3-Trichlorobenzene	ND		500	532		ug/L		106	75 - 123
1,2,3-Trichloropropane	ND		500	494		ug/L		99	68 - 122
1,2,4-Trichlorobenzene	ND		500	530		ug/L		106	79 - 122
1,2,4-Trimethylbenzene	58		500	583		ug/L		105	76 - 121
1,2-Dibromo-3-Chloropropane	ND		500	489		ug/L		98	56 - 134
1,2-Dibromoethane (EDB)	ND		500	509		ug/L		102	77 - 120
1,2-Dichlorobenzene	ND		500	489		ug/L		98	80 - 124
1,2-Dichloroethane	ND		500	428		ug/L		86	75 - 120
1,2-Dichloropropane	ND		500	495		ug/L		99	76 - 120
1,3,5-Trimethylbenzene	ND		500	527		ug/L		105	77 - 121
1,3-Dichlorobenzene	ND		500	498		ug/L		100	77 - 120
1,3-Dichloropropane	ND		500	503		ug/L		101	75 - 120
1,4-Dichlorobenzene	ND		500	498		ug/L		100	78 - 124
1,4-Dioxane	ND		10000	11100		ug/L		111	50 - 150
2,2-Dichloropropane	ND		500	452		ug/L		90	63 - 136
2-Butanone (MEK)	ND		2500	2330		ug/L		93	57 - 140
2-Hexanone	ND		2500	2400		ug/L		96	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		2500	2400		ug/L		96	71 - 125
Acetone	ND		2500	2100		ug/L		84	56 - 142
Benzene	210		500	687		ug/L		96	71 - 124
Bromobenzene	ND		500	499		ug/L		100	78 - 120
Bromochloromethane	ND		500	497		ug/L		99	72 - 130
Bromodichloromethane	ND		500	477		ug/L		95	80 - 122
Bromoform	ND		500	492		ug/L		98	61 - 132
Bromomethane	ND		500	396		ug/L		79	55 - 144
Carbon disulfide	ND		500	451		ug/L		90	59 - 134
Carbon tetrachloride	ND		500	515		ug/L		103	72 - 134
Chlorobenzene	ND		500	480		ug/L		96	80 - 120
Chloroethane	ND		500	389		ug/L		78	69 - 136
Chloroform	ND		500	574		ug/L		115	73 - 127
Chloromethane	ND		500	556		ug/L		111	68 - 124
cis-1,2-Dichloroethene	ND		500	478		ug/L		96	74 - 124
cis-1,3-Dichloropropene	ND		500	479		ug/L		96	74 - 124
Dibromochloromethane	ND		500	476		ug/L		95	75 - 125
Dibromomethane	ND		500	480		ug/L		96	76 - 127
Dichlorodifluoromethane	ND		500	448		ug/L		90	59 - 135
Ethyl ether	ND		500	439		ug/L		88	76 - 123
Ethylbenzene	140		500	638		ug/L		99	77 - 123
Hexachlorobutadiene	ND		500	515		ug/L		103	68 - 131
Isopropylbenzene	32		500	555		ug/L		105	77 - 122
Methyl tert-butyl ether	ND		500	482		ug/L		96	77 - 120

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: 480-162908-C-5 MS

Matrix: Water

Analysis Batch: 506111

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Methylene Chloride	ND		500	530		ug/L		106	75 - 124
m-Xylene & p-Xylene	ND		500	531		ug/L		106	76 - 122
Naphthalene	840		500	1420		ug/L		117	66 - 125
n-Butylbenzene	ND		500	513		ug/L		103	71 - 128
N-Propylbenzene	ND		500	513		ug/L		103	75 - 127
o-Chlorotoluene	ND		500	524		ug/L		105	76 - 121
o-Xylene	38		500	549		ug/L		102	76 - 122
p-Chlorotoluene	ND		500	502		ug/L		100	77 - 121
p-Cymene	ND		500	525		ug/L		105	73 - 120
sec-Butylbenzene	ND		500	533		ug/L		107	74 - 127
Styrene	ND		500	524		ug/L		105	80 - 120
tert-Butylbenzene	ND		500	540		ug/L		108	75 - 123
Tetrachloroethene	ND		500	489		ug/L		98	74 - 122
Tetrahydrofuran	ND		1000	874		ug/L		87	62 - 132
Toluene	ND		500	486		ug/L		97	80 - 122
trans-1,2-Dichloroethene	ND		500	506		ug/L		101	73 - 127
trans-1,3-Dichloropropene	ND		500	471		ug/L		94	80 - 120
Trichloroethene	ND		500	492		ug/L		98	74 - 123
Trichlorofluoromethane	ND		500	468		ug/L		94	62 - 150
Vinyl acetate	ND		1000	967		ug/L		97	50 - 144
Vinyl chloride	ND		500	542		ug/L		108	65 - 133

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: 480-162908-C-5 MSD

Matrix: Water

Analysis Batch: 506111

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		500	509		ug/L		102	80 - 120	1	20
1,1,1-Trichloroethane	ND		500	482		ug/L		96	73 - 126	0	15
1,1,2,2-Tetrachloroethane	ND		500	507		ug/L		101	76 - 120	1	15
1,1,2-Trichloroethane	ND		500	484		ug/L		97	76 - 122	0	15
1,1-Dichloroethane	ND		500	482		ug/L		96	77 - 120	4	20
1,1-Dichloroethene	ND		500	458		ug/L		92	66 - 127	3	16
1,1-Dichloropropene	ND		500	483		ug/L		97	72 - 122	5	20
1,2,3-Trichlorobenzene	ND		500	530		ug/L		106	75 - 123	0	20
1,2,3-Trichloropropane	ND		500	502		ug/L		100	68 - 122	2	14
1,2,4-Trichlorobenzene	ND		500	539		ug/L		108	79 - 122	2	20
1,2,4-Trimethylbenzene	58		500	594		ug/L		107	76 - 121	2	20
1,2-Dibromo-3-Chloropropane	ND		500	494		ug/L		99	56 - 134	1	15
1,2-Dibromoethane (EDB)	ND		500	492		ug/L		98	77 - 120	3	15
1,2-Dichlorobenzene	ND		500	494		ug/L		99	80 - 124	1	20
1,2-Dichloroethane	ND		500	438		ug/L		88	75 - 120	2	20
1,2-Dichloropropane	ND		500	478		ug/L		96	76 - 120	4	20

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: 480-162908-C-5 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 506111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	ND		500	526		ug/L		105	77 - 121	0	20
1,3-Dichlorobenzene	ND		500	499		ug/L		100	77 - 120	0	20
1,3-Dichloropropane	ND		500	494		ug/L		99	75 - 120	2	20
1,4-Dichlorobenzene	ND		500	490		ug/L		98	78 - 124	2	20
1,4-Dioxane	ND		10000	10900		ug/L		109	50 - 150	1	20
2,2-Dichloropropane	ND		500	440		ug/L		88	63 - 136	3	20
2-Butanone (MEK)	ND		2500	2330		ug/L		93	57 - 140	0	20
2-Hexanone	ND		2500	2400		ug/L		96	65 - 127	0	15
4-Methyl-2-pentanone (MIBK)	ND		2500	2380		ug/L		95	71 - 125	1	35
Acetone	ND		2500	2070		ug/L		83	56 - 142	1	15
Benzene	210		500	674		ug/L		94	71 - 124	2	13
Bromobenzene	ND		500	516		ug/L		103	78 - 120	3	15
Bromochloromethane	ND		500	488		ug/L		98	72 - 130	2	15
Bromodichloromethane	ND		500	468		ug/L		94	80 - 122	2	15
Bromoform	ND		500	497		ug/L		99	61 - 132	1	15
Bromomethane	ND		500	380		ug/L		76	55 - 144	4	15
Carbon disulfide	ND		500	432		ug/L		86	59 - 134	4	15
Carbon tetrachloride	ND		500	508		ug/L		102	72 - 134	2	15
Chlorobenzene	ND		500	485		ug/L		97	80 - 120	1	25
Chloroethane	ND		500	377		ug/L		75	69 - 136	3	15
Chloroform	ND		500	566		ug/L		113	73 - 127	1	20
Chloromethane	ND		500	520		ug/L		104	68 - 124	7	15
cis-1,2-Dichloroethene	ND		500	486		ug/L		97	74 - 124	1	15
cis-1,3-Dichloropropene	ND		500	475		ug/L		95	74 - 124	1	15
Dibromochloromethane	ND		500	466		ug/L		93	75 - 125	2	15
Dibromomethane	ND		500	490		ug/L		98	76 - 127	2	15
Dichlorodifluoromethane	ND		500	424		ug/L		85	59 - 135	5	20
Ethyl ether	ND		500	448		ug/L		90	76 - 123	2	20
Ethylbenzene	140		500	620		ug/L		96	77 - 123	3	15
Hexachlorobutadiene	ND		500	528		ug/L		106	68 - 131	2	20
Isopropylbenzene	32		500	561		ug/L		106	77 - 122	1	20
Methyl tert-butyl ether	ND		500	480		ug/L		96	77 - 120	0	37
Methylene Chloride	ND		500	531		ug/L		106	75 - 124	0	15
m-Xylene & p-Xylene	ND		500	525		ug/L		105	76 - 122	1	16
Naphthalene	840		500	1420		ug/L		117	66 - 125	0	20
n-Butylbenzene	ND		500	512		ug/L		102	71 - 128	0	15
N-Propylbenzene	ND		500	520		ug/L		104	75 - 127	1	15
o-Chlorotoluene	ND		500	516		ug/L		103	76 - 121	2	20
o-Xylene	38		500	540		ug/L		100	76 - 122	2	16
p-Chlorotoluene	ND		500	498		ug/L		100	77 - 121	1	15
p-Cymene	ND		500	531		ug/L		106	73 - 120	1	20
sec-Butylbenzene	ND		500	516		ug/L		103	74 - 127	3	15
Styrene	ND		500	516		ug/L		103	80 - 120	2	20
tert-Butylbenzene	ND		500	527		ug/L		105	75 - 123	2	15
Tetrachloroethene	ND		500	484		ug/L		97	74 - 122	1	20
Tetrahydrofuran	ND		1000	870		ug/L		87	62 - 132	0	25
Toluene	ND		500	476		ug/L		95	80 - 122	2	15
trans-1,2-Dichloroethene	ND		500	489		ug/L		98	73 - 127	3	20
trans-1,3-Dichloropropene	ND		500	471		ug/L		94	80 - 120	0	15

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: 480-162908-C-5 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 506111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		500	482		ug/L		96	74 - 123	2	16
Trichlorofluoromethane	ND		500	458		ug/L		92	62 - 150	2	20
Vinyl acetate	ND		1000	982		ug/L		98	50 - 144	2	23
Vinyl chloride	ND		500	509		ug/L		102	65 - 133	6	15
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	92		77 - 120								
4-Bromofluorobenzene (Surr)	102		73 - 120								
Toluene-d8 (Surr)	100		80 - 120								

Lab Sample ID: MB 480-506255/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 506255

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/22/19 22:52	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/22/19 22:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/22/19 22:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/22/19 22:52	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/22/19 22:52	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/22/19 22:52	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/22/19 22:52	1
1,1-Dichloropropene	ND		1.0	0.72	ug/L			11/22/19 22:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 22:52	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/22/19 22:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/22/19 22:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/22/19 22:52	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/22/19 22:52	1
1,2-Dibromoethane (EDB)	ND		1.0	0.73	ug/L			11/22/19 22:52	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/22/19 22:52	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/22/19 22:52	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/22/19 22:52	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/22/19 22:52	1
1,3,5-Trichlorobenzene	ND		1.0	0.23	ug/L			11/22/19 22:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/22/19 22:52	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/22/19 22:52	1
1,3-Dichloropropane	ND		1.0	0.75	ug/L			11/22/19 22:52	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/22/19 22:52	1
1,4-Dioxane	ND		40	9.3	ug/L			11/22/19 22:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			11/22/19 22:52	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/22/19 22:52	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/22/19 22:52	1
2-Hexanone	ND		5.0	1.2	ug/L			11/22/19 22:52	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/22/19 22:52	1
Acetone	ND		10	3.0	ug/L			11/22/19 22:52	1
Acetonitrile	ND		15	4.9	ug/L			11/22/19 22:52	1
Acrolein	ND		20	0.91	ug/L			11/22/19 22:52	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/22/19 22:52	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: MB 480-506255/7

Matrix: Water

Analysis Batch: 506255

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			11/22/19 22:52	1
Bromobenzene	ND		1.0	0.80	ug/L			11/22/19 22:52	1
Bromochloromethane	ND		1.0	0.87	ug/L			11/22/19 22:52	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/22/19 22:52	1
Bromoform	ND		1.0	0.26	ug/L			11/22/19 22:52	1
Bromomethane	ND		1.0	0.69	ug/L			11/22/19 22:52	1
Butyl alcohol, n-	ND		40	8.9	ug/L			11/22/19 22:52	1
Butyl alcohol, tert-	ND		10	3.3	ug/L			11/22/19 22:52	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/22/19 22:52	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/22/19 22:52	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/22/19 22:52	1
Chlorodifluoromethane	ND		1.0	0.26	ug/L			11/22/19 22:52	1
Chloroethane	ND		1.0	0.32	ug/L			11/22/19 22:52	1
Chloroform	ND		1.0	0.34	ug/L			11/22/19 22:52	1
Chloromethane	ND		1.0	0.35	ug/L			11/22/19 22:52	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/22/19 22:52	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/22/19 22:52	1
Cyclohexane	ND		1.0	0.18	ug/L			11/22/19 22:52	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/22/19 22:52	1
Dibromomethane	ND		1.0	0.41	ug/L			11/22/19 22:52	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/22/19 22:52	1
Dichlorofluoromethane	ND		1.0	0.34	ug/L			11/22/19 22:52	1
Ethyl acetate	ND		1.0	0.66	ug/L			11/22/19 22:52	1
Ethyl ether	ND		1.0	0.72	ug/L			11/22/19 22:52	1
Ethyl tert-butyl ether	ND		1.0	0.29	ug/L			11/22/19 22:52	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/22/19 22:52	1
Hexachlorobutadiene	ND		2.0	0.28	ug/L			11/22/19 22:52	1
Hexane	ND		10	0.40	ug/L			11/22/19 22:52	1
Iodomethane	ND		1.0	0.30	ug/L			11/22/19 22:52	1
Isobutanol	ND		25	4.8	ug/L			11/22/19 22:52	1
Isopropyl ether	ND		1.0	0.59	ug/L			11/22/19 22:52	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/22/19 22:52	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/22/19 22:52	1
Methyl acetate	ND		2.5	1.3	ug/L			11/22/19 22:52	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/22/19 22:52	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/22/19 22:52	1
Methylene Chloride	0.791	J	1.0	0.44	ug/L			11/22/19 22:52	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/22/19 22:52	1
Naphthalene	ND		1.0	0.43	ug/L			11/22/19 22:52	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/22/19 22:52	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/22/19 22:52	1
o-Chlorotoluene	ND		1.0	0.86	ug/L			11/22/19 22:52	1
o-Xylene	ND		1.0	0.76	ug/L			11/22/19 22:52	1
p-Chlorotoluene	ND		1.0	0.84	ug/L			11/22/19 22:52	1
p-Cymene	ND		1.0	0.31	ug/L			11/22/19 22:52	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/22/19 22:52	1
Styrene	ND		1.0	0.73	ug/L			11/22/19 22:52	1
Tert-amyl methyl ether	ND		1.0	0.27	ug/L			11/22/19 22:52	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/22/19 22:52	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: MB 480-506255/7
Matrix: Water
Analysis Batch: 506255

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.36	ug/L			11/22/19 22:52	1
Tetrahydrofuran	ND		5.0	1.3	ug/L			11/22/19 22:52	1
Toluene	ND		1.0	0.51	ug/L			11/22/19 22:52	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/22/19 22:52	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/22/19 22:52	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/22/19 22:52	1
Trichloroethene	ND		1.0	0.46	ug/L			11/22/19 22:52	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/22/19 22:52	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/22/19 22:52	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/22/19 22:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120		11/22/19 22:52	1
4-Bromofluorobenzene (Surr)	105		73 - 120		11/22/19 22:52	1
Toluene-d8 (Surr)	93		80 - 120		11/22/19 22:52	1

Lab Sample ID: LCS 480-506255/5
Matrix: Water
Analysis Batch: 506255

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	22.8		ug/L		91	80 - 120
1,1,1-Trichloroethane	25.0	23.2		ug/L		93	73 - 126
1,1,2,2-Tetrachloroethane	25.0	21.0		ug/L		84	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	20.6		ug/L		82	61 - 148
1,1,2-Trichloroethane	25.0	21.8		ug/L		87	76 - 122
1,1-Dichloroethane	25.0	21.8		ug/L		87	77 - 120
1,1-Dichloroethene	25.0	19.9		ug/L		80	66 - 127
1,1-Dichloropropene	25.0	20.8		ug/L		83	72 - 122
1,2,3-Trichlorobenzene	25.0	22.3		ug/L		89	75 - 123
1,2,3-Trichloropropane	25.0	22.8		ug/L		91	68 - 122
1,2,4-Trichlorobenzene	25.0	23.8		ug/L		95	79 - 122
1,2,4-Trimethylbenzene	25.0	21.6		ug/L		86	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	21.0		ug/L		84	56 - 134
1,2-Dibromoethane (EDB)	25.0	22.6		ug/L		90	77 - 120
1,2-Dichlorobenzene	25.0	22.0		ug/L		88	80 - 124
1,2-Dichloroethane	25.0	24.1		ug/L		96	75 - 120
1,2-Dichloropropane	25.0	22.7		ug/L		91	76 - 120
1,3,5-Trimethylbenzene	25.0	21.1		ug/L		85	77 - 121
1,3-Dichlorobenzene	25.0	22.6		ug/L		90	77 - 120
1,3-Dichloropropane	25.0	21.8		ug/L		87	75 - 120
1,4-Dichlorobenzene	25.0	22.0		ug/L		88	80 - 120
1,4-Dioxane	500	576		ug/L		115	50 - 150
2,2-Dichloropropane	25.0	19.5		ug/L		78	63 - 136
2-Butanone (MEK)	125	140		ug/L		112	57 - 140
2-Chloroethyl vinyl ether	25.0	25.3		ug/L		101	70 - 129
2-Hexanone	125	123		ug/L		98	65 - 127
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	71 - 125

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: LCS 480-506255/5

Matrix: Water

Analysis Batch: 506255

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	125	147		ug/L		118	56 - 142
Acrolein	125	114		ug/L		91	52 - 143
Acrylonitrile	250	250		ug/L		100	63 - 125
Benzene	25.0	20.9		ug/L		84	71 - 124
Bromobenzene	25.0	23.2		ug/L		93	78 - 120
Bromochloromethane	25.0	23.6		ug/L		94	72 - 130
Bromodichloromethane	25.0	23.4		ug/L		94	80 - 122
Bromoform	25.0	24.2		ug/L		97	61 - 132
Bromomethane	25.0	16.3		ug/L		65	55 - 144
Butyl alcohol, tert-	250	313		ug/L		125	75 - 125
Carbon disulfide	25.0	18.4		ug/L		73	59 - 134
Carbon tetrachloride	25.0	23.3		ug/L		93	72 - 134
Chlorobenzene	25.0	21.8		ug/L		87	80 - 120
Chloroethane	25.0	18.2		ug/L		73	69 - 136
Chloroform	25.0	21.7		ug/L		87	73 - 127
Chloromethane	25.0	21.9		ug/L		88	68 - 124
cis-1,2-Dichloroethene	25.0	20.8		ug/L		83	74 - 124
cis-1,3-Dichloropropene	25.0	22.7		ug/L		91	74 - 124
Cyclohexane	25.0	22.0		ug/L		88	59 - 135
Dibromochloromethane	25.0	23.6		ug/L		95	75 - 125
Dibromomethane	25.0	22.9		ug/L		92	76 - 127
Dichlorodifluoromethane	25.0	19.7		ug/L		79	59 - 135
Dichlorofluoromethane	25.0	15.3	*	ug/L		61	76 - 127
Ethyl ether	25.0	22.1		ug/L		88	76 - 123
Ethylbenzene	25.0	21.7		ug/L		87	77 - 123
Hexachlorobutadiene	25.0	24.1		ug/L		96	68 - 131
Iodomethane	25.0	21.0		ug/L		84	78 - 123
Isobutanol	625	636		ug/L		102	51 - 150
Isopropylbenzene	25.0	21.5		ug/L		86	77 - 122
Methyl acetate	50.0	49.0		ug/L		98	74 - 133
Methyl tert-butyl ether	25.0	22.6		ug/L		90	77 - 120
Methylcyclohexane	25.0	19.6		ug/L		78	68 - 134
Methylene Chloride	25.0	24.5		ug/L		98	75 - 124
m-Xylene & p-Xylene	25.0	22.3		ug/L		89	76 - 122
Naphthalene	25.0	21.5		ug/L		86	66 - 125
n-Butylbenzene	25.0	20.9		ug/L		84	71 - 128
N-Propylbenzene	25.0	21.0		ug/L		84	75 - 127
o-Chlorotoluene	25.0	22.3		ug/L		89	76 - 121
o-Xylene	25.0	22.2		ug/L		89	76 - 122
p-Chlorotoluene	25.0	21.5		ug/L		86	77 - 121
p-Cymene	25.0	22.1		ug/L		88	73 - 120
sec-Butylbenzene	25.0	21.5		ug/L		86	74 - 127
Styrene	25.0	22.6		ug/L		91	80 - 120
tert-Butylbenzene	25.0	21.5		ug/L		86	75 - 123
Tetrachloroethene	25.0	22.7		ug/L		91	74 - 122
Tetrahydrofuran	50.0	52.2		ug/L		104	62 - 132
Toluene	25.0	20.8		ug/L		83	80 - 122
trans-1,2-Dichloroethene	25.0	20.5		ug/L		82	73 - 127
trans-1,3-Dichloropropene	25.0	20.7		ug/L		83	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: LCS 480-506255/5
Matrix: Water
Analysis Batch: 506255

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,4-Dichloro-2-butene	25.0	13.0		ug/L		52	41 - 131
Trichloroethene	25.0	23.2		ug/L		93	74 - 123
Trichlorofluoromethane	25.0	16.3		ug/L		65	62 - 150
Vinyl acetate	50.0	46.8		ug/L		94	50 - 144
Vinyl chloride	25.0	20.7		ug/L		83	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	91		80 - 120

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

Lab Sample ID: MB 480-506133/9
Matrix: Water
Analysis Batch: 506133

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020	0.0040	ug/L			11/22/19 12:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		50 - 150		11/22/19 12:37	1
TBA-d9 (Surr)	100		50 - 150		11/22/19 12:37	1

Lab Sample ID: LCS 480-506133/6
Matrix: Water
Analysis Batch: 506133

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.200	0.252		ug/L		126	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	104		50 - 150
TBA-d9 (Surr)	106		50 - 150

Lab Sample ID: LCSD 480-506133/7
Matrix: Water
Analysis Batch: 506133

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	0.200	0.249		ug/L		125	50 - 150	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	103		50 - 150
TBA-d9 (Surr)	111		50 - 150

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-479874/1-A
Matrix: Water
Analysis Batch: 480246

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium, Dissolved	ND		0.20	0.078	mg/L		12/10/19 08:00	12/11/19 10:27	1
Iron, Dissolved	ND		0.060	0.022	mg/L		12/10/19 08:00	12/11/19 10:27	1
Magnesium, Dissolved	ND		0.050	0.026	mg/L		12/10/19 08:00	12/11/19 10:27	1
Potassium, Dissolved	ND		1.0	0.24	mg/L		12/10/19 08:00	12/11/19 10:27	1
Sodium, Dissolved	ND		1.0	0.37	mg/L		12/10/19 08:00	12/11/19 10:27	1

Lab Sample ID: LCS 280-479874/2-A
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium, Dissolved	50.0	50.7		mg/L		101	90 - 111
Iron, Dissolved	10.0	10.0		mg/L		100	89 - 115
Magnesium, Dissolved	50.0	49.7		mg/L		99	90 - 113
Potassium, Dissolved	50.0	48.0		mg/L		96	89 - 114
Sodium, Dissolved	50.0	48.1		mg/L		96	90 - 115

Lab Sample ID: MB 280-480439/1-A
Matrix: Water
Analysis Batch: 480992

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 480439

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Total	ND		0.0030	0.0012	mg/L		12/16/19 10:25	12/18/19 00:28	1
Iron, Total	ND		0.060	0.022	mg/L		12/16/19 10:25	12/18/19 00:28	1

Lab Sample ID: LCS 280-480439/2-A
Matrix: Water
Analysis Batch: 480992

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 480439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	1.00	1.01		mg/L		101	89 - 111
Iron, Total	10.0	10.6		mg/L		106	89 - 115

Lab Sample ID: 280-131111-B-2-B MS
Matrix: Water
Analysis Batch: 480992

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 480439

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cobalt, Total	ND		1.00	1.02		mg/L		102	82 - 119
Iron, Total	0.062		10.0	10.8		mg/L		107	75 - 125

Lab Sample ID: 280-131111-B-2-C MSD
Matrix: Water
Analysis Batch: 480992

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 480439

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cobalt, Total	ND		1.00	1.01		mg/L		101	82 - 119	1	20
Iron, Total	0.062		10.0	10.6		mg/L		105	75 - 125	2	20

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 280-130884-E-1-C MS
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 479874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium, Dissolved	4.9		50.0	57.6		mg/L		105	75 - 125
Iron, Dissolved	ND		10.0	10.3		mg/L		103	75 - 125
Magnesium, Dissolved	2.0		50.0	53.6		mg/L		103	75 - 125
Potassium, Dissolved	0.64	J	50.0	50.1		mg/L		99	76 - 125
Sodium, Dissolved	2.5		50.0	52.2		mg/L		99	75 - 125

Lab Sample ID: 280-130884-E-1-D MSD
Matrix: Water
Analysis Batch: 480200

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 479874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium, Dissolved	4.9		50.0	56.4		mg/L		103	75 - 125	2	20
Iron, Dissolved	ND		10.0	10.1		mg/L		101	75 - 125	2	20
Magnesium, Dissolved	2.0		50.0	52.5		mg/L		101	75 - 125	2	20
Potassium, Dissolved	0.64	J	50.0	49.5		mg/L		98	76 - 125	1	20
Sodium, Dissolved	2.5		50.0	51.4		mg/L		98	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Total	ND		0.0010	0.00040	mg/L		12/11/19 07:50	12/11/19 22:29	1
Arsenic, Total	ND		0.0050	0.00033	mg/L		12/11/19 07:50	12/11/19 22:29	1
Barium, Total	ND		0.0010	0.00029	mg/L		12/11/19 07:50	12/11/19 22:29	1
Beryllium, Total	ND		0.0010	0.000080	mg/L		12/11/19 07:50	12/11/19 22:29	1
Cadmium, Total	ND		0.00030	0.00027	mg/L		12/11/19 07:50	12/11/19 22:29	1
Chromium, Total	ND		0.0030	0.00050	mg/L		12/11/19 07:50	12/11/19 22:29	1
Copper, Total	ND		0.0020	0.00056	mg/L		12/11/19 07:50	12/11/19 22:29	1
Lead, Total	ND		0.0010	0.00018	mg/L		12/11/19 07:50	12/11/19 22:29	1
Nickel, Total	ND		0.0040	0.00030	mg/L		12/11/19 07:50	12/11/19 22:29	1
Silver, Total	ND		0.0020	0.000033	mg/L		12/11/19 07:50	12/11/19 22:29	1
Thallium, Total	ND		0.0010	0.000089	mg/L		12/11/19 07:50	12/11/19 22:29	1
Vanadium, Total	ND		0.0020	0.0012	mg/L		12/11/19 07:50	12/11/19 22:29	1
Zinc, Total	ND		0.0050	0.0020	mg/L		12/11/19 07:50	12/11/19 22:29	1

Lab Sample ID: MB 280-479864/1-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese, Total	ND		0.0010	0.00031	mg/L		12/11/19 07:50	12/12/19 15:16	1
Selenium, Total	ND		0.0010	0.00037	mg/L		12/11/19 07:50	12/12/19 15:16	1

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony, Total	0.0400	0.0409		mg/L		102	80 - 111
Arsenic, Total	0.0400	0.0388		mg/L		97	92 - 112
Barium, Total	0.0400	0.0444		mg/L		111	92 - 117
Beryllium, Total	0.0400	0.0435		mg/L		109	87 - 118
Cadmium, Total	0.0400	0.0398		mg/L		100	91 - 114
Chromium, Total	0.0400	0.0383		mg/L		96	91 - 114
Copper, Total	0.0400	0.0380		mg/L		95	89 - 116
Lead, Total	0.0400	0.0425		mg/L		106	95 - 116
Nickel, Total	0.0400	0.0396		mg/L		99	92 - 116
Silver, Total	0.0400	0.0404		mg/L		101	93 - 118
Thallium, Total	0.0400	0.0417		mg/L		104	94 - 115
Vanadium, Total	0.0400	0.0377		mg/L		94	91 - 114
Zinc, Total	0.0400	0.0388		mg/L		97	86 - 120

Lab Sample ID: LCS 280-479864/2-A
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Manganese, Total	0.0400	0.0431		mg/L		108	89 - 119
Selenium, Total	0.0400	0.0401		mg/L		100	90 - 115

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony, Total	ND		0.0400	0.0403		mg/L		101	80 - 111
Arsenic, Total	ND		0.0400	0.0369		mg/L		92	92 - 112
Barium, Total	0.0033		0.0400	0.0455		mg/L		105	92 - 117
Beryllium, Total	0.00014	J	0.0400	0.0457		mg/L		114	87 - 118
Cadmium, Total	ND		0.0400	0.0394		mg/L		98	91 - 114
Chromium, Total	0.0023	J	0.0400	0.0393		mg/L		92	91 - 114
Copper, Total	ND		0.0400	0.0362		mg/L		91	89 - 116
Lead, Total	ND		0.0400	0.0416		mg/L		104	95 - 116
Nickel, Total	ND		0.0400	0.0367		mg/L		92	92 - 116
Silver, Total	ND		0.0400	0.0403		mg/L		101	93 - 118
Thallium, Total	ND		0.0400	0.0409		mg/L		102	94 - 115
Vanadium, Total	0.0041		0.0400	0.0421		mg/L		95	91 - 114
Zinc, Total	ND		0.0400	0.0370		mg/L		93	86 - 120

Lab Sample ID: 280-130796-D-1-D MS
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Manganese, Total	0.00034	J	0.0400	0.0415		mg/L		103	89 - 119
Selenium, Total	ND		0.0400	0.0391		mg/L		98	90 - 115

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: 280-130796-D-1-E MSD
Matrix: Water
Analysis Batch: 480312

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Antimony, Total	ND		0.0400	0.0414		mg/L		104	80 - 111	3	20
Arsenic, Total	ND		0.0400	0.0381		mg/L		95	92 - 112	3	20
Barium, Total	0.0033		0.0400	0.0458		mg/L		106	92 - 117	1	20
Beryllium, Total	0.00014	J	0.0400	0.0444		mg/L		111	87 - 118	3	20
Cadmium, Total	ND		0.0400	0.0400		mg/L		100	91 - 114	2	20
Chromium, Total	0.0023	J	0.0400	0.0406		mg/L		96	91 - 114	3	20
Copper, Total	ND		0.0400	0.0377		mg/L		94	89 - 116	4	20
Lead, Total	ND		0.0400	0.0427		mg/L		107	95 - 116	3	20
Nickel, Total	ND		0.0400	0.0388		mg/L		97	92 - 116	6	20
Silver, Total	ND		0.0400	0.0422		mg/L		106	93 - 118	5	20
Thallium, Total	ND		0.0400	0.0418		mg/L		105	94 - 115	2	20
Vanadium, Total	0.0041		0.0400	0.0426		mg/L		96	91 - 114	1	20
Zinc, Total	ND		0.0400	0.0386		mg/L		97	86 - 120	4	20

Lab Sample ID: 280-130796-D-1-E MSD
Matrix: Water
Analysis Batch: 480448

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 479864

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Manganese, Total	0.00034	J	0.0400	0.0418		mg/L		104	89 - 119	1	20
Selenium, Total	ND		0.0400	0.0405		mg/L		101	90 - 115	3	20

Lab Sample ID: MB 280-480437/1-A
Matrix: Water
Analysis Batch: 480915

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 480437

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Manganese, Dissolved	0.00231		0.0010	0.00031	mg/L		12/16/19 10:25	12/17/19 14:02	1

Lab Sample ID: LCS 280-480437/2-A
Matrix: Water
Analysis Batch: 480915

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 480437

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Manganese, Dissolved	0.0400	0.0380		mg/L		95	89 - 119

Lab Sample ID: 280-131057-1 MS
Matrix: Water
Analysis Batch: 480915

Client Sample ID: OBWL-TD-111819
Prep Type: Dissolved
Prep Batch: 480437

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Manganese, Dissolved	0.55	B	0.0400	0.621	4	mg/L		173	89 - 119

Lab Sample ID: 280-131057-1 MSD
Matrix: Water
Analysis Batch: 480915

Client Sample ID: OBWL-TD-111819
Prep Type: Dissolved
Prep Batch: 480437

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Manganese, Dissolved	0.55	B	0.0400	0.587	4	mg/L		88	89 - 119	6	20

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-480016/6
Matrix: Water
Analysis Batch: 480016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	3.0	mg/L			12/09/19 12:22	1
Sulfate	ND		5.0	5.0	mg/L			12/09/19 12:22	1

Lab Sample ID: LCS 280-480016/4
Matrix: Water
Analysis Batch: 480016

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	94.0		mg/L		94	90 - 110
Sulfate	100	96.3		mg/L		96	90 - 110

Lab Sample ID: LCSD 280-480016/5
Matrix: Water
Analysis Batch: 480016

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	94.6		mg/L		95	90 - 110	1	10
Sulfate	100	95.9		mg/L		96	90 - 110	0	10

Lab Sample ID: MRL 280-480016/3
Matrix: Water
Analysis Batch: 480016

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.82		mg/L		96	50 - 150
Sulfate	5.00	ND		mg/L		96	50 - 150

Lab Sample ID: 280-131060-A-9 MS
Matrix: Water
Analysis Batch: 480016

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30		50.0	80.6		mg/L		101	80 - 120
Sulfate	ND		50.0	52.6		mg/L		105	80 - 120

Lab Sample ID: 280-131060-A-9 MSD
Matrix: Water
Analysis Batch: 480016

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	30		50.0	81.3		mg/L		103	80 - 120	1	20
Sulfate	ND		50.0	53.2		mg/L		106	80 - 120	1	20

Lab Sample ID: 280-131060-A-9 DU
Matrix: Water
Analysis Batch: 480016

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	30		30.0		mg/L		0.07	15
Sulfate	ND		ND		mg/L		NC	15

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-478348/20
Matrix: Water
Analysis Batch: 478348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/20/19 11:36	1

Lab Sample ID: MB 280-478348/59
Matrix: Water
Analysis Batch: 478348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/20/19 12:54	1

Lab Sample ID: LCS 280-478348/18
Matrix: Water
Analysis Batch: 478348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.47		mg/L		99	90 - 110

Lab Sample ID: LCS 280-478348/57
Matrix: Water
Analysis Batch: 478348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.60		mg/L		104	90 - 110

Lab Sample ID: LCSD 280-478348/19
Matrix: Water
Analysis Batch: 478348

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.47		mg/L		99	90 - 110	0	10

Lab Sample ID: LCSD 280-478348/58
Matrix: Water
Analysis Batch: 478348

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.54		mg/L		102	90 - 110	2	10

Lab Sample ID: 280-130946-B-4 MS
Matrix: Water
Analysis Batch: 478348

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		1.00	1.08		mg/L		108	90 - 110

Lab Sample ID: 280-130946-B-4 MSD
Matrix: Water
Analysis Batch: 478348

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		1.00	1.06		mg/L		106	90 - 110	2	10

Eurofins TestAmerica, Denver

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: 280-131060-B-13 MS
Matrix: Water
Analysis Batch: 478348

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		1.00	1.07		mg/L		107	90 - 110

Lab Sample ID: 280-131060-B-13 MSD
Matrix: Water
Analysis Batch: 478348

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		1.00	1.01		mg/L		101	90 - 110	6	10

Lab Sample ID: MB 280-478596/20
Matrix: Water
Analysis Batch: 478596

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/22/19 10:26	1

Lab Sample ID: MB 280-478596/59
Matrix: Water
Analysis Batch: 478596

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.030	0.030	mg/L			11/22/19 11:44	1

Lab Sample ID: LCS 280-478596/18
Matrix: Water
Analysis Batch: 478596

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.58		mg/L		103	90 - 110

Lab Sample ID: LCS 280-478596/57
Matrix: Water
Analysis Batch: 478596

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.62		mg/L		105	90 - 110

Lab Sample ID: LCSD 280-478596/19
Matrix: Water
Analysis Batch: 478596

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.74		mg/L		110	90 - 110	6	10

Lab Sample ID: LCSD 280-478596/58
Matrix: Water
Analysis Batch: 478596

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	2.50	2.62		mg/L		105	90 - 110	0	10

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QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: 280-130654-A-15 MS
Matrix: Water
Analysis Batch: 478596

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		1.00	1.07		mg/L		107	90 - 110

Lab Sample ID: 280-130654-A-15 MSD
Matrix: Water
Analysis Batch: 478596

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		1.00	1.05		mg/L		105	90 - 110	1	10

Lab Sample ID: 280-131170-B-1 MS
Matrix: Water
Analysis Batch: 478596

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.046		1.00	1.11		mg/L		106	90 - 110

Lab Sample ID: 280-131170-B-1 MSD
Matrix: Water
Analysis Batch: 478596

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.046		1.00	1.11		mg/L		106	90 - 110	0	10

Method: 353.2 - Nitrate

Lab Sample ID: MB 280-479329/1
Matrix: Water
Analysis Batch: 479329

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.050	mg/L			12/02/19 14:42	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-479040/22
Matrix: Water
Analysis Batch: 479040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate/Nitrite	ND		0.050	0.050	mg/L			11/27/19 19:34	1

Lab Sample ID: LCS 280-479040/21
Matrix: Water
Analysis Batch: 479040

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	5.00	5.04		mg/L		101	90 - 110

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 280-131057-1 MS
Matrix: Water
Analysis Batch: 479040

Client Sample ID: OBWL-TD-111819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate/Nitrite	0.18	F1	4.00	3.89		mg/L		93	90 - 110

Lab Sample ID: 280-131057-1 MSD
Matrix: Water
Analysis Batch: 479040

Client Sample ID: OBWL-TD-111819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate/Nitrite	0.18	F1	4.00	3.71	F1	mg/L		88	90 - 110	5	10

Method: 410.4 - COD

Lab Sample ID: MB 280-479795/5
Matrix: Water
Analysis Batch: 479795

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (COD)	ND		10	10	mg/L			12/06/19 09:56	1

Lab Sample ID: LCS 280-479795/3
Matrix: Water
Analysis Batch: 479795

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand (COD)	100	103		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-479795/4
Matrix: Water
Analysis Batch: 479795

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand (COD)	100	110		mg/L		110	90 - 110	6	11

Lab Sample ID: 280-131057-1 MS
Matrix: Water
Analysis Batch: 479795

Client Sample ID: OBWL-TD-111819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand (COD)	26	F1	50.0	66.1	F1	mg/L		80	90 - 110

Lab Sample ID: 280-131057-1 MSD
Matrix: Water
Analysis Batch: 479795

Client Sample ID: OBWL-TD-111819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand (COD)	26	F1	50.0	65.7	F1	mg/L		80	90 - 110	1	11

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-478520/83
Matrix: Water
Analysis Batch: 478520

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/21/19 22:52	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/21/19 22:52	1

Lab Sample ID: LCS 280-478520/82
Matrix: Water
Analysis Batch: 478520

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	207		mg/L		104	89 - 109

Lab Sample ID: 280-131060-A-15 DU
Matrix: Water
Analysis Batch: 478520

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	12		12.2		mg/L		6	10

Lab Sample ID: MB 280-478694/31
Matrix: Water
Analysis Batch: 478694

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total (As CaCO3)	ND		10	10	mg/L			11/22/19 19:37	1
Alkalinity, Bicarbonate (As CaCO3)	ND		10	10	mg/L			11/22/19 19:37	1

Lab Sample ID: LCS 280-478694/30
Matrix: Water
Analysis Batch: 478694

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total (As CaCO3)	200	206		mg/L		103	89 - 109

Lab Sample ID: 280-131060-A-10 DU
Matrix: Water
Analysis Batch: 478694

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	21		22.1		mg/L		7	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-478268/1
Matrix: Water
Analysis Batch: 478268

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	5.0	mg/L			11/20/19 08:54	1

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 280-478268/2
Matrix: Water
Analysis Batch: 478268

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	496		mg/L		99	93 - 110

Lab Sample ID: LCSD 280-478268/3
Matrix: Water
Analysis Batch: 478268

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	500	490		mg/L		98	93 - 110	1	20

Lab Sample ID: 280-131055-A-5 DU
Matrix: Water
Analysis Batch: 478268

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	4300		4100		mg/L		5	10

Lab Sample ID: MB 280-479394/1
Matrix: Water
Analysis Batch: 479394

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		5.0	5.0	mg/L			12/03/19 09:10	1

Lab Sample ID: LCS 280-479394/2
Matrix: Water
Analysis Batch: 479394

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	500	510		mg/L		102	93 - 110

Lab Sample ID: LCSD 280-479394/3
Matrix: Water
Analysis Batch: 479394

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	500	513		mg/L		103	93 - 110	1	20

Lab Sample ID: 280-131298-A-20 DU
Matrix: Water
Analysis Batch: 479394

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)			1620		mg/L			

QC Sample Results

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-478271/1
Matrix: Water
Analysis Batch: 478271

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			11/20/19 08:57	1

Lab Sample ID: LCS 280-478271/2
Matrix: Water
Analysis Batch: 478271

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	81.6		mg/L		82	79 - 114

Lab Sample ID: LCSD 280-478271/3
Matrix: Water
Analysis Batch: 478271

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	86.0		mg/L		86	79 - 114	5	20

Lab Sample ID: 280-131059-A-1 DU
Matrix: Water
Analysis Batch: 478271

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	20		21.6		mg/L		8	10

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

Lab Sample ID: MB 280-480336/71
Matrix: Water
Analysis Batch: 480336

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/11/19 16:04	1

Lab Sample ID: LCS 280-480336/69
Matrix: Water
Analysis Batch: 480336

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	25.4		mg/L		102	88 - 112

Lab Sample ID: LCSD 280-480336/70
Matrix: Water
Analysis Batch: 480336

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	25.9		mg/L		103	88 - 112	2	15

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QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

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

Lab Sample ID: 280-130866-E-4 MS
Matrix: Water
Analysis Batch: 480336

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	ND		25.0	26.1		mg/L		104	88 - 112

Lab Sample ID: 280-130866-E-4 MSD
Matrix: Water
Analysis Batch: 480336

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	ND		25.0	26.1		mg/L		104	88 - 112	0	15

Lab Sample ID: MB 280-480839/5
Matrix: Water
Analysis Batch: 480839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	1.0	mg/L			12/16/19 15:34	1

Lab Sample ID: LCS 280-480839/3
Matrix: Water
Analysis Batch: 480839

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	25.1		mg/L		100	88 - 112

Lab Sample ID: LCSD 280-480839/4
Matrix: Water
Analysis Batch: 480839

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	24.3		mg/L		97	88 - 112	3	15

Lab Sample ID: 280-131217-G-1 MS
Matrix: Water
Analysis Batch: 480839

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	1.8		25.0	26.3		mg/L		98	88 - 112

Lab Sample ID: 280-131217-G-1 MSD
Matrix: Water
Analysis Batch: 480839

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	1.8		25.0	26.8		mg/L		100	88 - 112	2	15

QC Sample Results

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Method: SM5210B - BOD, 5 Day

Lab Sample ID: MB 280-479469/4
Matrix: Water
Analysis Batch: 479469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			12/03/19 18:25	1

Lab Sample ID: SCB 280-479469/1
Matrix: Water
Analysis Batch: 479469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	SCB Result	SCB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			12/03/19 18:25	1

Lab Sample ID: USB 280-479469/2
Matrix: Water
Analysis Batch: 479469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			12/03/19 18:25	1

Lab Sample ID: LCS 280-479469/3
Matrix: Water
Analysis Batch: 479469

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	171		mg/L		86	85 - 115

Lab Sample ID: 280-131503-D-1 DU
Matrix: Water
Analysis Batch: 479469

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	ND		ND		mg/L		NC	20

QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

GC/MS VOA

Analysis Batch: 506111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	8260C	
MB 480-506111/8	Method Blank	Total/NA	Water	8260C	
LCS 480-506111/6	Lab Control Sample	Total/NA	Water	8260C	
480-162908-C-5 MS	Matrix Spike	Total/NA	Water	8260C	
480-162908-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 506133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	8260C SIM	
280-131057-2	L-INF-111819	Total/NA	Water	8260C SIM	
280-131057-3	TRIP BLANK	Total/NA	Water	8260C SIM	
MB 480-506133/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-506133/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-506133/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 506255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-2	L-INF-111819	Total/NA	Water	8260C	
280-131057-3	TRIP BLANK	Total/NA	Water	8260C	
MB 480-506255/7	Method Blank	Total/NA	Water	8260C	
LCS 480-506255/5	Lab Control Sample	Total/NA	Water	8260C	

Metals

Prep Batch: 479864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total Recoverable	Water	3005A	
280-131057-2	L-INF-111819	Total Recoverable	Water	3005A	
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	3005A	
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 479874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Dissolved	Water	3005A	
280-131057-2	L-INF-111819	Dissolved	Water	3005A	
MB 280-479874/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-479874/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-130884-E-1-C MS	Matrix Spike	Dissolved	Water	3005A	
280-130884-E-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Analysis Batch: 480200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Dissolved	Water	6010D	479874
280-131057-2	L-INF-111819	Dissolved	Water	6010D	479874
LCS 280-479874/2-A	Lab Control Sample	Total Recoverable	Water	6010D	479874
280-130884-E-1-C MS	Matrix Spike	Dissolved	Water	6010D	479874
280-130884-E-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	6010D	479874

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Metals

Analysis Batch: 480246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-479874/1-A	Method Blank	Total Recoverable	Water	6010D	479874

Analysis Batch: 480312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total Recoverable	Water	6020B	479864
280-131057-2	L-INF-111819	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	6020B	479864
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020B	479864

Analysis Batch: 480396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-2	L-INF-111819	Dissolved	Water	6010D	479874

Prep Batch: 480437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Dissolved	Water	3005A	
280-131057-2	L-INF-111819	Dissolved	Water	3005A	
MB 280-480437/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-480437/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-131057-1 MS	OBWL-TD-111819	Dissolved	Water	3005A	
280-131057-1 MSD	OBWL-TD-111819	Dissolved	Water	3005A	

Prep Batch: 480439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total Recoverable	Water	3005A	
280-131057-2	L-INF-111819	Total Recoverable	Water	3005A	
MB 280-480439/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-480439/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-131111-B-2-B MS	Matrix Spike	Total Recoverable	Water	3005A	
280-131111-B-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 480448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total Recoverable	Water	6020B	479864
280-131057-2	L-INF-111819	Total Recoverable	Water	6020B	479864
MB 280-479864/1-A	Method Blank	Total Recoverable	Water	6020B	479864
LCS 280-479864/2-A	Lab Control Sample	Total Recoverable	Water	6020B	479864
280-130796-D-1-D MS	Matrix Spike	Total Recoverable	Water	6020B	479864
280-130796-D-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020B	479864

Analysis Batch: 480915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Dissolved	Water	6020B	480437
280-131057-2	L-INF-111819	Dissolved	Water	6020B	480437
MB 280-480437/1-A	Method Blank	Total Recoverable	Water	6020B	480437
LCS 280-480437/2-A	Lab Control Sample	Total Recoverable	Water	6020B	480437
280-131057-1 MS	OBWL-TD-111819	Dissolved	Water	6020B	480437
280-131057-1 MSD	OBWL-TD-111819	Dissolved	Water	6020B	480437

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QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Metals

Analysis Batch: 480992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total Recoverable	Water	6010D	480439
280-131057-2	L-INF-111819	Total Recoverable	Water	6010D	480439
MB 280-480439/1-A	Method Blank	Total Recoverable	Water	6010D	480439
LCS 280-480439/2-A	Lab Control Sample	Total Recoverable	Water	6010D	480439
280-131111-B-2-B MS	Matrix Spike	Total Recoverable	Water	6010D	480439
280-131111-B-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010D	480439

General Chemistry

Analysis Batch: 478268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	SM 2540C	
280-131057-2	L-INF-111819	Total/NA	Water	SM 2540C	
MB 280-478268/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-478268/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-478268/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-131055-A-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 478271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	SM 2540D	
280-131057-2	L-INF-111819	Total/NA	Water	SM 2540D	
MB 280-478271/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-478271/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-478271/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-131059-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Analysis Batch: 478348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	350.1	
280-131057-2	L-INF-111819	Total/NA	Water	350.1	
MB 280-478348/20	Method Blank	Total/NA	Water	350.1	
MB 280-478348/59	Method Blank	Total/NA	Water	350.1	
LCS 280-478348/18	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-478348/57	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-478348/19	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 280-478348/58	Lab Control Sample Dup	Total/NA	Water	350.1	
280-130946-B-4 MS	Matrix Spike	Total/NA	Water	350.1	
280-130946-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
280-131060-B-13 MS	Matrix Spike	Total/NA	Water	350.1	
280-131060-B-13 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 478520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-2	L-INF-111819	Total/NA	Water	SM 2320B	
MB 280-478520/83	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478520/82	Lab Control Sample	Total/NA	Water	SM 2320B	
280-131060-A-15 DU	Duplicate	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

General Chemistry

Analysis Batch: 478596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-478596/20	Method Blank	Total/NA	Water	350.1	
MB 280-478596/59	Method Blank	Total/NA	Water	350.1	
LCS 280-478596/18	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-478596/57	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-478596/19	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 280-478596/58	Lab Control Sample Dup	Total/NA	Water	350.1	
280-130654-A-15 MS	Matrix Spike	Total/NA	Water	350.1	
280-130654-A-15 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
280-131170-B-1 MS	Matrix Spike	Total/NA	Water	350.1	
280-131170-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 478694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	SM 2320B	
MB 280-478694/31	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478694/30	Lab Control Sample	Total/NA	Water	SM 2320B	
280-131060-A-10 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 479040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	353.2	
280-131057-2	L-INF-111819	Total/NA	Water	353.2	
MB 280-479040/22	Method Blank	Total/NA	Water	353.2	
LCS 280-479040/21	Lab Control Sample	Total/NA	Water	353.2	
280-131057-1 MS	OBWL-TD-111819	Total/NA	Water	353.2	
280-131057-1 MSD	OBWL-TD-111819	Total/NA	Water	353.2	

Analysis Batch: 479329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	353.2	
280-131057-2	L-INF-111819	Total/NA	Water	353.2	
MB 280-479329/1	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 479394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-479394/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-479394/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-479394/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
280-131298-A-20 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 479469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	SM5210B	
280-131057-2	L-INF-111819	Total/NA	Water	SM5210B	
MB 280-479469/4	Method Blank	Total/NA	Water	SM5210B	
SCB 280-479469/1	Method Blank	Total/NA	Water	SM5210B	
USB 280-479469/2	Method Blank	Total/NA	Water	SM5210B	
LCS 280-479469/3	Lab Control Sample	Total/NA	Water	SM5210B	
280-131503-D-1 DU	Duplicate	Total/NA	Water	SM5210B	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

General Chemistry

Analysis Batch: 479795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	410.4	
280-131057-2	L-INF-111819	Total/NA	Water	410.4	
MB 280-479795/5	Method Blank	Total/NA	Water	410.4	
LCS 280-479795/3	Lab Control Sample	Total/NA	Water	410.4	
LCSD 280-479795/4	Lab Control Sample Dup	Total/NA	Water	410.4	
280-131057-1 MS	OBWL-TD-111819	Total/NA	Water	410.4	
280-131057-1 MSD	OBWL-TD-111819	Total/NA	Water	410.4	

Analysis Batch: 480016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	300.0	
280-131057-2	L-INF-111819	Total/NA	Water	300.0	
280-131057-2	L-INF-111819	Total/NA	Water	300.0	
MB 280-480016/6	Method Blank	Total/NA	Water	300.0	
LCS 280-480016/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-480016/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-480016/3	Lab Control Sample	Total/NA	Water	300.0	
280-131060-A-9 MS	Matrix Spike	Total/NA	Water	300.0	
280-131060-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-131060-A-9 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 480336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	SM 5310B	
MB 280-480336/71	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-480336/69	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 280-480336/70	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
280-130866-E-4 MS	Matrix Spike	Total/NA	Water	SM 5310B	
280-130866-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 480839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-2	L-INF-111819	Total/NA	Water	SM 5310B	
MB 280-480839/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-480839/3	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 280-480839/4	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
280-131217-G-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
280-131217-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Field Service / Mobile Lab

Analysis Batch: 478246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-131057-1	OBWL-TD-111819	Total/NA	Water	Field Sampling	
280-131057-2	L-INF-111819	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: Waste Management
Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Client Sample ID: OBWL-TD-111819

Lab Sample ID: 280-131057-1

Date Collected: 11/18/19 11:35

Matrix: Water

Date Received: 11/19/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	506111	11/22/19 18:11	RJF	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	506133	11/22/19 13:10	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 23:21	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	480439	12/16/19 10:25	DEG	TAL DEN
Total Recoverable	Analysis	6010D		1			480992	12/18/19 02:12	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	480437	12/16/19 10:25	MRJ	TAL DEN
Dissolved	Analysis	6020B		1			480915	12/17/19 14:09	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/11/19 23:58	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:52	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	480016	12/09/19 16:48	JAP	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	478348	11/20/19 12:46	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	479040	11/27/19 19:36	SVC	TAL DEN
Total/NA	Analysis	410.4		1	2 mL	2 mL	479795	12/06/19 09:56	SPG	TAL DEN
Total/NA	Analysis	SM 2320B		1			478694	11/22/19 20:07	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	478268	11/20/19 08:54	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478271	11/20/19 08:57	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	480336	12/11/19 18:25	SGB	TAL DEN
Total/NA	Analysis	SM5210B		1			479469	12/03/19 18:25	BWH	TAL DEN
Total/NA	Analysis	Field Sampling		1			478246	11/18/19 11:35	K1I	TAL DEN

Client Sample ID: L-INF-111819

Lab Sample ID: 280-131057-2

Date Collected: 11/18/19 13:00

Matrix: Water

Date Received: 11/19/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	5 mL	5 mL	506255	11/22/19 23:16	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		10	25 mL	25 mL	506133	11/22/19 13:34	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		1			480200	12/10/19 23:24	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	479874	12/10/19 08:00	AL	TAL DEN
Dissolved	Analysis	6010D		10			480396	12/11/19 18:35	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	480439	12/16/19 10:25	DEG	TAL DEN
Total Recoverable	Analysis	6010D		1			480992	12/18/19 02:16	LMT	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	480437	12/16/19 10:25	MRJ	TAL DEN
Dissolved	Analysis	6020B		1			480915	12/17/19 14:27	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480312	12/12/19 00:02	LMT	TAL DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	479864	12/11/19 07:50	AL	TAL DEN
Total Recoverable	Analysis	6020B		1			480448	12/12/19 16:56	LMT	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Waste Management
 Project/Site: WA02|Olympic View Sanitary LF

Job ID: 280-131057-1

Client Sample ID: L-INF-111819

Lab Sample ID: 280-131057-2

Date Collected: 11/18/19 13:00

Matrix: Water

Date Received: 11/19/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	5 mL	5 mL	480016	12/09/19 17:20	JAP	TAL DEN
Total/NA	Analysis	300.0		10	5 mL	5 mL	480016	12/09/19 17:37	JAP	TAL DEN
Total/NA	Analysis	350.1		100	10 mL	10 mL	478348	11/20/19 14:26	SAH	TAL DEN
Total/NA	Analysis	353.2		1			479329	12/02/19 14:42	CCJ	TAL DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	479040	11/27/19 19:42	SVC	TAL DEN
Total/NA	Analysis	410.4		5	2 mL	2 mL	479795	12/06/19 09:56	SPG	TAL DEN
Total/NA	Analysis	SM 2320B		1			478520	11/22/19 00:43	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	478268	11/20/19 08:54	FRG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	478271	11/20/19 08:57	FRG	TAL DEN
Total/NA	Analysis	SM 5310B		5	20 mL	20 mL	480839	12/16/19 20:43	SGB	TAL DEN
Total/NA	Analysis	SM5210B		1	120 mL	300 mL	479469	12/03/19 18:25	BWH	TAL DEN
Total/NA	Analysis	Field Sampling		1			478246	11/18/19 13:00	K1I	TAL DEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-131057-3

Date Collected: 11/18/19 13:00

Matrix: Water

Date Received: 11/19/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	506255	11/22/19 23:40	OMI	TAL BUF
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	506133	11/22/19 13:58	CDC	TAL BUF

Laboratory References:

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

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

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



03 December 2019

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.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
19K0273	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 enclosed 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.





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 170164
Project Manager: Betsy Sara

Reported:
03-Dec-2019 17:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OBWL-TD-111819	19K0273-01	Water	18-Nov-2019 11:35	18-Nov-2019 17:52
L-INF-111819	19K0273-02	Water	18-Nov-2019 13:00	18-Nov-2019 17:52

- 1
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- 13
- 14
- 15



Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 170164 Project Manager: Betsy Sara	Reported: 03-Dec-2019 17:05
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Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received November 18, 2019 under ARI work order 19K0273. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Metals - 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 blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.



WORK ORDER

19K0273

Client: Test America - Denver Project Manager: Amanda Volgardsen
Project: OVSL Project Number: 04204027.20

Report To: Test America - Denver Betsy Sara 4955 Yarrow Street Arvada, CO 80002 Phone: (303) 736-0100 Fax: (303) 431-7171	Invoice To: Test America - Denver Sample Receiving 4955 Yarrow Street Arvada, CO 80002 Phone : (303) 736-0100 Fax: (303) 431-7171
--	--

Date Due: 04-Dec-2019 18:00 (10 day TAT)
Received By: Jacob Walter Date Received: 18-Nov-2019 17:52
Logged In By: Jacob Walter Date Logged In: 19-Nov-2019 09:17

Samples Received at: 1.6°C

Intact, properly signed and dated custody seals attached to outside of cooler(s).....No	Custody papers included with the cooler.....	Yes
Custody papers properly filled out (in, signed, analyses requested, etc).....Yes	Was a temperature blank included in the cooler.....	No
Was sufficient ice used (if appropriate).....Yes	All bottles sealed in individual plastic bags.....	No
All bottles arrived in good condition (unbroken).....Yes	All bottle labels complete and legible.....	Yes
Number of containers listed on COC match number received.....Yes	Bottle labels and tags agree with COC.....	Yes
Correct bottles used for the requested analyses.....Yes	All VOC vials free of air bubbles.....	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC).....Yes	Sufficient amount of sample sent in each bottle.....	Yes
Sample split at ARI.....No		

19K0273-01 OBWL-TD-111819 [Water] Sampled 18-Nov-2019 11:35

Met 200.8 - As	12/04/2019	10	5/16/2020
----------------	------------	----	-----------

19K0273-02 L-INF-111819 [Water] Sampled 18-Nov-2019 13:00

Met 200.8 - As	12/04/2019	10	5/16/2020
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Preservation Confirmation

Container ID	Container Type	pH	
19K0273-01 A	Miscellaneous container, 1:1 HN03	6.2	Pass
19K0273-02 A	Miscellaneous container, 1:1 HN03	7.2	Fail

Preservation Confirmed By: JBW Date: 11/19/19



Cooler Receipt Form

ARI Client: Aspect Test America - Denver Project Name: OSL

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 19K0273 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1752 1.6

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO5206

Cooler Accepted by: [Signature] Date: 11/18/19 Time: 1752

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

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI..... NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JBM Date: 11/19/19 Time: 0917 Labels checked by: JBM

**** 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: _____



Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 170164 Project Manager: Betsy Sara	Reported: 03-Dec-2019 17:05
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OBWL-TD-111819
19K0273-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/18/2019 11:35
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 18:48
Sample Preparation:	Extract ID: 19K0273-01 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0000400	0.00472	mg/L	





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 170164 Project Manager: Betsy Sara	Reported: 03-Dec-2019 17:05
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L-INF-111819
19K0273-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8	Sampled: 11/18/2019 13:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 12/02/2019 19:19
Sample Preparation:	Extract ID: 19K0273-02 A 01
Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x	
Preparation Batch: BHL0006	Sample Size: 100 mL
Prepared: 02-Dec-2019	Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	10	0.000400	0.00613	mg/L	D





Test America - Denver 4955 Yarrow Street Arvada CO, 80002	Project: OVSL Project Number: 170164 Project Manager: Betsy Sara	Reported: 03-Dec-2019 17:05
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Metals and Metallic Compounds - Quality Control

Batch BHL0006 - 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 (BHL0006-BLK1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:14					
Arsenic	75a	ND	0.0000400	mg/L							U
LCS (BHL0006-BS1)						Prepared: 02-Dec-2019 Analyzed: 02-Dec-2019 17:19					
Arsenic	75a	0.00456	0.0000400	mg/L	0.00500		91.3	80-120			





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 170164
Project Manager: Betsy Sara

Reported:
03-Dec-2019 17:05

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	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019





Test America - Denver
4955 Yarrow Street
Arvada CO, 80002

Project: OVSL
Project Number: 170164
Project Manager: Betsy Sara

Reported:
03-Dec-2019 17:05

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 reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Client Information Client Contact: <u>Peter Bonniester</u> Company: <u>Olympic View Transfer Station</u> Address: <u>9300 Southwest Barney White Road</u> City: <u>Bremerton</u> State, Zip: <u>WA, 98312</u> Phone: _____ Email: <u>bonniester@inspectionsalary.com</u> Project Name: <u>WA02/Olympic View Sanitary LF</u> Site: <u>Washington</u>		Sampler: <u>David Unruh</u> Lab PM: <u>Sara, Betsy A</u> Phone: <u>(206) 780-7778</u> E-Mail: <u>betsy.sara@testamericainc.com</u>		COC No: <u>280-29114-4071.1</u> Page: <u>Page 1 of 1</u> Job #: _____																	
Due Date Requested: _____ TAT Requested (days): <u>standard</u> PO #: <u>170164</u> WO #: _____ Project #: <u>28002692-Annual OBW-TBL-INF App I/II-Dec</u> SSOW#: _____		Analysis Requested																			
Sample Identification <u>OBWL-TD-11814</u> <u>L-IF-11814</u> <u>Trip Blank</u>		Sample Date <u>11/18/14</u>	Sample Time <u>1135</u> <u>1300</u> <u>-</u>	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOA	8260B - SIM - Vinyl chloride	Cl/SO4/AiKs/TDS/NO3 (353.2-cad)	Dissolved Metals	Ammonia/NOX/TTC/COD	LL Total Arsenic (direct sub to ARI)	Biochemical Oxygen Demand (BOD)	Total Metals	TSS	Total Number of Containers	Special Instructions/Note: short hold: Nitrate (353.2-cad) and BOD LL Total As is direct ship to ARI		
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by: _____ Date: _____		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:		Method of Shipment:		Relinquished by: <u>David Unruh</u> Date/Time: <u>11/18/14 1600</u> Company: <u>Aspect</u>		Relinquished by: _____ Date/Time: _____ Company: _____		Relinquished by: _____ Date/Time: _____ Company: _____		Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: _____	



FIELD INFORMATION FORM



Site Name: OUSL
 Site No.:
 Sample Point: O3WLT 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
<u>11/18/19</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

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: or N 0.45 μ or _____ μ (circle or fill in)

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

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

X-Other: _____ A-Teflon C-PVC X-Other: _____
 B-Stainless Steel D-Polypropylene

Sample Tube Type: _____

WELL DATA

Well Elevation (at TOC) _____ (ft/msl) Depth to Water (DTW) (from TOC) 8.25 (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) (umhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
<u>11:19</u>	<u>0.2</u> 1 st	<u>3.26</u>	<u>321.4</u>	<u>11.8</u>	<u>8.4</u>	<u>8.98</u>	<u>104.2</u>	<u>8.3</u>
<u>11:22</u>	2 nd	<u>3.13</u>	<u>308.1</u>	<u>11.9</u>	<u>5.7</u>	<u>8.0</u>	<u>124.0</u>	<u>8.3</u>
<u>11:25</u>	3 rd	<u>3.08</u>	<u>309.1</u>	<u>11.9</u>	<u>5.3</u>	<u>7.3</u>	<u>186.9</u>	<u>8.3</u>
<u>11:28</u>	4 th	<u>3.11</u>	<u>314.7</u>	<u>11.9</u>	<u>5.5</u>	<u>6.5</u>	<u>296.6</u>	<u>8.3</u>
<u>11:31</u>		<u>3.10</u>	<u>313.9</u>	<u>11.9</u>		<u>6.3</u>	<u>346.9</u>	<u>8.3</u>
<u>11:34</u>								

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2 Conductance +/- 3% Temp. -- Turbidity -- D.O. +/- 10% eH/ORP +/- 25 mV DTW 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: _____
<u>11/18/19</u>	<u>3.08</u>	<u>314.0</u>	<u>11.9</u>	<u> </u>	<u>6.1</u>	<u>366.0</u>	<u> </u>

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: Still Outlook: _____ Precipitation: Y or N

FIELD COMMENTS

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

Sample Time 11:35

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

11/18/19 David Ursh David Ursh Aspent Consulting

 Date Name Signature Company

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

RT 579

6

11:19



10:30 A

15:00 G

RT 319

1

ORIGIN ID:WHHA (303) 736-0100

SHIP DATE: 12NOV19

ORIGIN ID:PWTA

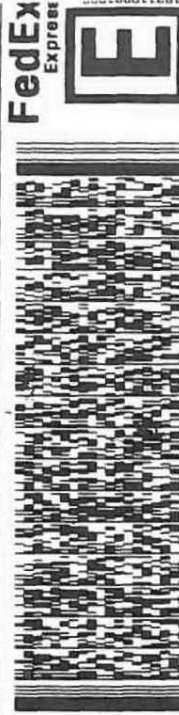
SHIP DATE: 19NOV19
ACTWGT: 52.50 LB
CAD: /SSFE2021
DIMS: 23x14x13 IN

TO TEST AMERICA
TEST AMERICA
4955 YARROW ST

ARVADA CO 80002

(US)

(303) 736-0100 REF:
NUM: DEPT:

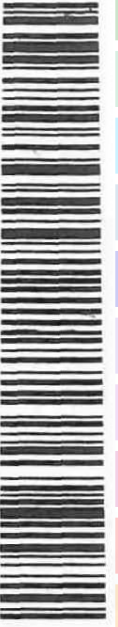


TUE - 19 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 8113 9338 1603
0667

XH WHHA

80002
CO-US DEN



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Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-131057-1

Login Number: 131057

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Lubin, Julius C

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: 280-131057-1

Login Number: 131057

List Number: 2

Creator: Hulbert, Michael J

List Source: Eurofins TestAmerica, Buffalo

List Creation: 11/21/19 04:20 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	2.6 #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	

Appendix C

2019 Annual Time Series, Trend Test, & Predication Limit Evaluation



Olympic View Sanitary Landfill
Annual Statistical Evaluation & Summary
2019 Monitoring Year

Prepared for:

SCS ENGINEERS

2405 140th Ave NE, Ste 107
Bellevue, Washington 98005
(425) 746-4600

Prepared by:

GeoChem Applications
Geochemical and Statistical Data Analysis

3941 Park Drive, Suite 20-249
El Dorado Hills, CA 95762
916 ♦ 939 ♦ 2307
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FEBRUARY 2020

CONTENTS:

1. *Statistical Trend Analysis (showing status through Q4 2019)*
 2. *Prediction Limits for Detection Monitoring*
 - a. *2019 Prediction Limits (showing status through Q4 2019)*
 - b. *Updated Prediction Limits for Use in 2020 Monitoring Year*
 3. *2019 Annual UCL Calculations for Preliminary Groundwater Cleanup Goals*
-

1. Statistical Trend Analysis

- Trend Results Summary Table (showing status through Q4 2019) (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 2019 REPORT

Trend Test Period: January 2005 through December 2019

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

*trend status shown is based on most recent event with reported data, as shown

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)
		MW-19C (graph 341)
Vinyl Chloride	None	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)		
	<u>Significant Increasing Trends</u>	<u>Significant Decreasing Trends</u>
Alkalinity, bicarbonate (as CaCO ₃)	MW-13B (graph 2) MW-35 (graph 12)	MW-15R (graph 3) MW-34A (graph 10) MW-34C (graph 11) MW-36A (graph 13) MW-42 (graph 15)
Alkalinity, total (as CaCO ₃)	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-33C (graph 73) MW-42 (graph 79)	MW-19C (graph 69)
Barium, total	None	MW-15R (graph 83)
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-34A (graph 138) MW-34C (graph 139) MW-36A (graph 141)
Chloride	MW-39 (graph 158)	MW-13B (graph 146) MW-15R (graph 147) MW-16 (graph 148) MW-19C (graph 149) 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

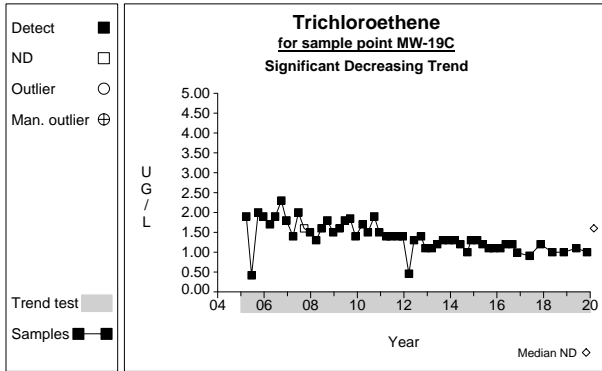
TABLE 1-1

Iron, total	None	None
Lead, total	None	None
Magnesium, dissolved	None	MW-15R (graph 243) MW-16 (graph 244) 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-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-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-33C (graph 393) MW-35 (graph 396)	MW-15R (graph 387) MW-19C (graph 389) MW-33A (graph 392) MW-34A (graph 394) MW-34C (graph 395)
Sulfate	None	MW-13A (graph 401) MW-13B (graph 402) MW-19C (graph 405) MW-32 (graph 407) 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

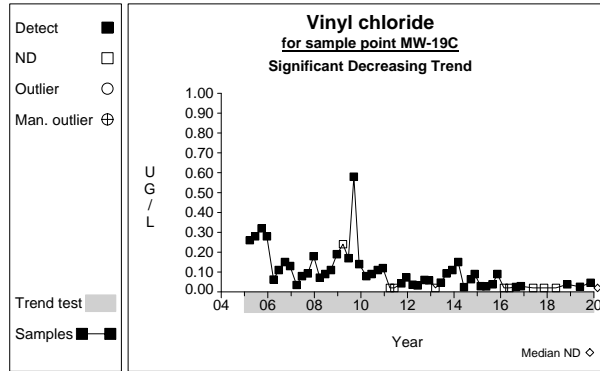
TABLE 1-1

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	MW-34C (graph 475)
Vanadium, total	None	MW-34A (graph 490) MW-36A (graph 493)
Zinc, total	None	None

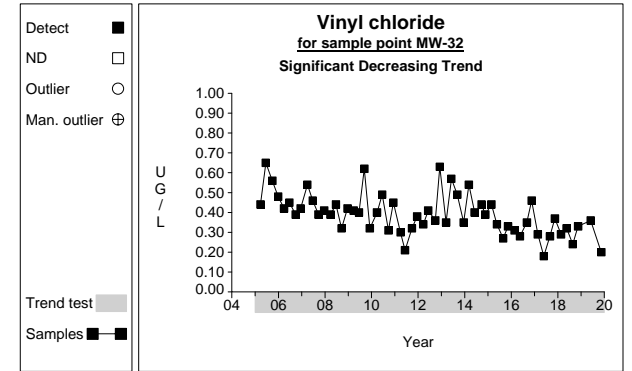
Time Series



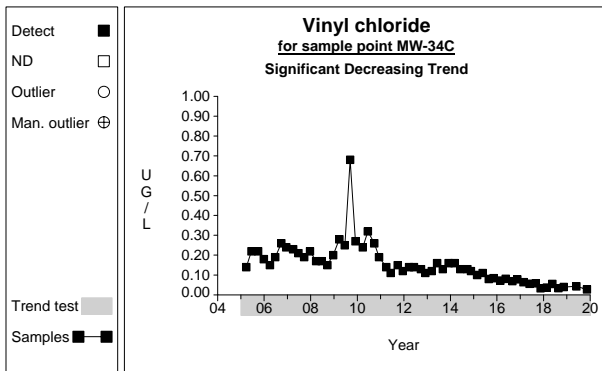
Graph 325



Graph 341

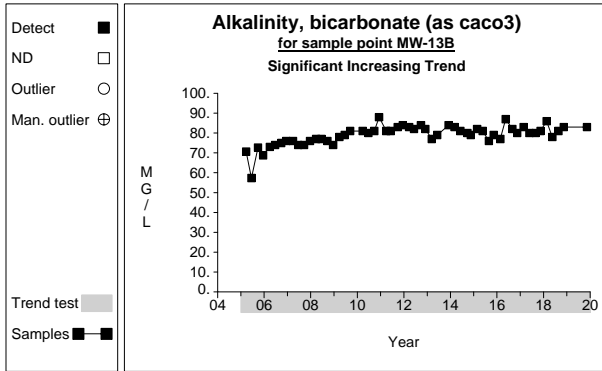


Graph 343

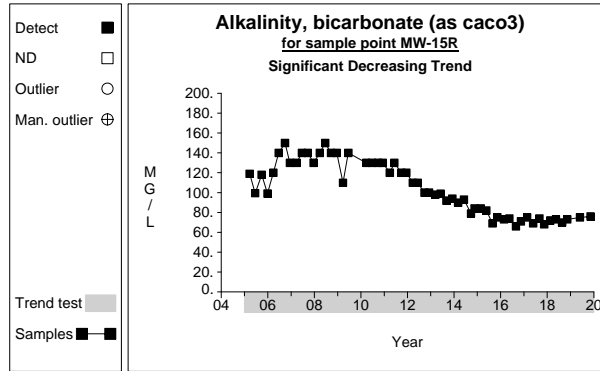


Graph 347

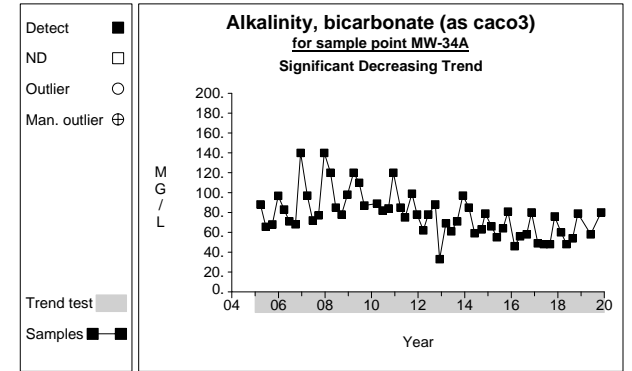
Time Series



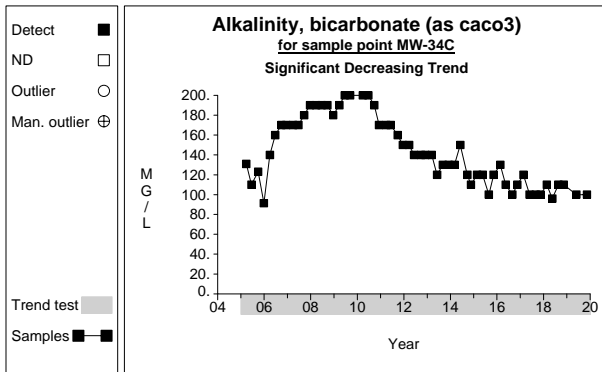
Graph 2



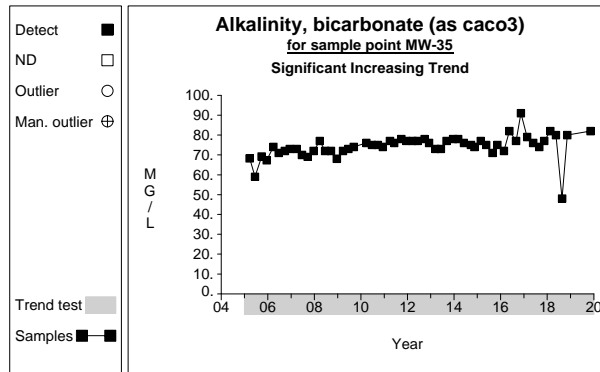
Graph 3



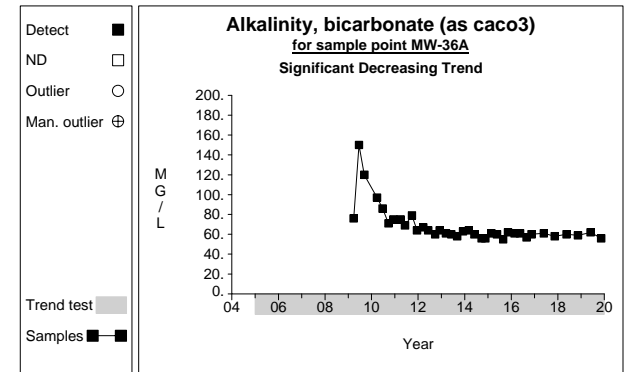
Graph 10



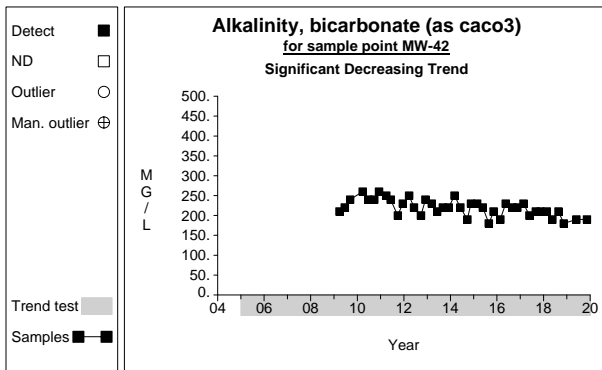
Graph 11



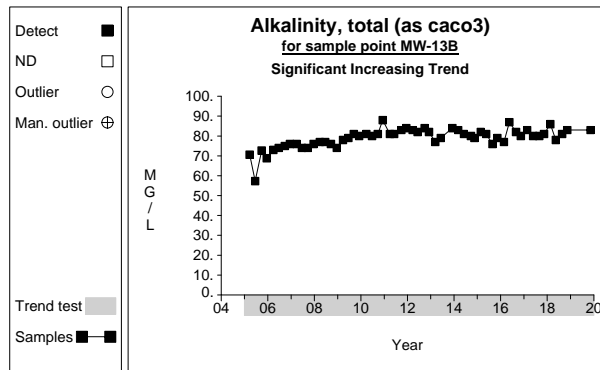
Graph 12



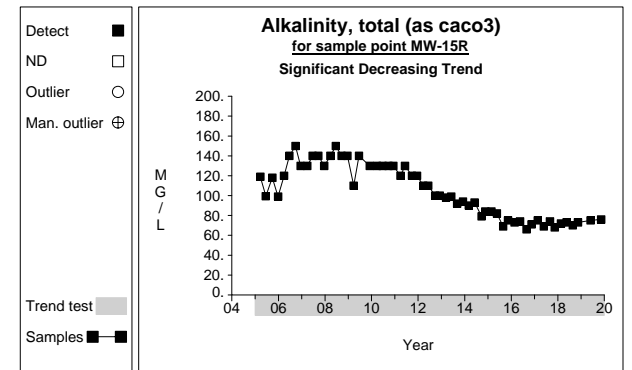
Graph 13



Graph 15

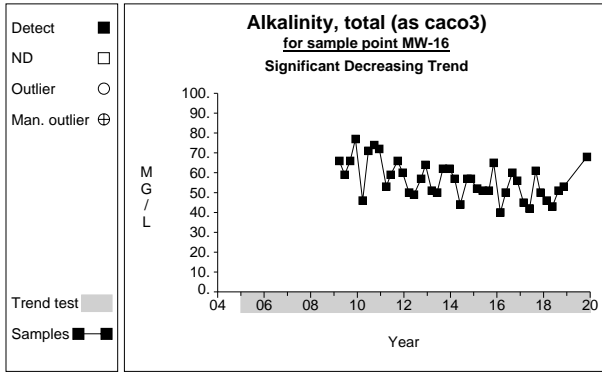


Graph 18

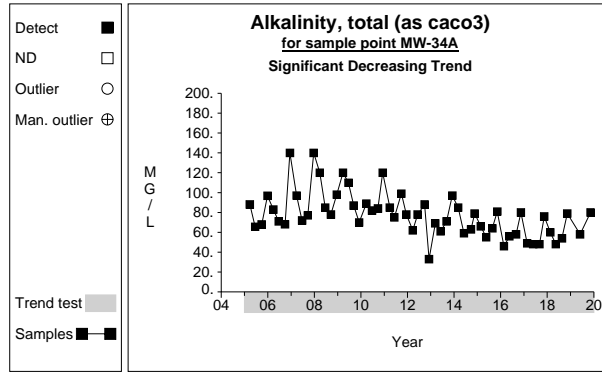


Graph 19

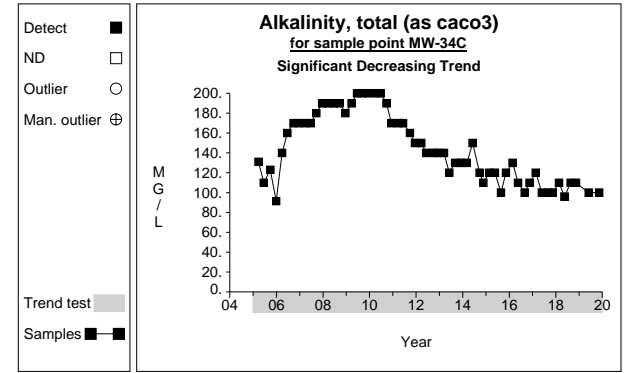
Time Series



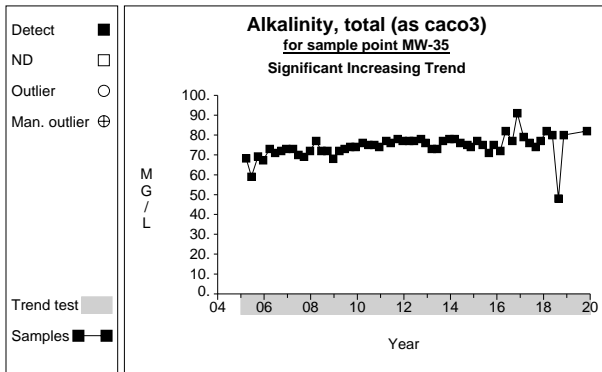
Graph 20



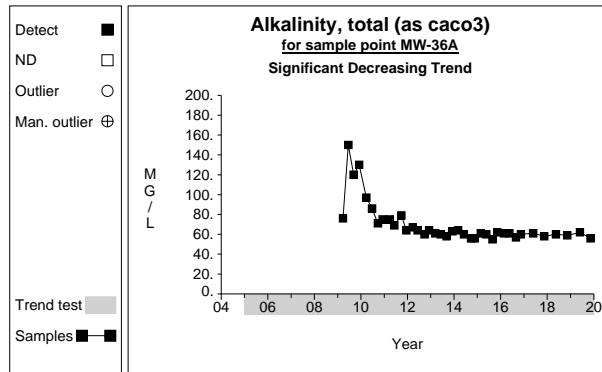
Graph 26



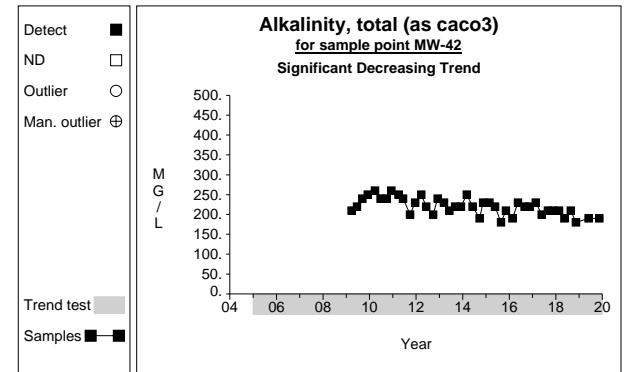
Graph 27



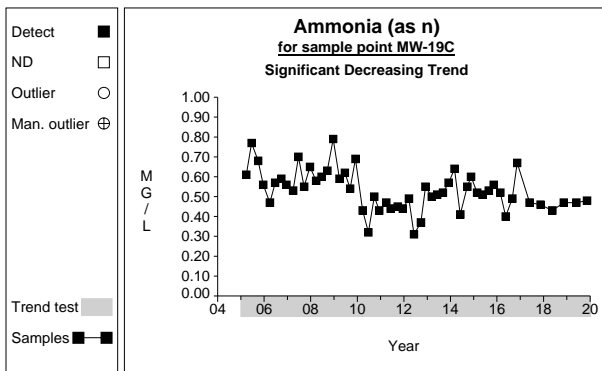
Graph 28



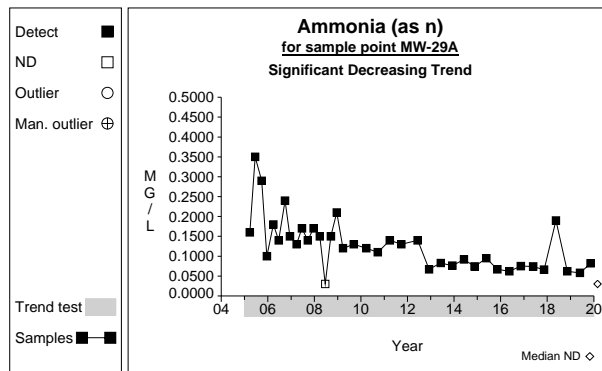
Graph 29



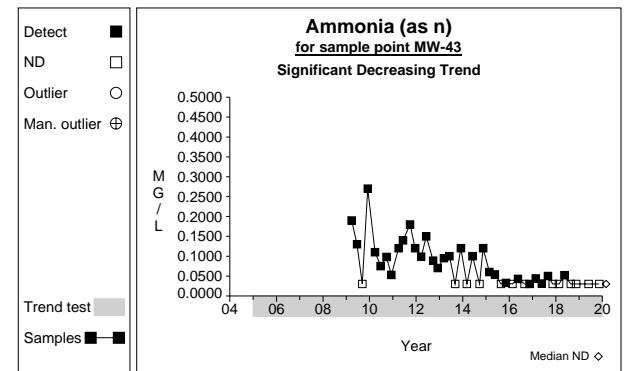
Graph 31



Graph 37

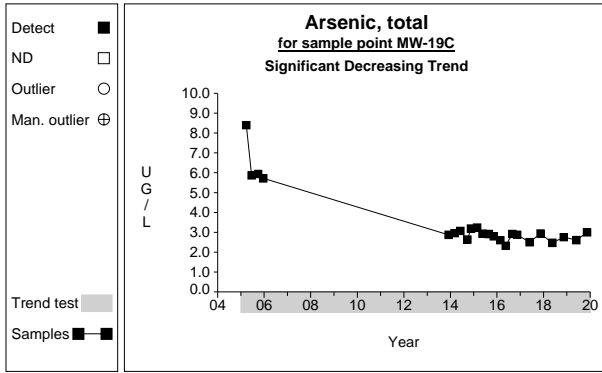


Graph 38

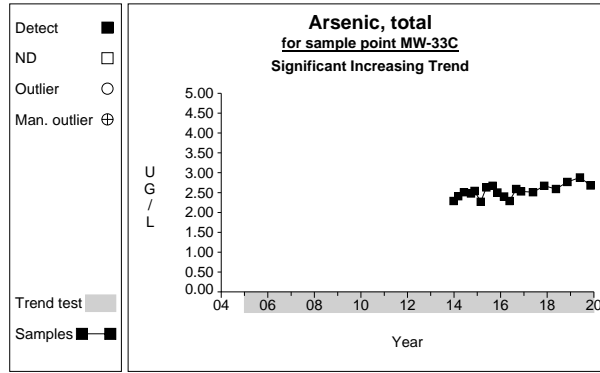


Graph 48

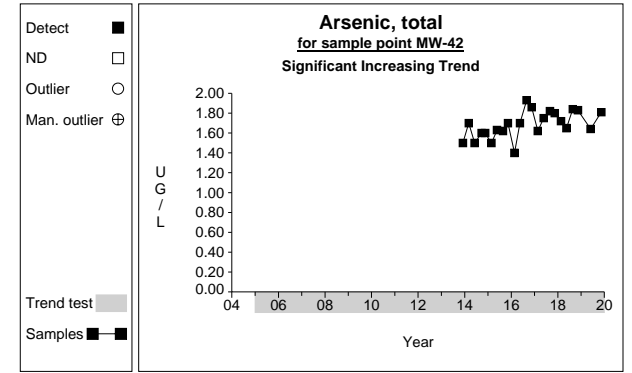
Time Series



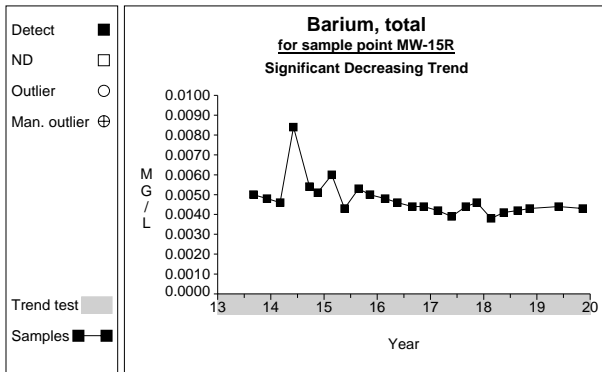
Graph 69



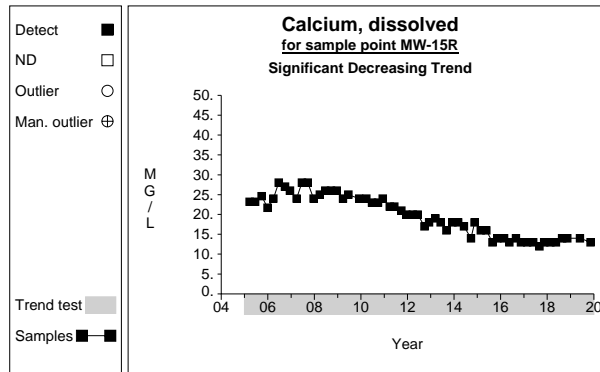
Graph 73



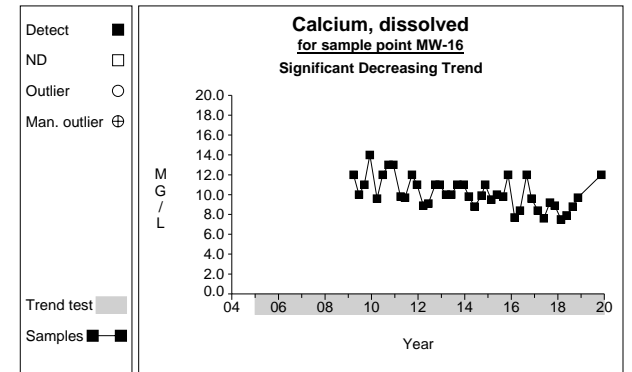
Graph 79



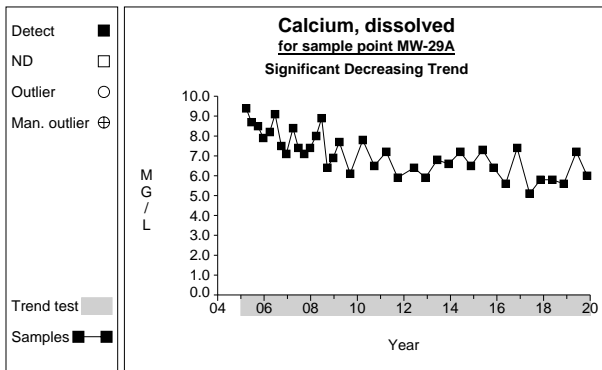
Graph 83



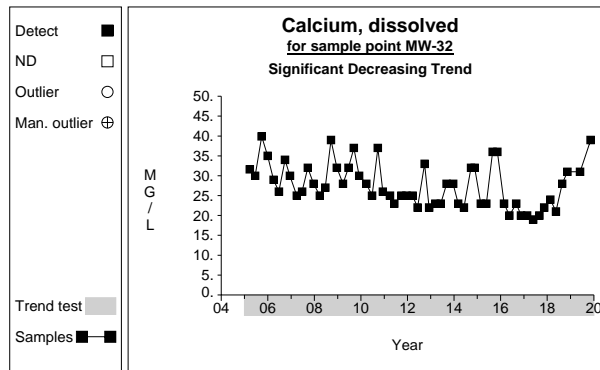
Graph 131



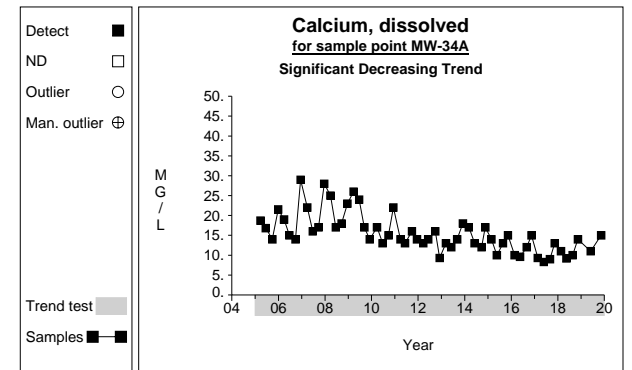
Graph 132



Graph 134

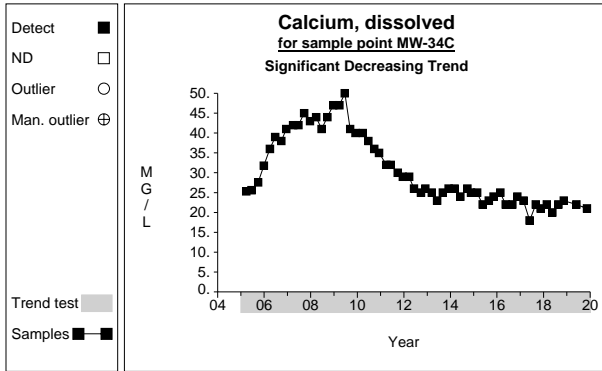


Graph 135

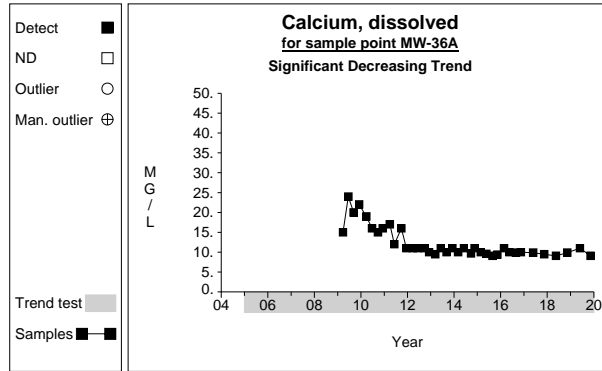


Graph 138

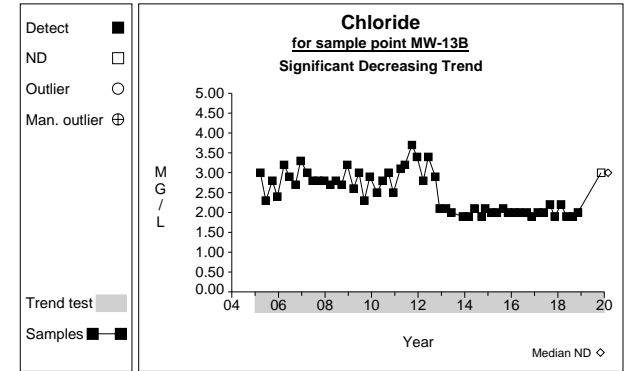
Time Series



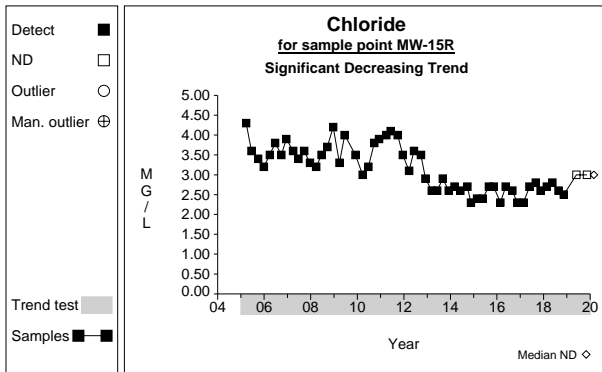
Graph 139



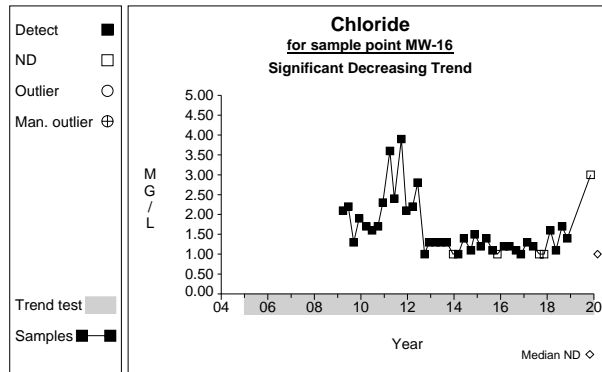
Graph 141



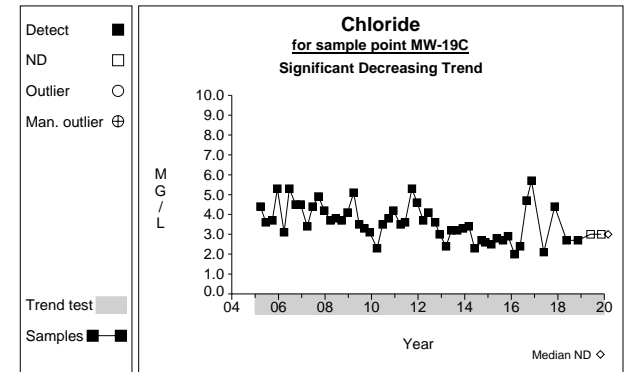
Graph 146



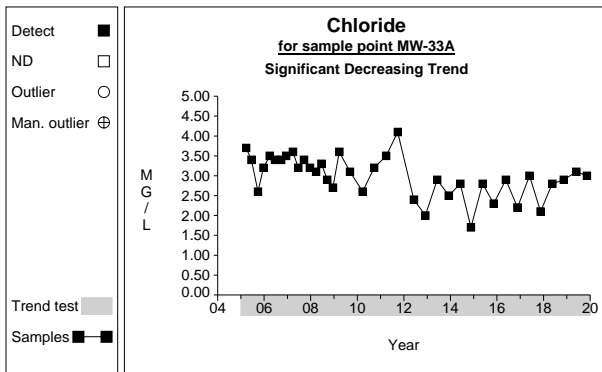
Graph 147



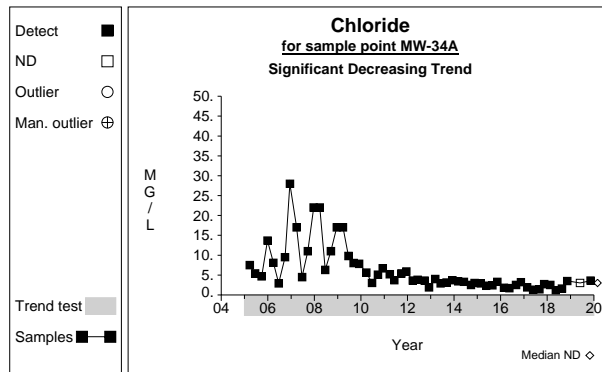
Graph 148



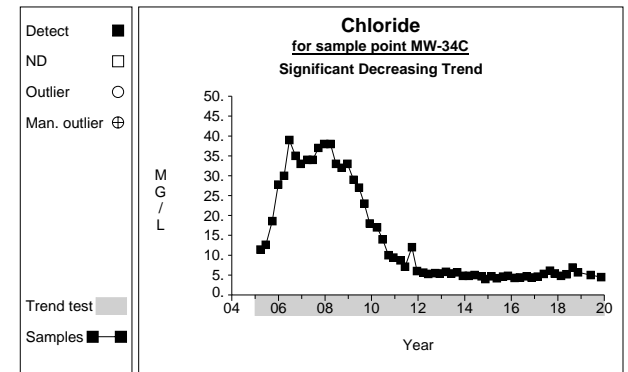
Graph 149



Graph 152

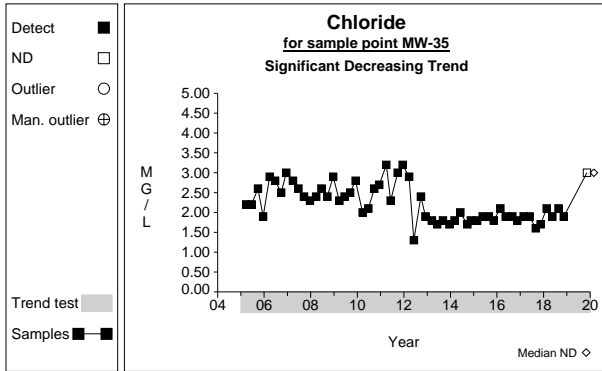


Graph 154

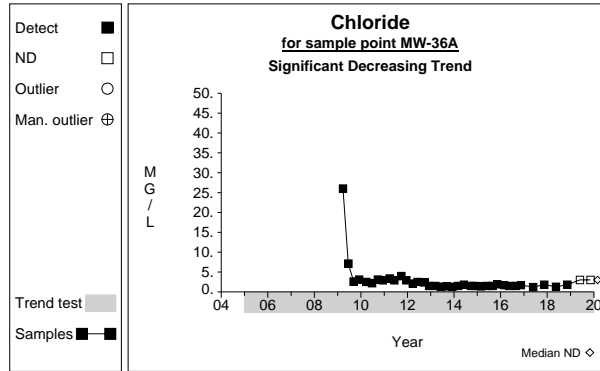


Graph 155

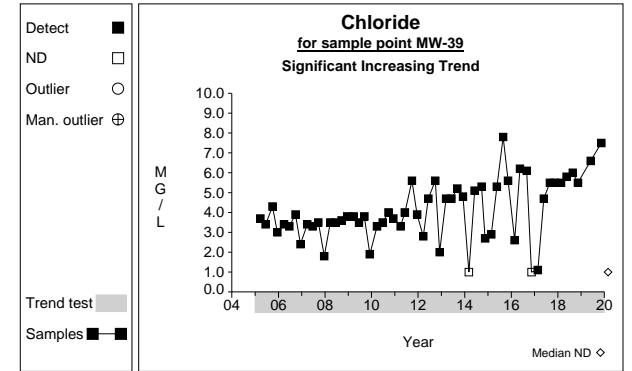
Time Series



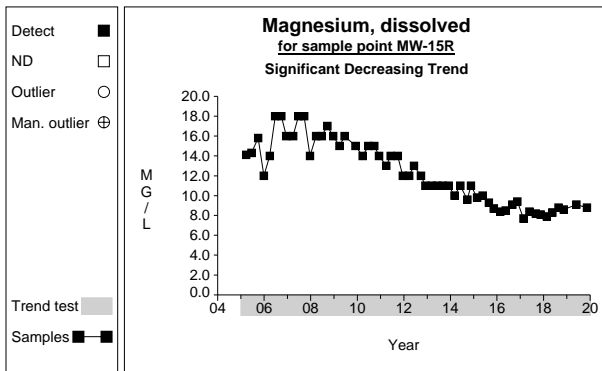
Graph 156



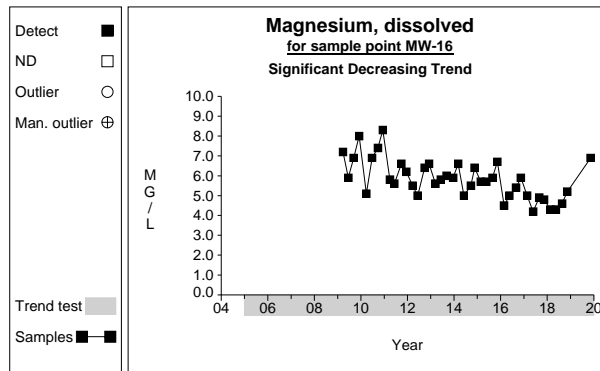
Graph 157



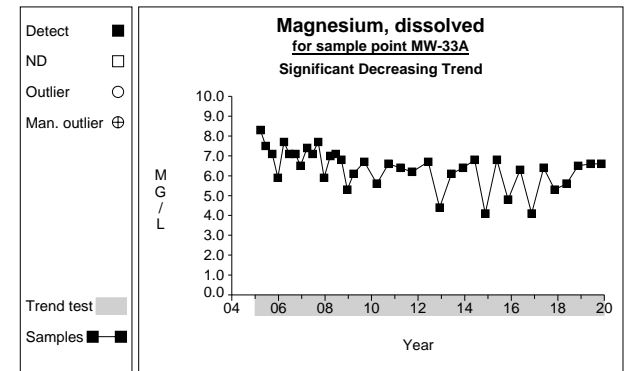
Graph 158



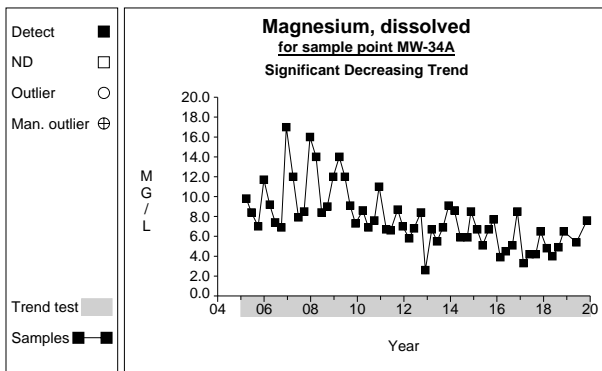
Graph 243



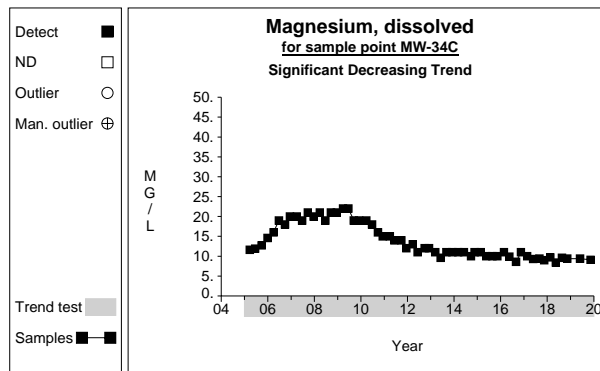
Graph 244



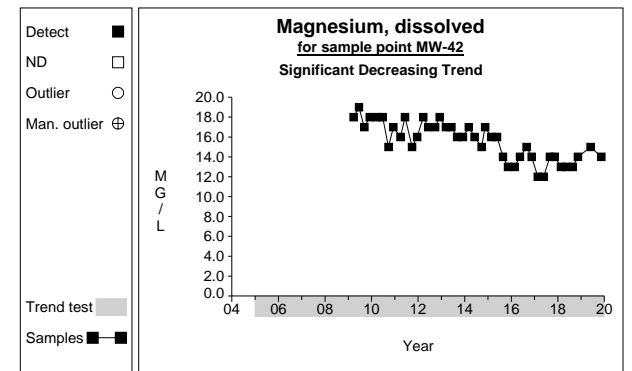
Graph 248



Graph 250

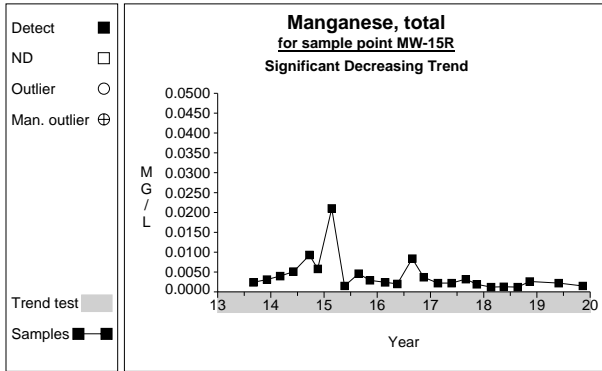


Graph 251

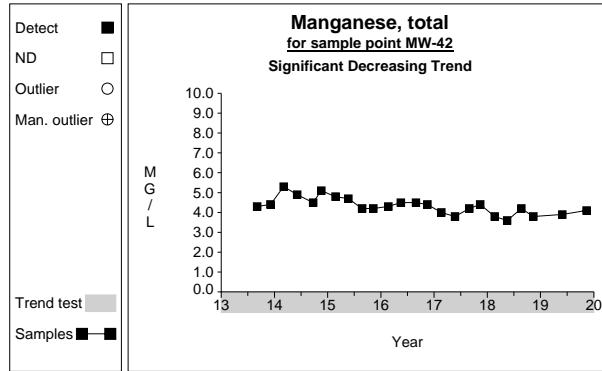


Graph 255

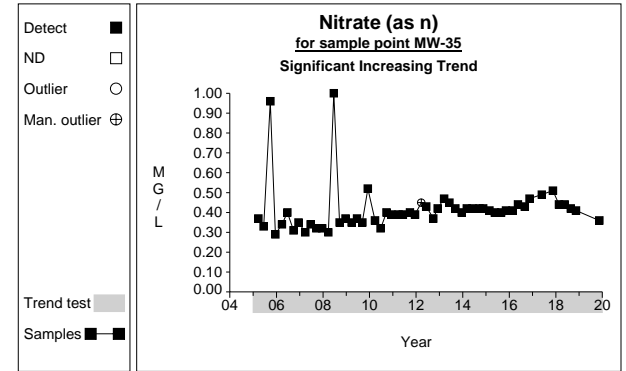
Time Series



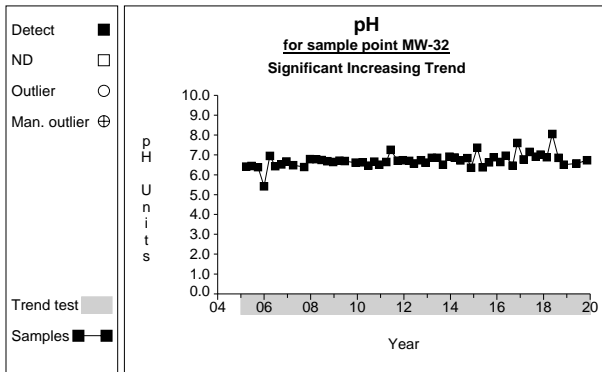
Graph 259



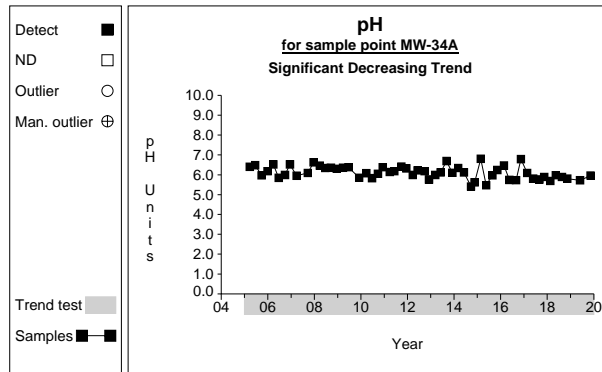
Graph 271



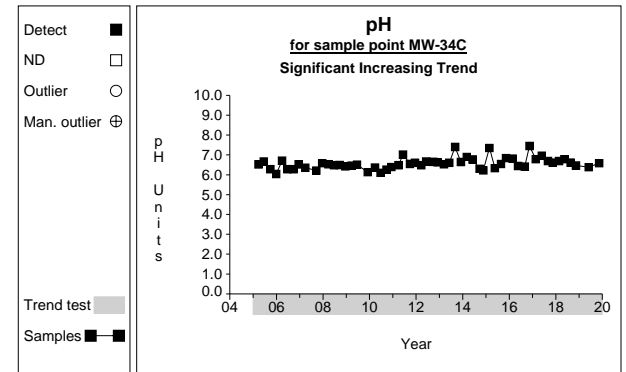
Graph 300



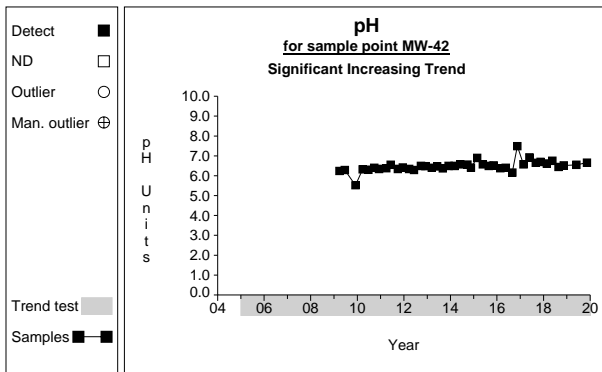
Graph 311



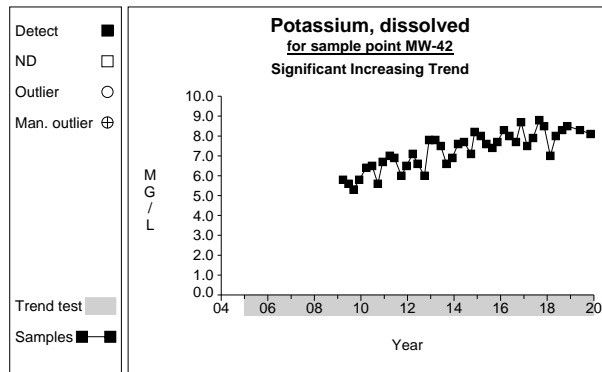
Graph 314



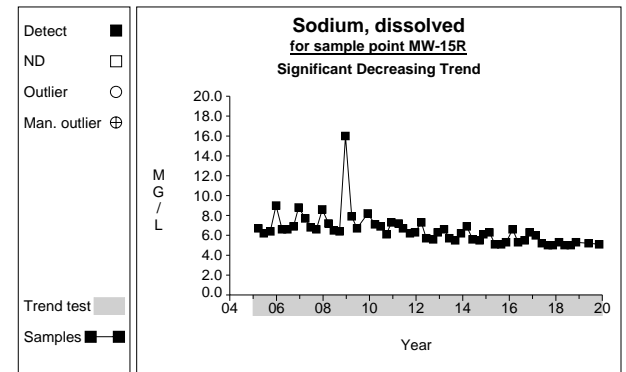
Graph 315



Graph 319

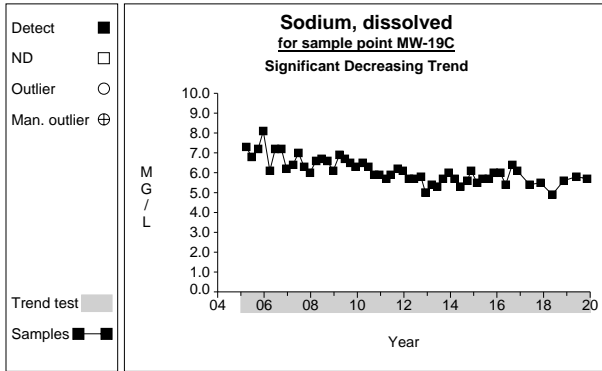


Graph 335

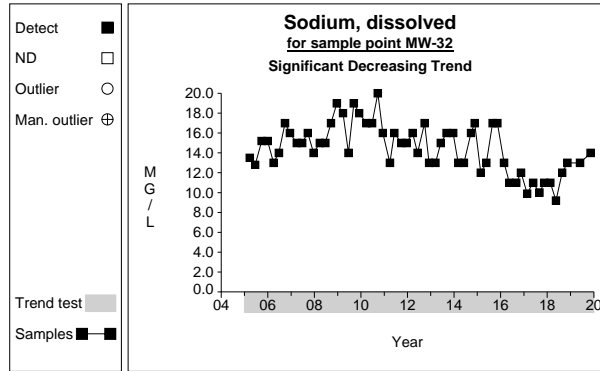


Graph 371

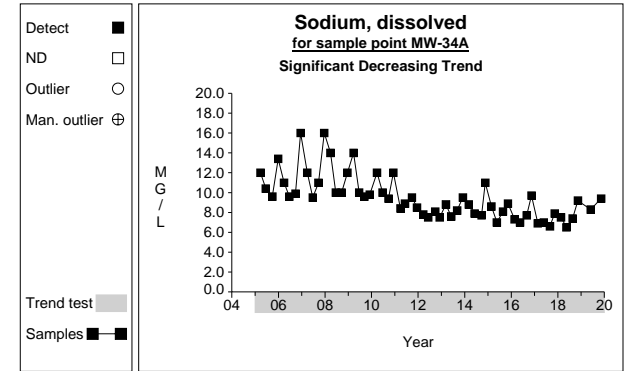
Time Series



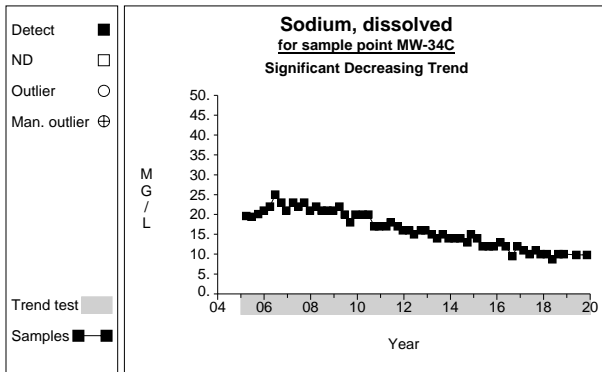
Graph 373



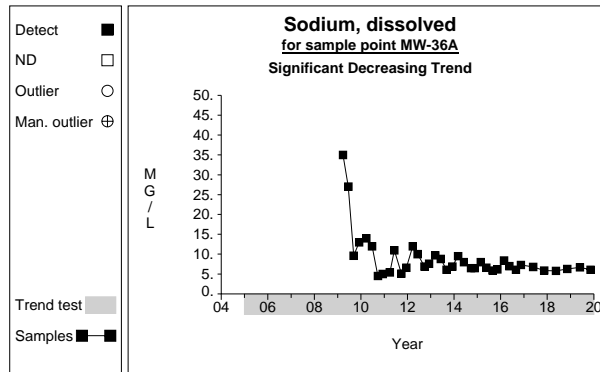
Graph 375



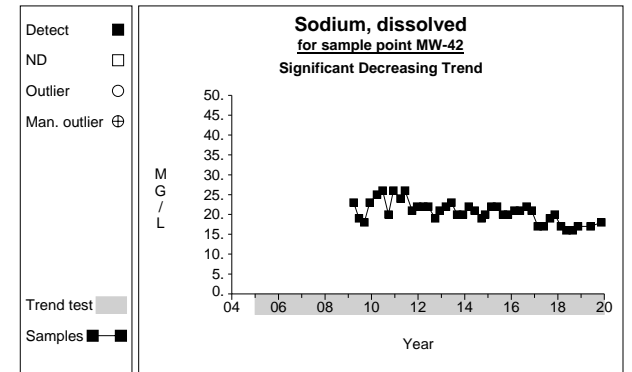
Graph 378



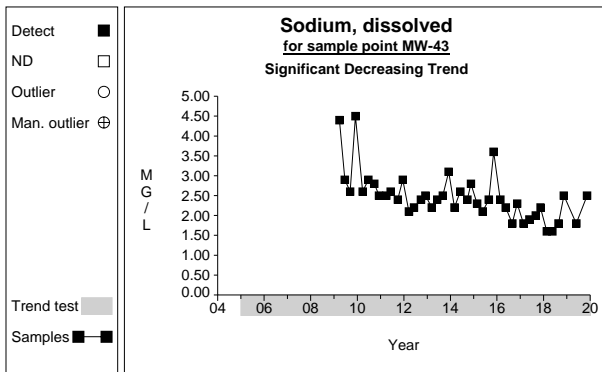
Graph 379



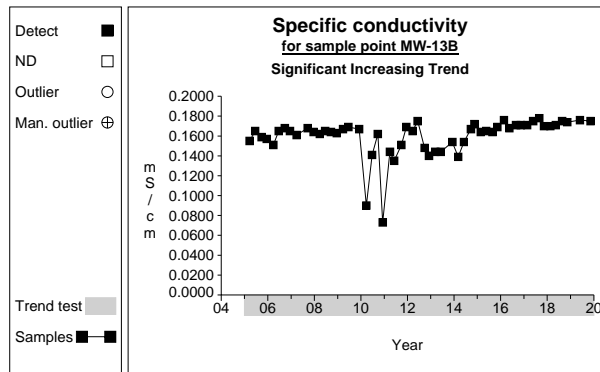
Graph 381



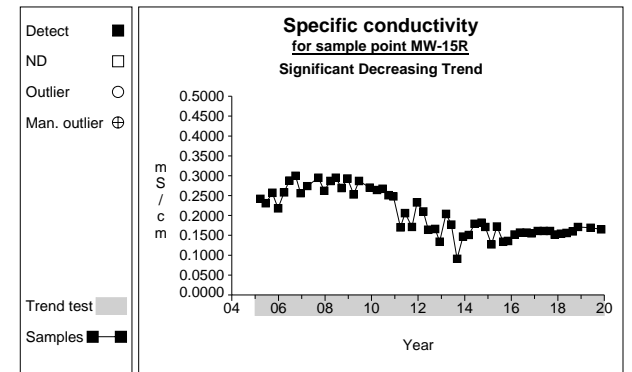
Graph 383



Graph 384

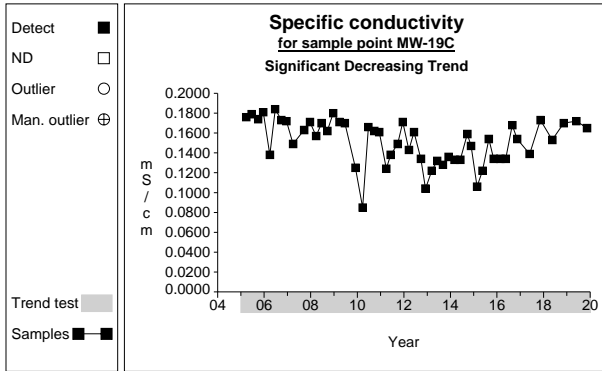


Graph 386

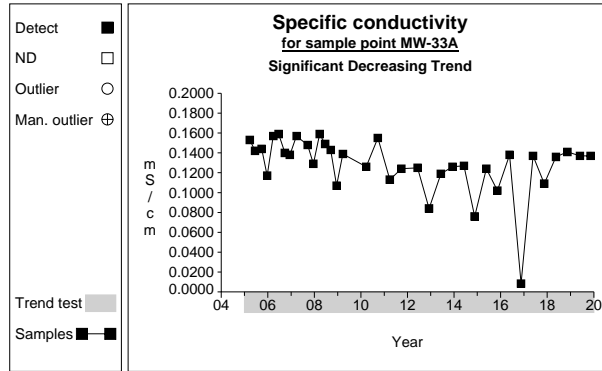


Graph 387

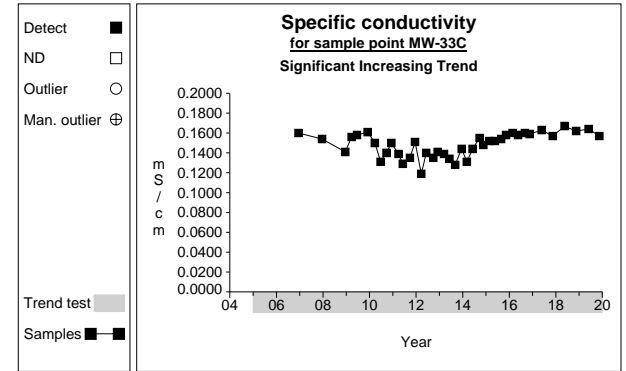
Time Series



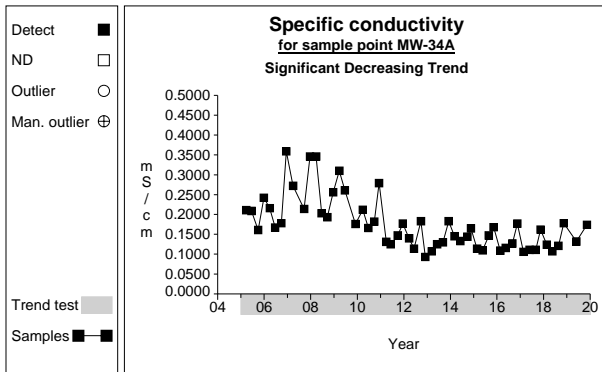
Graph 389



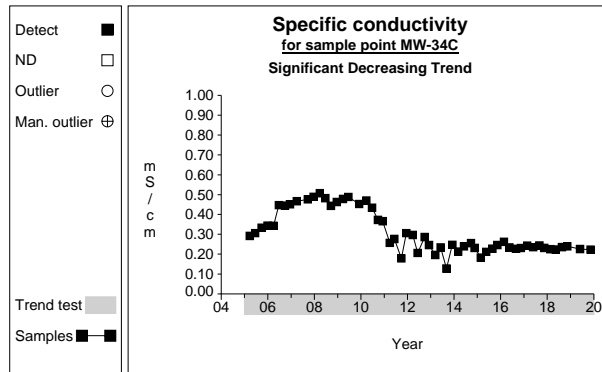
Graph 392



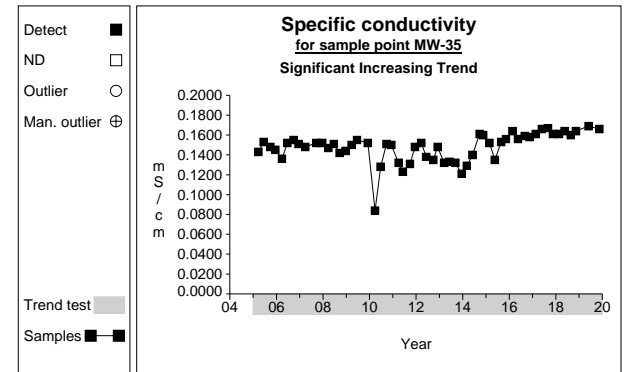
Graph 393



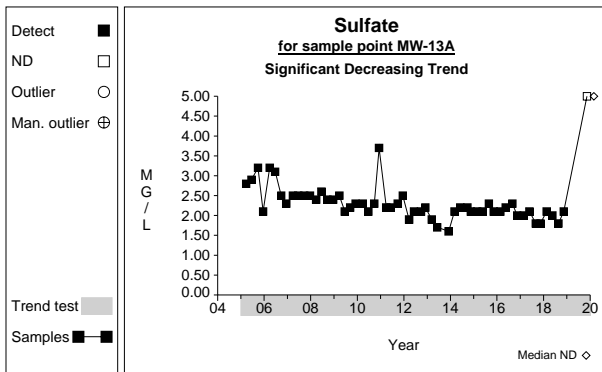
Graph 394



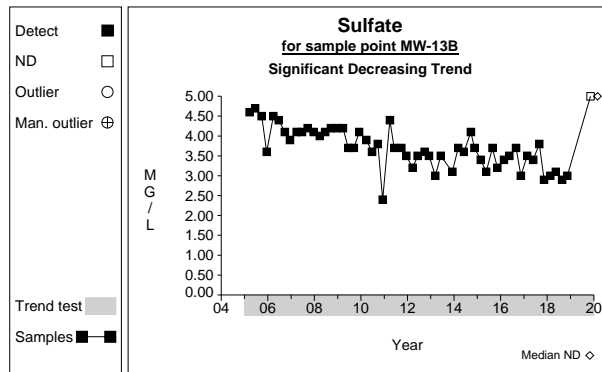
Graph 395



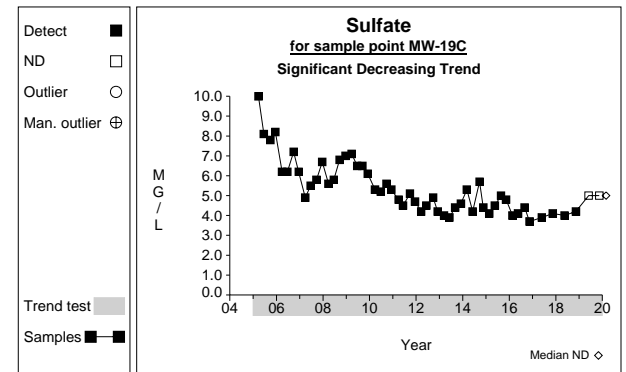
Graph 396



Graph 401

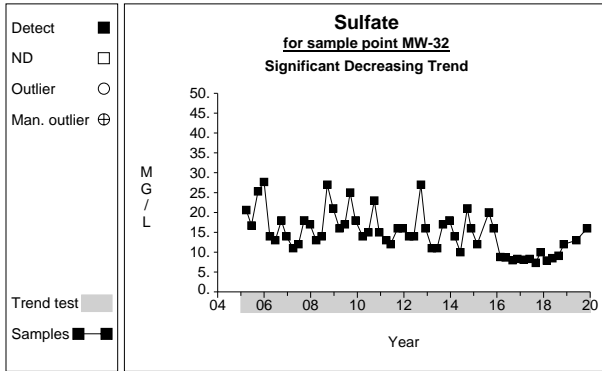


Graph 402

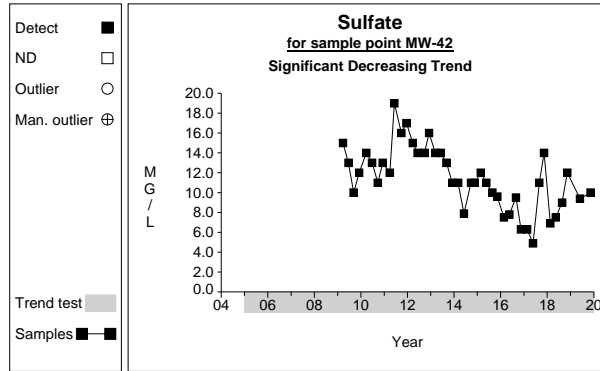


Graph 405

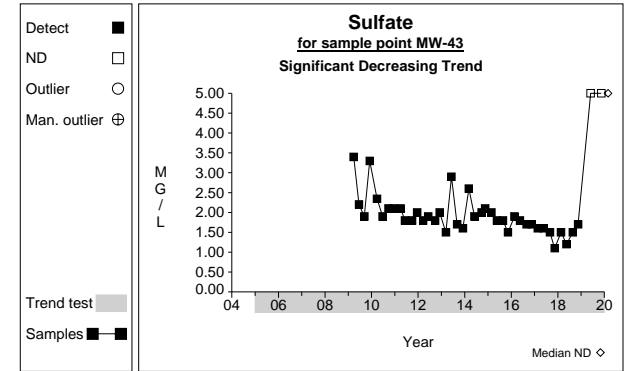
Time Series



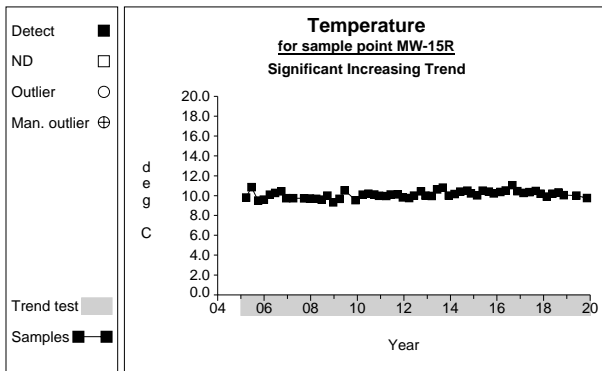
Graph 407



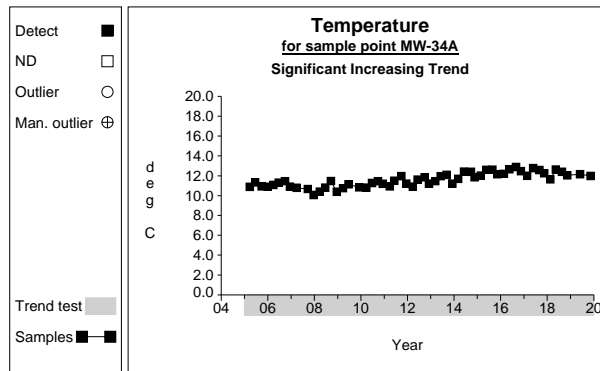
Graph 415



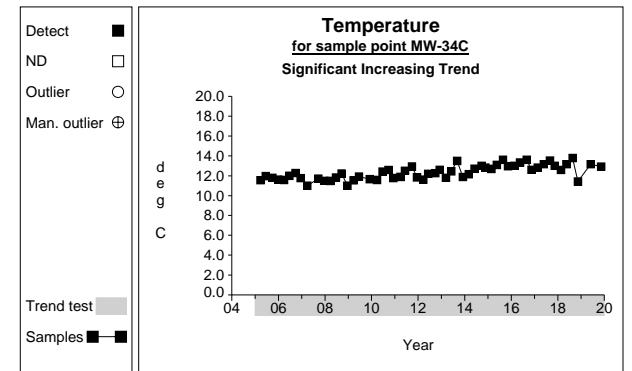
Graph 416



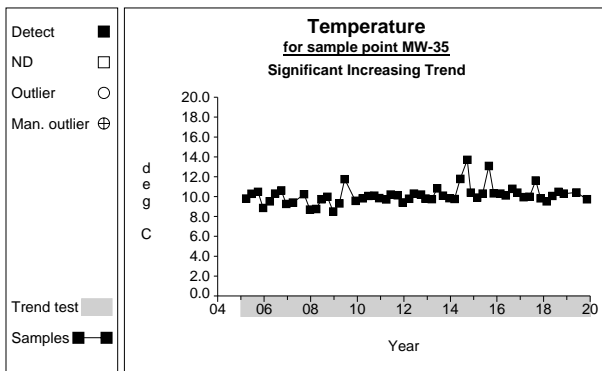
Graph 419



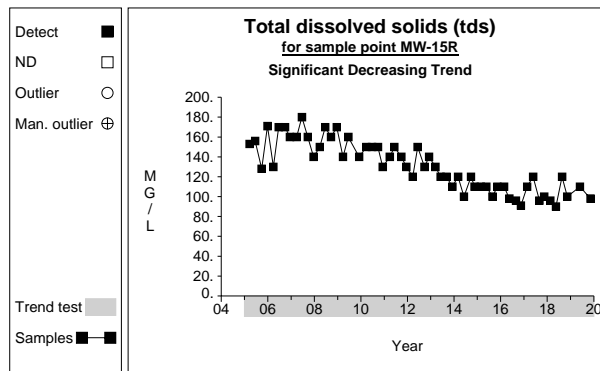
Graph 426



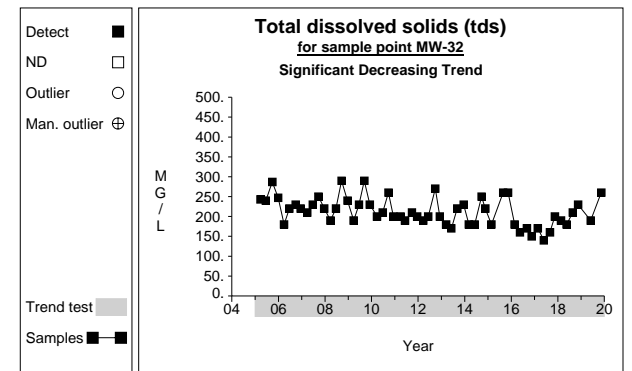
Graph 427



Graph 428

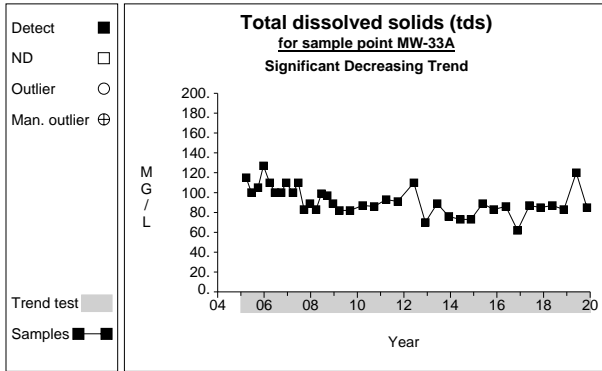


Graph 451

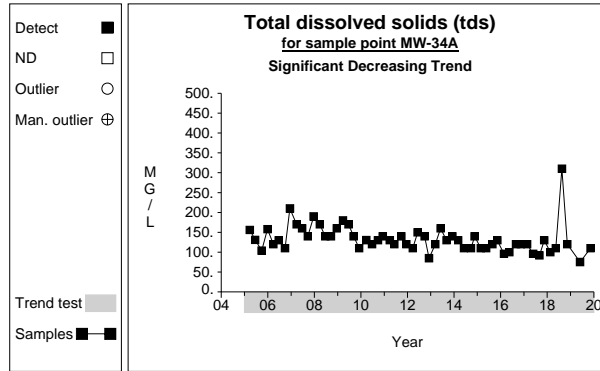


Graph 455

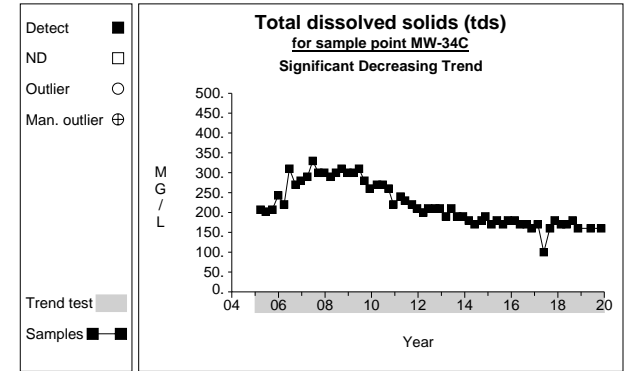
Time Series



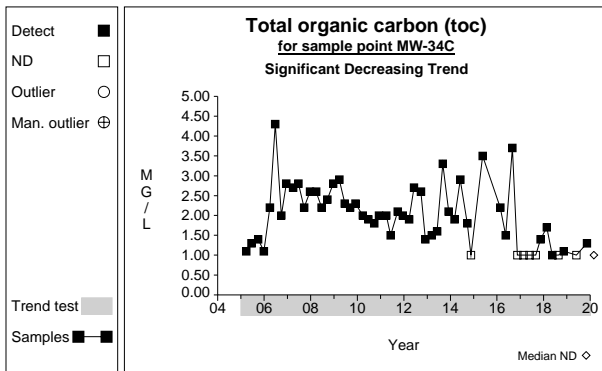
Graph 456



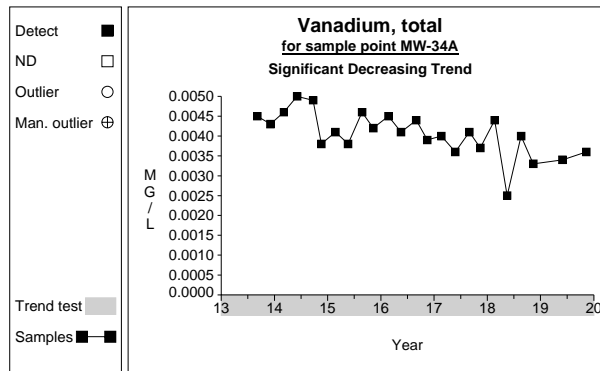
Graph 458



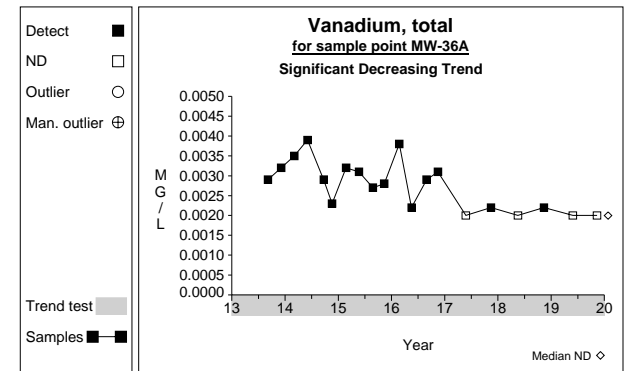
Graph 459



Graph 475



Graph 490



Graph 493

2. Prediction Limits for Detection Monitoring

- 2019 Prediction Limits and Q4 2019 Exceedance Summary Table (Table 2-1)
- Updated Prediction Limits for Use During 2020 Monitoring Year (Table 2-2)
- Upgradient Data used in 2020 Prediction Limit Calculations (Table 2-3)
- Results of Shapiro-Wilk Test for Normality for 2020 Upgradient Data (Table 2-4)
- Comparison of 2019 Prediction Limits with 2020 Prediction Limits (Table 2-5)

TABLE 2-1
SUMMARY OF CURRENT PREDICTION LIMIT EXCEEDANCES
Q4 2019
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:
 - compliance 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
4. Parameters: all Appendix I and II inorganic and ground water quality parameters
5. Background Data Sets: January 2005 - December 2018
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

<u>Parameter</u>	<u>Unit</u>	<u>Well</u>	<u>Latest Result</u>	<u>Date Sampled</u>	<u>Prediction Limit</u>
Alkalinity, bicarbonate (as cacO3)	MG/L	MW-32	170	11/13/2019	96
Alkalinity, bicarbonate (as cacO3)	MG/L	MW-34C	100	11/11/2019	96
Alkalinity, bicarbonate (as cacO3)	MG/L	MW-42	190	11/12/2019	96
Alkalinity, total (as cacO3)	MG/L	MW-32	170	11/13/2019	96
Alkalinity, total (as cacO3)	MG/L	MW-34C	100	11/11/2019	96
Alkalinity, total (as cacO3)	MG/L	MW-42	190	11/12/2019	96
Ammonia (as n)	MG/L	MW-39	0.42	11/12/2019	0.3
Ammonia (as n)	MG/L	MW-42	3.7	11/12/2019	0.3
Arsenic, total	UG/L	MW-29A	1.89	11/13/2019	0.4784
Arsenic, total	UG/L	MW-32	10.1	11/13/2019	0.4784
Arsenic, total	UG/L	MW-33C	2.68	11/12/2019	0.4784
Arsenic, total	UG/L	MW-34C	19.9	11/11/2019	0.4784
Arsenic, total	UG/L	MW-36A	0.507	11/11/2019	0.4784
Arsenic, total	UG/L	MW-39	1.79	11/12/2019	0.4784
Arsenic, total	UG/L	MW-42	1.81	11/12/2019	0.4784
Barium, total	MG/L	MW-15R	0.0043	11/11/2019	0.0043
Barium, total	MG/L	MW-29A	0.0068	11/13/2019	0.0043
Barium, total	MG/L	MW-32	0.0075	11/13/2019	0.0043
Barium, total	MG/L	MW-34C	0.14	11/11/2019	0.0043
Barium, total	MG/L	MW-39	0.014	11/12/2019	0.0043
Barium, total	MG/L	MW-42	0.1	11/12/2019	0.0043
Barium, total	MG/L	MW-43	0.0051	11/13/2019	0.0043
Calcium, dissolved	MG/L	MW-32	39	11/13/2019	18
Calcium, dissolved	MG/L	MW-34C	21	11/11/2019	18
Calcium, dissolved	MG/L	MW-42	36	11/12/2019	18
Chloride	MG/L	MW-32	16	11/13/2019	4.4
Chloride	MG/L	MW-34C	4.5	11/11/2019	4.4

<u>Parameter</u>	<u>Unit</u>	<u>Well</u>	<u>Latest Result</u>	<u>Date Sampled</u>	<u>Prediction Limit</u>
Chloride	MG/L	MW-39	7.5	11/12/2019	4.4
Chloride	MG/L	MW-42	11	11/12/2019	4.4
Cobalt, total	MG/L	MW-39	0.0074	11/12/2019	0.003
Copper, total	MG/L	MW-34C	0.0043	11/11/2019	0.0021
Iron, total	MG/L	MW-29A	3.5	11/13/2019	0.31
Iron, total	MG/L	MW-32	0.94	11/13/2019	0.31
Iron, total	MG/L	MW-33A	0.51	11/12/2019	0.31
Iron, total	MG/L	MW-34C	39	11/11/2019	0.31
Iron, total	MG/L	MW-39	37	11/12/2019	0.31
Iron, total	MG/L	MW-42	23	11/12/2019	0.31
Iron, total	MG/L	MW-43	2.3	11/13/2019	0.31
Magnesium, dissolved	MG/L	MW-32	19	11/13/2019	11.2376
Magnesium, dissolved	MG/L	MW-42	14	11/12/2019	11.2376
Manganese, total	MG/L	MW-29A	1.2	11/13/2019	0.032
Manganese, total	MG/L	MW-32	3.3	11/13/2019	0.032
Manganese, total	MG/L	MW-33C	0.18	11/12/2019	0.032
Manganese, total	MG/L	MW-34C	1.1	11/11/2019	0.032
Manganese, total	MG/L	MW-39	0.47	11/12/2019	0.032
Manganese, total	MG/L	MW-42	4.1	11/12/2019	0.032
pH	pH Units	MW-43	5.36	11/13/2019	5.83 - 8.19
Potassium, dissolved	MG/L	MW-42	8.1	11/12/2019	1.4
Sodium, dissolved	MG/L	MW-32	14	11/13/2019	7.7
Sodium, dissolved	MG/L	MW-34A	9.4	11/11/2019	7.7
Sodium, dissolved	MG/L	MW-34C	9.8	11/11/2019	7.7
Sodium, dissolved	MG/L	MW-39	9.2	11/12/2019	7.7
Sodium, dissolved	MG/L	MW-42	18	11/12/2019	7.7
Specific conductivity	mS/cm	MW-32	0.415	11/13/2019	0.18
Specific conductivity	mS/cm	MW-34C	0.223	11/11/2019	0.18
Specific conductivity	mS/cm	MW-39	0.275	11/12/2019	0.18
Specific conductivity	mS/cm	MW-42	0.482	11/12/2019	0.18
Sulfate	MG/L	MW-32	16	11/13/2019	9.9
Sulfate	MG/L	MW-33C	10	11/12/2019	9.9
Sulfate	MG/L	MW-42	10	11/12/2019	9.9
Total dissolved solids (tds)	MG/L	MW-32	260	11/13/2019	175
Total dissolved solids (tds)	MG/L	MW-42	250	11/12/2019	175

TABLE 2-2
STATISTICAL PREDICTION LIMITS UPDATED FOR 2020 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 2019 (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	206	206			96	0.99
Alkalinity, total (as caco3)	MG/L	nonparametric	210	210			96	0.99
Ammonia (as n)	MG/L	nonparametric	205	72			0.28	0.99
Antimony, total	MG/L	nonparametric	90	3			0.0013	0.99
Arsenic, total	UG/L	normal	97	97	0.243	0.1025	0.4807	
Barium, total	MG/L	normal	90	90	0.0032	0.0005	0.0043	
Beryllium, total	MG/L	nonparametric	90	0			Current RL*	0.99
Cadmium, total	MG/L	nonparametric	90	0			Current RL*	0.99
Calcium, dissolved	MG/L	nonparametric	210	210			18	0.99
Chloride	MG/L	nonparametric	210	202			4.4	0.99
Chromium, total	MG/L	nonparametric	90	40			0.0092	0.99
Cobalt, total	MG/L	nonparametric	90	0			Current RL*	0.99
Copper, total	MG/L	nonparametric	90	1			0.0021	0.99
Iron, total	MG/L	nonparametric	90	12			0.31	0.99
Lead, total	MG/L	nonparametric	90	1			0.0014	0.99
Magnesium, dissolved	MG/L	normal	210	210	8.1767	1.326	11.2184	
Manganese, total	MG/L	nonparametric	90	25			0.062	0.99
Nickel, total	MG/L	nonparametric	90	1			0.0041	0.99
Nitrate (as n)	MG/L	nonparametric	197	197			1.6	0.99
pH	pH Units	normal	205	205	6.9973	0.4636	5.81 - 8.18	
Potassium, dissolved	MG/L	nonparametric	210	14			1.4	0.99
Selenium, total	MG/L	nonparametric	90	0			Current RL*	0.99
Silver, total	MG/L	nonparametric	90	0			Current RL*	0.99
Sodium, dissolved	MG/L	nonparametric	210	210			7.7	0.99
Specific conductivity	mS/cm	nonparametric	207	207			0.18	0.99
Sulfate	MG/L	nonparametric	210	205			9.9	0.99
Temperature	deg C	nonparametric	207	207			14.32	0.99
Thallium, total	MG/L	nonparametric	90	0			Current RL*	0.99
Total dissolved solids (tds)	MG/L	nonparametric	210	210			175	0.99
Total organic carbon (toc)	MG/L	nonparametric	198	7			6	0.99
Vanadium, total	MG/L	nonparametric	90	89			0.0061	0.99
Zinc, total	MG/L	nonparametric	90	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 Used to Calculate 2020 Prediction Limits

Constituent	Well	Date	ND	Result	Unit	Outlier
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/22/2005		75.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/15/2005		63.8000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/27/2005		75.6000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/15/2005		72.5000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/28/2006		80.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/21/2006		79.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/26/2006		80.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/13/2006		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/27/2007		83.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/19/2007		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/19/2007		79.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/19/2007		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/25/2008		83.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/18/2008		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/17/2008		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/17/2008		92.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/24/2009		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/17/2009		84.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/10/2009		87.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/25/2010		86.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/23/2010		86.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/23/2010		96.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/08/2010		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/30/2011		88.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/06/2011		89.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/27/2011		89.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/14/2011		90.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/21/2012		89.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/08/2012		87.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/26/2012		87.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/03/2012		83.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/11/2013		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/05/2013		83.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	12/03/2013		86.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	03/04/2014		87.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	06/02/2014		84.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	09/22/2014		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	11/17/2014		79.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	02/23/2015		84.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	05/19/2015		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	08/26/2015		77.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	11/10/2015		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	02/22/2016		80.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	05/16/2016		90.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	08/31/2016		84.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	11/14/2016		92.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	02/22/2017		85.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	05/24/2017		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	08/30/2017		80.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	11/13/2017		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	02/20/2018		87.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	05/15/2018		78.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	08/21/2018		79.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	11/12/2018		81.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13A	11/11/2019		82.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/22/2005		70.6000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/15/2005		57.3000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/27/2005		72.7000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/15/2005		68.8000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/29/2006		73.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/21/2006		74.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/26/2006		75.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/13/2006		76.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/27/2007		76.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/19/2007		74.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/18/2007		74.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/19/2007		76.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/25/2008		77.0000	mg/L	
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/18/2008		77.0000	mg/L	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Alkalinity, bicarbonate (as cacO3)	MW-13B	09/17/2008	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/16/2008	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/24/2009	78.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/17/2009	79.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/10/2009	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/25/2010	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/23/2010	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/23/2010	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/08/2010	88.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/30/2011	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/06/2011	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/27/2011	83.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/14/2011	84.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/21/2012	83.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/08/2012	82.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/26/2012	84.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/03/2012	82.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/11/2013	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/05/2013	79.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	12/03/2013	84.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	03/04/2014	83.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	06/02/2014	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	09/22/2014	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	11/17/2014	79.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	02/23/2015	82.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	05/19/2015	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	08/26/2015	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	11/10/2015	79.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	02/22/2016	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	05/16/2016	87.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	08/31/2016	82.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	11/14/2016	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	02/22/2017	83.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	05/24/2017	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	08/30/2017	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	11/13/2017	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	02/20/2018	86.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	05/15/2018	78.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	08/21/2018	81.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	11/12/2018	83.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-13B	11/11/2019	83.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	03/24/2009	66.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	06/16/2009	59.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	09/09/2009	66.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	03/25/2010	46.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	06/24/2010	71.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	09/24/2010	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	12/09/2010	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	03/30/2011	53.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	06/07/2011	59.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	09/27/2011	66.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	12/13/2011	60.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	03/21/2012	50.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	06/08/2012	49.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	09/27/2012	57.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	12/04/2012	64.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	03/12/2013	51.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	06/04/2013	50.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	09/05/2013	62.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	12/16/2013	62.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	03/05/2014	57.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	06/02/2014	44.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	09/22/2014	57.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	11/18/2014	57.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	02/23/2015	52.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	05/20/2015	51.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	08/26/2015	51.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	11/11/2015	65.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	02/24/2016	40.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	05/16/2016	50.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Alkalinity, bicarbonate (as cacO3)	MW-16	08/31/2016	60.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	11/14/2016	56.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	02/22/2017	45.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	05/24/2017	42.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	08/30/2017	61.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	11/13/2017	50.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	02/20/2018	46.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	05/17/2018	43.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	08/22/2018	51.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	11/12/2018	53.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-16	11/12/2019	68.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/22/2005	68.2000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/14/2005	59.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/27/2005	69.2000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/15/2005	67.3000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/28/2006	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/21/2006	71.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/26/2006	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/12/2006	73.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/27/2007	73.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/20/2007	70.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/18/2007	69.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/20/2007	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/25/2008	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/18/2008	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/18/2008	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/19/2008	68.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/24/2009	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/16/2009	73.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/10/2009	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/25/2010	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/23/2010	75.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/23/2010	75.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/09/2010	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/30/2011	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/06/2011	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/26/2011	78.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/13/2011	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/21/2012	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/06/2012	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/26/2012	78.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/04/2012	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/13/2013	73.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/06/2013	73.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/05/2013	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	12/16/2013	78.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	03/04/2014	78.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	06/02/2014	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	09/22/2014	75.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	11/17/2014	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	02/25/2015	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	05/19/2015	75.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	08/26/2015	71.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	11/10/2015	75.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	02/22/2016	72.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	05/16/2016	82.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	08/31/2016	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	11/15/2016	91.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	02/22/2017	79.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	05/24/2017	76.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	08/30/2017	74.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	11/15/2017	77.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	02/20/2018	82.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	05/17/2018	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	08/22/2018	48.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	11/12/2018	80.0000	mg/L
Alkalinity, bicarbonate (as cacO3)	MW-35	11/12/2019	82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/22/2005	75.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/15/2005	63.8000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/27/2005	75.6000	mg/L

* = outlier for that constituent/well

ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Alkalinity, total (as cacO3)	MW-13A	12/15/2005		72.5000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/28/2006		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/21/2006		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/26/2006		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/13/2006		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/27/2007		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/19/2007		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/19/2007		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/19/2007		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/25/2008		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/18/2008		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/17/2008		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/17/2008		92.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/24/2009		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/17/2009		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/10/2009		87.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/03/2009		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/25/2010		86.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/23/2010		86.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/23/2010		96.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/08/2010		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/30/2011		88.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/06/2011		89.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/27/2011		89.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/14/2011		90.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/21/2012		89.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/08/2012		87.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/26/2012		87.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/03/2012		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/11/2013		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/05/2013		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	12/03/2013		86.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	03/04/2014		87.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	06/02/2014		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	09/22/2014		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	11/17/2014		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	02/23/2015		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	05/19/2015		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	08/26/2015		77.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	11/10/2015		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	02/22/2016		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	05/16/2016		90.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	08/31/2016		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	11/14/2016		92.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	02/22/2017		85.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	05/24/2017		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	08/30/2017		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	11/13/2017		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	02/20/2018		87.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	05/15/2018		78.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	08/21/2018		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	11/12/2018		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13A	11/11/2019		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/22/2005		70.6000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/15/2005		57.3000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/27/2005		72.7000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/15/2005		68.8000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/29/2006		73.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/21/2006		74.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/26/2006		75.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/13/2006		76.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/27/2007		76.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/19/2007		74.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/18/2007		74.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/19/2007		76.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/25/2008		77.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/18/2008		77.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/17/2008		76.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/16/2008		74.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/24/2009		78.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Alkalinity, total (as cacO3)	MW-13B	06/17/2009		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/10/2009		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/03/2009		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/25/2010		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/23/2010		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/23/2010		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/08/2010		88.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/30/2011		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/06/2011		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/27/2011		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/14/2011		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/21/2012		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/08/2012		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/26/2012		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/03/2012		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/11/2013		77.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/05/2013		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	12/03/2013		84.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	03/04/2014		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	06/02/2014		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	09/22/2014		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	11/17/2014		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	02/23/2015		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	05/19/2015		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	08/26/2015		76.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	11/10/2015		79.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	02/22/2016		77.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	05/16/2016		87.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	08/31/2016		82.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	11/14/2016		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	02/22/2017		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	05/24/2017		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	08/30/2017		80.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	11/13/2017		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	02/20/2018		86.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	05/15/2018		78.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	08/21/2018		81.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	11/12/2018		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-13B	11/11/2019		83.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	03/24/2009		66.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	06/16/2009		59.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	09/09/2009		66.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	12/03/2009		77.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	03/25/2010		46.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	06/24/2010		71.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	09/24/2010		74.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	12/09/2010		72.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	03/30/2011		53.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	06/07/2011		59.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	09/27/2011		66.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	12/13/2011		60.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	03/21/2012		50.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	06/08/2012		49.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	09/27/2012		57.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	12/04/2012		64.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	03/12/2013		51.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	06/04/2013		50.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	09/05/2013		62.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	12/16/2013		62.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	03/05/2014		57.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	06/02/2014		44.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	09/22/2014		57.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	11/18/2014		57.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	02/23/2015		52.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	05/20/2015		51.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	08/26/2015		51.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	11/11/2015		65.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	02/24/2016		40.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	05/16/2016		50.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	08/31/2016		60.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Alkalinity, total (as cacO3)	MW-16	11/14/2016	56.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	02/22/2017	45.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	05/24/2017	42.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	08/30/2017	61.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	11/13/2017	50.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	02/20/2018	46.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	05/17/2018	43.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	08/22/2018	51.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	11/12/2018	53.0000	mg/L
Alkalinity, total (as cacO3)	MW-16	11/12/2019	68.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/22/2005	68.2000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/14/2005	59.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/27/2005	69.2000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/15/2005	67.3000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/28/2006	73.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/21/2006	71.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/26/2006	72.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/12/2006	73.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/27/2007	73.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/20/2007	70.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/18/2007	69.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/20/2007	72.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/25/2008	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/18/2008	72.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/18/2008	72.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/19/2008	68.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/24/2009	72.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/16/2009	73.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/10/2009	74.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/03/2009	74.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/25/2010	76.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/23/2010	75.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/23/2010	75.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/09/2010	74.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/30/2011	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/06/2011	76.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/26/2011	78.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/13/2011	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/21/2012	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/06/2012	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/26/2012	78.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/04/2012	76.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/13/2013	73.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/06/2013	73.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/05/2013	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	12/16/2013	78.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	03/04/2014	78.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	06/02/2014	76.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	09/22/2014	75.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	11/17/2014	74.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	02/25/2015	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	05/19/2015	75.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	08/26/2015	71.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	11/10/2015	75.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	02/22/2016	72.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	05/16/2016	82.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	08/31/2016	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	11/15/2016	91.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	02/22/2017	79.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	05/24/2017	76.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	08/30/2017	74.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	11/15/2017	77.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	02/20/2018	82.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	05/17/2018	80.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	08/22/2018	48.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	11/12/2018	80.0000	mg/L
Alkalinity, total (as cacO3)	MW-35	11/12/2019	82.0000	mg/L
Ammonia (as n)	MW-13A	03/22/2005	0.0200	mg/L
Ammonia (as n)	MW-13A	06/15/2005	0.1300	mg/L
Ammonia (as n)	MW-13A	09/27/2005	0.0210	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Ammonia (as n)	MW-13A	12/15/2005	ND	0.0200	mg/L
Ammonia (as n)	MW-13A	03/28/2006		0.0490	mg/L
Ammonia (as n)	MW-13A	06/21/2006		0.0680	mg/L
Ammonia (as n)	MW-13A	09/26/2006		0.0360	mg/L
Ammonia (as n)	MW-13A	12/13/2006	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	03/27/2007	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	06/19/2007	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	09/19/2007	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	12/19/2007		0.0420	mg/L
Ammonia (as n)	MW-13A	03/25/2008		0.0500	mg/L
Ammonia (as n)	MW-13A	06/18/2008	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	09/17/2008	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	12/17/2008		0.0630	mg/L
Ammonia (as n)	MW-13A	03/24/2009		0.0830	mg/L
Ammonia (as n)	MW-13A	06/17/2009		0.0930	mg/L
Ammonia (as n)	MW-13A	09/10/2009	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	12/03/2009		0.0590	mg/L
Ammonia (as n)	MW-13A	03/25/2010		0.0460	mg/L
Ammonia (as n)	MW-13A	06/23/2010	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	09/23/2010		0.0490	mg/L
Ammonia (as n)	MW-13A	12/08/2010		0.0610	mg/L
Ammonia (as n)	MW-13A	03/30/2011		0.0640	mg/L
Ammonia (as n)	MW-13A	06/06/2011	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	09/27/2011		0.0750	mg/L
Ammonia (as n)	MW-13A	12/14/2011		0.0860	mg/L
Ammonia (as n)	MW-13A	03/21/2012		0.0390	mg/L
Ammonia (as n)	MW-13A	06/08/2012		0.2800	mg/L
Ammonia (as n)	MW-13A	09/26/2012		0.0870	mg/L
Ammonia (as n)	MW-13A	12/03/2012		0.1200	mg/L
Ammonia (as n)	MW-13A	03/11/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	06/05/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	12/03/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	03/04/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	06/02/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	09/22/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	11/17/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	02/23/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	05/19/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	08/26/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	11/10/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	02/22/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	05/16/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	08/31/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	11/14/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	02/22/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	05/24/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	08/30/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	11/13/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	02/20/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	05/15/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	08/21/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	11/12/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-13A	11/11/2019	ND	0.0300	mg/L
Ammonia (as n)	MW-13B	03/22/2005	ND	0.0200	mg/L
Ammonia (as n)	MW-13B	06/15/2005		0.1200	mg/L
Ammonia (as n)	MW-13B	09/27/2005		0.1700	mg/L
Ammonia (as n)	MW-13B	12/15/2005	ND	0.0200	mg/L
Ammonia (as n)	MW-13B	03/29/2006		0.0360	mg/L
Ammonia (as n)	MW-13B	06/21/2006	ND	0.0300	mg/L
Ammonia (as n)	MW-13B	09/26/2006		0.0300	mg/L
Ammonia (as n)	MW-13B	12/13/2006	ND	0.0300	mg/L
Ammonia (as n)	MW-13B	03/27/2007	ND	0.0300	mg/L
Ammonia (as n)	MW-13B	06/19/2007		0.0300	mg/L
Ammonia (as n)	MW-13B	12/19/2007		0.1100	mg/L
Ammonia (as n)	MW-13B	03/25/2008		0.0600	mg/L
Ammonia (as n)	MW-13B	06/18/2008	ND	0.0300	mg/L
Ammonia (as n)	MW-13B	09/17/2008	ND	0.0300	mg/L
Ammonia (as n)	MW-13B	12/16/2008		0.0560	mg/L
Ammonia (as n)	MW-13B	03/24/2009		0.0630	mg/L
Ammonia (as n)	MW-13B	06/17/2009		0.0870	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Ammonia (as n)	MW-13B	09/10/2009		0.0450	mg/L	
Ammonia (as n)	MW-13B	12/03/2009	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	03/25/2010		0.0440	mg/L	
Ammonia (as n)	MW-13B	06/23/2010	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	09/23/2010		0.0450	mg/L	
Ammonia (as n)	MW-13B	12/08/2010		0.0520	mg/L	
Ammonia (as n)	MW-13B	03/30/2011		0.0620	mg/L	
Ammonia (as n)	MW-13B	06/06/2011	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	09/27/2011		0.0320	mg/L	
Ammonia (as n)	MW-13B	12/14/2011		0.0300	mg/L	
Ammonia (as n)	MW-13B	03/21/2012	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	06/08/2012		0.2000	mg/L	
Ammonia (as n)	MW-13B	09/26/2012		0.0760	mg/L	
Ammonia (as n)	MW-13B	12/03/2012	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	03/11/2013	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	06/05/2013	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	12/03/2013	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	03/04/2014	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	06/02/2014	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	09/22/2014	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	11/17/2014	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	02/23/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	05/19/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	08/26/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	11/10/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	02/22/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	05/16/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	08/31/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	11/14/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	02/22/2017	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	05/24/2017	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	08/30/2017	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	11/13/2017	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	02/20/2018	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	05/15/2018	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	08/21/2018	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	11/12/2018	ND	0.0300	mg/L	
Ammonia (as n)	MW-13B	11/11/2019	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	03/24/2009		0.0620	mg/L	
Ammonia (as n)	MW-16	06/16/2009		0.0930	mg/L	
Ammonia (as n)	MW-16	09/09/2009		0.0360	mg/L	
Ammonia (as n)	MW-16	12/03/2009		0.0580	mg/L	
Ammonia (as n)	MW-16	03/25/2010		0.0460	mg/L	
Ammonia (as n)	MW-16	06/24/2010	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	09/24/2010	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	12/09/2010		0.0590	mg/L	
Ammonia (as n)	MW-16	03/30/2011		0.0600	mg/L	
Ammonia (as n)	MW-16	06/07/2011		0.0480	mg/L	
Ammonia (as n)	MW-16	09/27/2011	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	12/13/2011	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	03/21/2012		0.0420	mg/L	
Ammonia (as n)	MW-16	06/08/2012		0.3400	mg/L	*
Ammonia (as n)	MW-16	09/27/2012		0.3000	mg/L	*
Ammonia (as n)	MW-16	12/04/2012	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	03/12/2013	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	06/04/2013	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	09/05/2013	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	12/16/2013		0.0960	mg/L	
Ammonia (as n)	MW-16	03/05/2014		0.0510	mg/L	
Ammonia (as n)	MW-16	06/02/2014		0.0580	mg/L	
Ammonia (as n)	MW-16	09/22/2014	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	11/18/2014	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	02/23/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	05/20/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	08/26/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	11/11/2015	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	02/24/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	05/16/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	08/31/2016	ND	0.0300	mg/L	
Ammonia (as n)	MW-16	11/14/2016	ND	0.0300	mg/L	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Ammonia (as n)	MW-16	02/22/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-16	05/24/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-16	08/30/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-16	11/13/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-16	02/20/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-16	05/17/2018		0.0310	mg/L
Ammonia (as n)	MW-16	08/22/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-16	11/12/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-16	11/12/2019	ND	0.0300	mg/L
Ammonia (as n)	MW-35	03/22/2005	ND	0.0200	mg/L
Ammonia (as n)	MW-35	06/14/2005		0.1200	mg/L
Ammonia (as n)	MW-35	09/27/2005		0.1500	mg/L
Ammonia (as n)	MW-35	12/15/2005	ND	0.0200	mg/L
Ammonia (as n)	MW-35	03/28/2006	ND	0.0300	mg/L
Ammonia (as n)	MW-35	06/21/2006	ND	0.0300	mg/L
Ammonia (as n)	MW-35	09/26/2006		0.0330	mg/L
Ammonia (as n)	MW-35	12/12/2006	ND	0.0300	mg/L
Ammonia (as n)	MW-35	03/27/2007	ND	0.0300	mg/L
Ammonia (as n)	MW-35	06/20/2007		0.0420	mg/L
Ammonia (as n)	MW-35	12/20/2007		0.0600	mg/L
Ammonia (as n)	MW-35	03/25/2008		0.0590	mg/L
Ammonia (as n)	MW-35	06/18/2008	ND	0.0300	mg/L
Ammonia (as n)	MW-35	09/18/2008	ND	0.0300	mg/L
Ammonia (as n)	MW-35	12/19/2008		0.0810	mg/L
Ammonia (as n)	MW-35	03/24/2009		0.0600	mg/L
Ammonia (as n)	MW-35	06/16/2009		0.0660	mg/L
Ammonia (as n)	MW-35	09/10/2009	ND	0.0300	mg/L
Ammonia (as n)	MW-35	12/03/2009		0.0760	mg/L
Ammonia (as n)	MW-35	03/25/2010		0.0410	mg/L
Ammonia (as n)	MW-35	06/23/2010	ND	0.0300	mg/L
Ammonia (as n)	MW-35	09/23/2010		0.0530	mg/L
Ammonia (as n)	MW-35	12/09/2010		0.0550	mg/L
Ammonia (as n)	MW-35	03/30/2011		0.0630	mg/L
Ammonia (as n)	MW-35	06/06/2011		0.1800	mg/L
Ammonia (as n)	MW-35	09/26/2011		0.0650	mg/L
Ammonia (as n)	MW-35	12/13/2011	ND	0.0300	mg/L
Ammonia (as n)	MW-35	03/21/2012		0.0300	mg/L
Ammonia (as n)	MW-35	06/06/2012		0.6000	mg/L *
Ammonia (as n)	MW-35	09/26/2012		0.0690	mg/L
Ammonia (as n)	MW-35	12/04/2012	ND	0.0300	mg/L
Ammonia (as n)	MW-35	03/13/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-35	06/06/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-35	09/05/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-35	12/16/2013	ND	0.0300	mg/L
Ammonia (as n)	MW-35	03/04/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-35	06/02/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-35	09/22/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-35	11/17/2014	ND	0.0300	mg/L
Ammonia (as n)	MW-35	02/25/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-35	05/19/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-35	08/26/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-35	11/10/2015	ND	0.0300	mg/L
Ammonia (as n)	MW-35	02/22/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-35	05/16/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-35	08/31/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-35	11/15/2016	ND	0.0300	mg/L
Ammonia (as n)	MW-35	02/22/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-35	05/24/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-35	08/30/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-35	11/15/2017	ND	0.0300	mg/L
Ammonia (as n)	MW-35	02/20/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-35	05/17/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-35	08/22/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-35	11/12/2018	ND	0.0300	mg/L
Ammonia (as n)	MW-35	11/12/2019	ND	0.0300	mg/L
Antimony, total	MW-13A	12/03/2013	ND	0.0010	mg/L
Antimony, total	MW-13A	03/04/2014	ND	0.0010	mg/L
Antimony, total	MW-13A	06/02/2014	ND	0.0010	mg/L
Antimony, total	MW-13A	09/22/2014	ND	0.0010	mg/L
Antimony, total	MW-13A	11/17/2014	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Antimony, total	MW-13A	02/23/2015	ND	0.0010	mg/L
Antimony, total	MW-13A	05/19/2015	ND	0.0010	mg/L
Antimony, total	MW-13A	08/26/2015	ND	0.0010	mg/L
Antimony, total	MW-13A	11/10/2015	ND	0.0010	mg/L
Antimony, total	MW-13A	02/22/2016	ND	0.0010	mg/L
Antimony, total	MW-13A	05/16/2016	ND	0.0010	mg/L
Antimony, total	MW-13A	08/31/2016	ND	0.0010	mg/L
Antimony, total	MW-13A	11/14/2016	ND	0.0010	mg/L
Antimony, total	MW-13A	02/22/2017	ND	0.0010	mg/L
Antimony, total	MW-13A	05/24/2017	ND	0.0010	mg/L
Antimony, total	MW-13A	08/30/2017	ND	0.0010	mg/L
Antimony, total	MW-13A	11/13/2017	ND	0.0010	mg/L
Antimony, total	MW-13A	02/20/2018	ND	0.0010	mg/L
Antimony, total	MW-13A	05/15/2018	ND	0.0010	mg/L
Antimony, total	MW-13A	08/21/2018	ND	0.0010	mg/L
Antimony, total	MW-13A	11/12/2018	ND	0.0010	mg/L
Antimony, total	MW-13A	11/11/2019	ND	0.0010	mg/L
Antimony, total	MW-13B	12/03/2013	ND	0.0010	mg/L
Antimony, total	MW-13B	03/04/2014	ND	0.0010	mg/L
Antimony, total	MW-13B	06/02/2014	ND	0.0010	mg/L
Antimony, total	MW-13B	09/22/2014	ND	0.0010	mg/L
Antimony, total	MW-13B	11/17/2014	ND	0.0010	mg/L
Antimony, total	MW-13B	02/23/2015	ND	0.0010	mg/L
Antimony, total	MW-13B	05/19/2015	ND	0.0010	mg/L
Antimony, total	MW-13B	08/26/2015	ND	0.0010	mg/L
Antimony, total	MW-13B	11/10/2015	ND	0.0010	mg/L
Antimony, total	MW-13B	02/22/2016	ND	0.0010	mg/L
Antimony, total	MW-13B	05/16/2016	ND	0.0010	mg/L
Antimony, total	MW-13B	08/31/2016	ND	0.0010	mg/L
Antimony, total	MW-13B	11/14/2016	ND	0.0010	mg/L
Antimony, total	MW-13B	02/22/2017	ND	0.0010	mg/L
Antimony, total	MW-13B	05/24/2017	ND	0.0010	mg/L
Antimony, total	MW-13B	08/30/2017	ND	0.0010	mg/L
Antimony, total	MW-13B	11/13/2017	ND	0.0010	mg/L
Antimony, total	MW-13B	02/20/2018	ND	0.0010	mg/L
Antimony, total	MW-13B	05/15/2018	ND	0.0010	mg/L
Antimony, total	MW-13B	08/21/2018	ND	0.0010	mg/L
Antimony, total	MW-13B	11/12/2018	ND	0.0010	mg/L
Antimony, total	MW-13B	11/11/2019	ND	0.0010	mg/L
Antimony, total	MW-16	09/05/2013	ND	0.0010	mg/L
Antimony, total	MW-16	12/16/2013	ND	0.0010	mg/L
Antimony, total	MW-16	03/05/2014	ND	0.0010	mg/L
Antimony, total	MW-16	06/02/2014	ND	0.0010	mg/L
Antimony, total	MW-16	09/22/2014	ND	0.0010	mg/L
Antimony, total	MW-16	11/18/2014	ND	0.0010	mg/L
Antimony, total	MW-16	02/23/2015		0.0011	mg/L
Antimony, total	MW-16	05/20/2015	ND	0.0010	mg/L
Antimony, total	MW-16	08/26/2015	ND	0.0010	mg/L
Antimony, total	MW-16	11/11/2015		0.0013	mg/L
Antimony, total	MW-16	02/24/2016	ND	0.0010	mg/L
Antimony, total	MW-16	05/16/2016	ND	0.0010	mg/L
Antimony, total	MW-16	08/31/2016	ND	0.0010	mg/L
Antimony, total	MW-16	11/14/2016	ND	0.0010	mg/L
Antimony, total	MW-16	02/22/2017	ND	0.0010	mg/L
Antimony, total	MW-16	05/24/2017	ND	0.0010	mg/L
Antimony, total	MW-16	08/30/2017	ND	0.0010	mg/L
Antimony, total	MW-16	11/13/2017	ND	0.0010	mg/L
Antimony, total	MW-16	02/20/2018	ND	0.0010	mg/L
Antimony, total	MW-16	05/17/2018	ND	0.0010	mg/L
Antimony, total	MW-16	08/22/2018	ND	0.0010	mg/L
Antimony, total	MW-16	11/12/2018	ND	0.0010	mg/L
Antimony, total	MW-16	11/12/2019	ND	0.0010	mg/L
Antimony, total	MW-35	09/05/2013	ND	0.0010	mg/L
Antimony, total	MW-35	12/16/2013	ND	0.0010	mg/L
Antimony, total	MW-35	03/04/2014	ND	0.0010	mg/L
Antimony, total	MW-35	06/02/2014	ND	0.0010	mg/L
Antimony, total	MW-35	09/22/2014	ND	0.0010	mg/L
Antimony, total	MW-35	11/17/2014	ND	0.0010	mg/L
Antimony, total	MW-35	02/25/2015	ND	0.0010	mg/L
Antimony, total	MW-35	05/19/2015	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Antimony, total	MW-35	08/26/2015	ND	0.0010	mg/L	
Antimony, total	MW-35	11/10/2015	ND	0.0010	mg/L	
Antimony, total	MW-35	02/22/2016	ND	0.0010	mg/L	
Antimony, total	MW-35	05/16/2016	ND	0.0010	mg/L	
Antimony, total	MW-35	08/31/2016	ND	0.0010	mg/L	
Antimony, total	MW-35	11/15/2016	ND	0.0010	mg/L	
Antimony, total	MW-35	02/22/2017	ND	0.0010	mg/L	
Antimony, total	MW-35	05/24/2017	ND	0.0010	mg/L	
Antimony, total	MW-35	08/30/2017	ND	0.0010	mg/L	
Antimony, total	MW-35	11/15/2017	ND	0.0010	mg/L	
Antimony, total	MW-35	02/20/2018	ND	0.0010	mg/L	
Antimony, total	MW-35	05/17/2018	ND	0.0010	mg/L	
Antimony, total	MW-35	08/22/2018	ND	0.0010	mg/L	
Antimony, total	MW-35	11/12/2018	ND	0.0010	mg/L	
Antimony, total	MW-35	11/12/2019	ND	0.0010	mg/L	
Arsenic, total	MW-13A	03/22/2005	ND	5.0000	ug/L	*
Arsenic, total	MW-13A	06/15/2005		0.2200	ug/L	
Arsenic, total	MW-13A	09/27/2005		0.2300	ug/L	
Arsenic, total	MW-13A	12/15/2005		0.2100	ug/L	
Arsenic, total	MW-13A	12/03/2013		0.1700	ug/L	
Arsenic, total	MW-13A	03/04/2014		0.1800	ug/L	
Arsenic, total	MW-13A	06/02/2014		0.2000	ug/L	
Arsenic, total	MW-13A	09/22/2014		0.1700	ug/L	
Arsenic, total	MW-13A	11/17/2014		0.1800	ug/L	
Arsenic, total	MW-13A	02/23/2015		0.2100	ug/L	
Arsenic, total	MW-13A	05/19/2015		0.1800	ug/L	
Arsenic, total	MW-13A	08/26/2015		0.1900	ug/L	
Arsenic, total	MW-13A	11/10/2015		0.2000	ug/L	
Arsenic, total	MW-13A	02/22/2016		0.2000	ug/L	
Arsenic, total	MW-13A	05/16/2016		0.1600	ug/L	
Arsenic, total	MW-13A	08/31/2016		0.1770	ug/L	
Arsenic, total	MW-13A	11/14/2016		0.1700	ug/L	
Arsenic, total	MW-13A	02/22/2017		0.2010	ug/L	
Arsenic, total	MW-13A	05/24/2017		0.1810	ug/L	
Arsenic, total	MW-13A	08/30/2017		0.1910	ug/L	
Arsenic, total	MW-13A	11/13/2017		0.1930	ug/L	
Arsenic, total	MW-13A	02/20/2018		0.1990	ug/L	
Arsenic, total	MW-13A	05/15/2018		0.1830	ug/L	
Arsenic, total	MW-13A	08/21/2018		0.1990	ug/L	
Arsenic, total	MW-13A	11/12/2018		0.1890	ug/L	
Arsenic, total	MW-13A	11/11/2019		0.2050	ug/L	
Arsenic, total	MW-13B	03/22/2005	ND	5.0000	ug/L	*
Arsenic, total	MW-13B	06/15/2005		0.3700	ug/L	
Arsenic, total	MW-13B	09/27/2005		0.3900	ug/L	
Arsenic, total	MW-13B	12/15/2005		0.3800	ug/L	
Arsenic, total	MW-13B	12/03/2013		0.2800	ug/L	
Arsenic, total	MW-13B	03/04/2014		0.3200	ug/L	
Arsenic, total	MW-13B	06/02/2014		0.3300	ug/L	
Arsenic, total	MW-13B	09/22/2014		0.3000	ug/L	
Arsenic, total	MW-13B	11/17/2014		0.3000	ug/L	
Arsenic, total	MW-13B	02/23/2015		0.3600	ug/L	
Arsenic, total	MW-13B	05/19/2015		0.3100	ug/L	
Arsenic, total	MW-13B	08/26/2015		0.3100	ug/L	
Arsenic, total	MW-13B	11/10/2015		0.3000	ug/L	
Arsenic, total	MW-13B	02/22/2016		0.3000	ug/L	
Arsenic, total	MW-13B	05/16/2016		0.2900	ug/L	
Arsenic, total	MW-13B	08/31/2016		0.3110	ug/L	
Arsenic, total	MW-13B	11/14/2016		0.3140	ug/L	
Arsenic, total	MW-13B	02/22/2017		0.3240	ug/L	
Arsenic, total	MW-13B	05/24/2017		0.3270	ug/L	
Arsenic, total	MW-13B	08/30/2017		0.3380	ug/L	
Arsenic, total	MW-13B	11/13/2017		0.3110	ug/L	
Arsenic, total	MW-13B	02/20/2018		0.3660	ug/L	
Arsenic, total	MW-13B	05/15/2018		0.3420	ug/L	
Arsenic, total	MW-13B	08/21/2018		0.3770	ug/L	
Arsenic, total	MW-13B	11/12/2018		0.3370	ug/L	
Arsenic, total	MW-13B	11/11/2019		0.3220	ug/L	
Arsenic, total	MW-16	12/23/2013		0.2900	ug/L	
Arsenic, total	MW-16	03/05/2014		0.4300	ug/L	
Arsenic, total	MW-16	06/02/2014		0.3300	ug/L	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Arsenic, total	MW-16	09/22/2014		0.3200	ug/L	
Arsenic, total	MW-16	11/18/2014		0.3500	ug/L	
Arsenic, total	MW-16	02/23/2015		0.3700	ug/L	
Arsenic, total	MW-16	05/20/2015		0.3400	ug/L	
Arsenic, total	MW-16	08/26/2015		0.3200	ug/L	
Arsenic, total	MW-16	11/11/2015		0.3000	ug/L	
Arsenic, total	MW-16	02/24/2016		0.3000	ug/L	
Arsenic, total	MW-16	05/16/2016		0.3000	ug/L	
Arsenic, total	MW-16	08/31/2016		0.3110	ug/L	
Arsenic, total	MW-16	11/14/2016		0.3810	ug/L	
Arsenic, total	MW-16	02/22/2017		0.3830	ug/L	
Arsenic, total	MW-16	05/24/2017		0.3750	ug/L	
Arsenic, total	MW-16	08/30/2017		0.3530	ug/L	
Arsenic, total	MW-16	11/13/2017		0.3640	ug/L	
Arsenic, total	MW-16	02/20/2018		0.4460	ug/L	
Arsenic, total	MW-16	05/17/2018		0.3670	ug/L	
Arsenic, total	MW-16	08/22/2018		0.1730	ug/L	
Arsenic, total	MW-16	11/12/2018		0.4520	ug/L	
Arsenic, total	MW-16	11/12/2019		0.4130	ug/L	
Arsenic, total	MW-35	03/22/2005	ND	5.0000	ug/L	*
Arsenic, total	MW-35	06/14/2005		0.1400	ug/L	
Arsenic, total	MW-35	09/27/2005		0.1500	ug/L	
Arsenic, total	MW-35	12/15/2005		0.1400	ug/L	
Arsenic, total	MW-35	12/23/2013		0.1200	ug/L	
Arsenic, total	MW-35	03/04/2014		0.1100	ug/L	
Arsenic, total	MW-35	06/02/2014		0.1200	ug/L	
Arsenic, total	MW-35	09/22/2014		0.1100	ug/L	
Arsenic, total	MW-35	11/17/2014		0.1200	ug/L	
Arsenic, total	MW-35	02/25/2015		0.1100	ug/L	
Arsenic, total	MW-35	05/19/2015		0.1100	ug/L	
Arsenic, total	MW-35	08/26/2015		0.1100	ug/L	
Arsenic, total	MW-35	11/10/2015		0.1000	ug/L	
Arsenic, total	MW-35	02/22/2016		0.1000	ug/L	
Arsenic, total	MW-35	05/16/2016		0.1000	ug/L	
Arsenic, total	MW-35	08/31/2016		0.1090	ug/L	
Arsenic, total	MW-35	11/15/2016		0.1140	ug/L	
Arsenic, total	MW-35	02/22/2017		0.1200	ug/L	
Arsenic, total	MW-35	05/24/2017		0.1340	ug/L	
Arsenic, total	MW-35	08/30/2017		0.1140	ug/L	
Arsenic, total	MW-35	11/15/2017		0.1070	ug/L	
Arsenic, total	MW-35	02/20/2018		0.1200	ug/L	
Arsenic, total	MW-35	05/17/2018		0.1110	ug/L	
Arsenic, total	MW-35	08/22/2018		0.1260	ug/L	
Arsenic, total	MW-35	11/12/2018		0.1120	ug/L	
Arsenic, total	MW-35	11/12/2019		0.0996	ug/L	
Barium, total	MW-13A	12/03/2013		0.0030	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		0.0030	mg/L	
Barium, total	MW-13A	02/22/2016		0.0023	mg/L	
Barium, total	MW-13A	05/16/2016		0.0030	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		0.0030	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-13A	11/11/2019		0.0027	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	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

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-13B	11/11/2019		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
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-16	11/12/2019		0.0043	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		0.0030	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		0.0030	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		0.0030	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
Barium, total	MW-35	11/12/2019		0.0033	mg/L
Beryllium, total	MW-13A	12/03/2013	ND	0.0010	mg/L
Beryllium, total	MW-13A	03/04/2014	ND	0.0010	mg/L
Beryllium, total	MW-13A	06/02/2014	ND	0.0010	mg/L
Beryllium, total	MW-13A	09/22/2014	ND	0.0010	mg/L
Beryllium, total	MW-13A	11/17/2014	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Beryllium, total	MW-13A	02/23/2015	ND	0.0010	mg/L
Beryllium, total	MW-13A	05/19/2015	ND	0.0010	mg/L
Beryllium, total	MW-13A	08/26/2015	ND	0.0010	mg/L
Beryllium, total	MW-13A	11/10/2015	ND	0.0010	mg/L
Beryllium, total	MW-13A	02/22/2016	ND	0.0010	mg/L
Beryllium, total	MW-13A	05/16/2016	ND	0.0010	mg/L
Beryllium, total	MW-13A	08/31/2016	ND	0.0010	mg/L
Beryllium, total	MW-13A	11/14/2016	ND	0.0010	mg/L
Beryllium, total	MW-13A	02/22/2017	ND	0.0010	mg/L
Beryllium, total	MW-13A	05/24/2017	ND	0.0010	mg/L
Beryllium, total	MW-13A	08/30/2017	ND	0.0010	mg/L
Beryllium, total	MW-13A	11/13/2017	ND	0.0010	mg/L
Beryllium, total	MW-13A	02/20/2018	ND	0.0010	mg/L
Beryllium, total	MW-13A	05/15/2018	ND	0.0010	mg/L
Beryllium, total	MW-13A	08/21/2018	ND	0.0010	mg/L
Beryllium, total	MW-13A	11/12/2018	ND	0.0010	mg/L
Beryllium, total	MW-13A	11/11/2019	ND	0.0010	mg/L
Beryllium, total	MW-13B	12/03/2013	ND	0.0010	mg/L
Beryllium, total	MW-13B	03/04/2014	ND	0.0010	mg/L
Beryllium, total	MW-13B	06/02/2014	ND	0.0010	mg/L
Beryllium, total	MW-13B	09/22/2014	ND	0.0010	mg/L
Beryllium, total	MW-13B	11/17/2014	ND	0.0010	mg/L
Beryllium, total	MW-13B	02/23/2015	ND	0.0010	mg/L
Beryllium, total	MW-13B	05/19/2015	ND	0.0010	mg/L
Beryllium, total	MW-13B	08/26/2015	ND	0.0010	mg/L
Beryllium, total	MW-13B	11/10/2015	ND	0.0010	mg/L
Beryllium, total	MW-13B	02/22/2016	ND	0.0010	mg/L
Beryllium, total	MW-13B	05/16/2016	ND	0.0010	mg/L
Beryllium, total	MW-13B	08/31/2016	ND	0.0010	mg/L
Beryllium, total	MW-13B	11/14/2016	ND	0.0010	mg/L
Beryllium, total	MW-13B	02/22/2017	ND	0.0010	mg/L
Beryllium, total	MW-13B	05/24/2017	ND	0.0010	mg/L
Beryllium, total	MW-13B	08/30/2017	ND	0.0010	mg/L
Beryllium, total	MW-13B	11/13/2017	ND	0.0010	mg/L
Beryllium, total	MW-13B	02/20/2018	ND	0.0010	mg/L
Beryllium, total	MW-13B	05/15/2018	ND	0.0010	mg/L
Beryllium, total	MW-13B	08/21/2018	ND	0.0010	mg/L
Beryllium, total	MW-13B	11/12/2018	ND	0.0010	mg/L
Beryllium, total	MW-13B	11/11/2019	ND	0.0010	mg/L
Beryllium, total	MW-16	09/05/2013	ND	0.0010	mg/L
Beryllium, total	MW-16	12/16/2013	ND	0.0010	mg/L
Beryllium, total	MW-16	03/05/2014	ND	0.0010	mg/L
Beryllium, total	MW-16	06/02/2014	ND	0.0010	mg/L
Beryllium, total	MW-16	09/22/2014	ND	0.0010	mg/L
Beryllium, total	MW-16	11/18/2014	ND	0.0010	mg/L
Beryllium, total	MW-16	02/23/2015	ND	0.0010	mg/L
Beryllium, total	MW-16	05/20/2015	ND	0.0010	mg/L
Beryllium, total	MW-16	08/26/2015	ND	0.0010	mg/L
Beryllium, total	MW-16	11/11/2015	ND	0.0010	mg/L
Beryllium, total	MW-16	02/24/2016	ND	0.0010	mg/L
Beryllium, total	MW-16	05/16/2016	ND	0.0010	mg/L
Beryllium, total	MW-16	08/31/2016	ND	0.0010	mg/L
Beryllium, total	MW-16	11/14/2016	ND	0.0010	mg/L
Beryllium, total	MW-16	02/22/2017	ND	0.0010	mg/L
Beryllium, total	MW-16	05/24/2017	ND	0.0010	mg/L
Beryllium, total	MW-16	08/30/2017	ND	0.0010	mg/L
Beryllium, total	MW-16	11/13/2017	ND	0.0010	mg/L
Beryllium, total	MW-16	02/20/2018	ND	0.0010	mg/L
Beryllium, total	MW-16	05/17/2018	ND	0.0010	mg/L
Beryllium, total	MW-16	08/22/2018	ND	0.0010	mg/L
Beryllium, total	MW-16	11/12/2018	ND	0.0010	mg/L
Beryllium, total	MW-16	11/12/2019	ND	0.0010	mg/L
Beryllium, total	MW-35	09/05/2013	ND	0.0010	mg/L
Beryllium, total	MW-35	12/16/2013	ND	0.0010	mg/L
Beryllium, total	MW-35	03/04/2014	ND	0.0010	mg/L
Beryllium, total	MW-35	06/02/2014	ND	0.0010	mg/L
Beryllium, total	MW-35	09/22/2014	ND	0.0010	mg/L
Beryllium, total	MW-35	11/17/2014	ND	0.0010	mg/L
Beryllium, total	MW-35	02/25/2015	ND	0.0010	mg/L
Beryllium, total	MW-35	05/19/2015	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Beryllium, total	MW-35	08/26/2015	ND	0.0010	mg/L
Beryllium, total	MW-35	11/10/2015	ND	0.0010	mg/L
Beryllium, total	MW-35	02/22/2016	ND	0.0010	mg/L
Beryllium, total	MW-35	05/16/2016	ND	0.0010	mg/L
Beryllium, total	MW-35	08/31/2016	ND	0.0010	mg/L
Beryllium, total	MW-35	11/15/2016	ND	0.0010	mg/L
Beryllium, total	MW-35	02/22/2017	ND	0.0010	mg/L
Beryllium, total	MW-35	05/24/2017	ND	0.0010	mg/L
Beryllium, total	MW-35	08/30/2017	ND	0.0010	mg/L
Beryllium, total	MW-35	11/15/2017	ND	0.0010	mg/L
Beryllium, total	MW-35	02/20/2018	ND	0.0010	mg/L
Beryllium, total	MW-35	05/17/2018	ND	0.0010	mg/L
Beryllium, total	MW-35	08/22/2018	ND	0.0010	mg/L
Beryllium, total	MW-35	11/12/2018	ND	0.0010	mg/L
Beryllium, total	MW-35	11/12/2019	ND	0.0010	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-13A	11/11/2019	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
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-13B	11/11/2019	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

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

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-16	11/12/2019	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
Cadmium, total	MW-35	11/12/2019	ND	0.0003	mg/L
Calcium, dissolved	MW-13A	03/22/2005		15.7000	mg/L
Calcium, dissolved	MW-13A	06/15/2005		14.2000	mg/L
Calcium, dissolved	MW-13A	09/27/2005		14.2000	mg/L
Calcium, dissolved	MW-13A	12/15/2005		15.1000	mg/L
Calcium, dissolved	MW-13A	03/28/2006		16.0000	mg/L
Calcium, dissolved	MW-13A	06/21/2006		16.0000	mg/L
Calcium, dissolved	MW-13A	09/26/2006		15.0000	mg/L
Calcium, dissolved	MW-13A	12/13/2006		15.0000	mg/L
Calcium, dissolved	MW-13A	03/27/2007		15.0000	mg/L
Calcium, dissolved	MW-13A	06/19/2007		16.0000	mg/L
Calcium, dissolved	MW-13A	09/19/2007		16.0000	mg/L
Calcium, dissolved	MW-13A	12/19/2007		15.0000	mg/L
Calcium, dissolved	MW-13A	03/25/2008		16.0000	mg/L
Calcium, dissolved	MW-13A	06/18/2008		16.0000	mg/L
Calcium, dissolved	MW-13A	09/17/2008		15.0000	mg/L
Calcium, dissolved	MW-13A	12/17/2008		16.0000	mg/L
Calcium, dissolved	MW-13A	03/24/2009		15.0000	mg/L
Calcium, dissolved	MW-13A	06/17/2009		17.0000	mg/L
Calcium, dissolved	MW-13A	09/10/2009		15.0000	mg/L
Calcium, dissolved	MW-13A	12/03/2009		15.0000	mg/L
Calcium, dissolved	MW-13A	03/25/2010		16.0000	mg/L
Calcium, dissolved	MW-13A	06/23/2010		15.0000	mg/L
Calcium, dissolved	MW-13A	09/23/2010		15.0000	mg/L
Calcium, dissolved	MW-13A	12/08/2010		16.0000	mg/L
Calcium, dissolved	MW-13A	03/30/2011		16.0000	mg/L
Calcium, dissolved	MW-13A	06/06/2011		16.0000	mg/L
Calcium, dissolved	MW-13A	09/27/2011		16.0000	mg/L
Calcium, dissolved	MW-13A	12/14/2011		16.0000	mg/L
Calcium, dissolved	MW-13A	03/21/2012		16.0000	mg/L
Calcium, dissolved	MW-13A	06/08/2012		15.0000	mg/L
Calcium, dissolved	MW-13A	09/26/2012		15.0000	mg/L
Calcium, dissolved	MW-13A	12/03/2012		16.0000	mg/L
Calcium, dissolved	MW-13A	03/11/2013		16.0000	mg/L
Calcium, dissolved	MW-13A	06/05/2013		16.0000	mg/L
Calcium, dissolved	MW-13A	12/03/2013		16.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

**TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits**

Calcium, dissolved	MW-13A	03/04/2014		16.0000	mg/L
Calcium, dissolved	MW-13A	06/02/2014		16.0000	mg/L
Calcium, dissolved	MW-13A	09/22/2014		15.0000	mg/L
Calcium, dissolved	MW-13A	11/17/2014		15.0000	mg/L
Calcium, dissolved	MW-13A	02/23/2015		15.0000	mg/L
Calcium, dissolved	MW-13A	05/19/2015		16.0000	mg/L
Calcium, dissolved	MW-13A	08/26/2015		15.0000	mg/L
Calcium, dissolved	MW-13A	11/10/2015		15.0000	mg/L
Calcium, dissolved	MW-13A	02/22/2016		16.0000	mg/L
Calcium, dissolved	MW-13A	05/16/2016		15.0000	mg/L
Calcium, dissolved	MW-13A	08/31/2016		17.0000	mg/L
Calcium, dissolved	MW-13A	11/14/2016		16.0000	mg/L
Calcium, dissolved	MW-13A	02/22/2017		17.0000	mg/L
Calcium, dissolved	MW-13A	05/24/2017		14.0000	mg/L
Calcium, dissolved	MW-13A	08/30/2017		15.0000	mg/L
Calcium, dissolved	MW-13A	11/13/2017		15.0000	mg/L
Calcium, dissolved	MW-13A	02/20/2018		14.0000	mg/L
Calcium, dissolved	MW-13A	05/15/2018		15.0000	mg/L
Calcium, dissolved	MW-13A	08/21/2018		15.0000	mg/L
Calcium, dissolved	MW-13A	11/12/2018		15.0000	mg/L
Calcium, dissolved	MW-13A	11/11/2019		15.0000	mg/L
Calcium, dissolved	MW-13B	03/22/2005		16.9000	mg/L
Calcium, dissolved	MW-13B	06/15/2005		16.0000	mg/L
Calcium, dissolved	MW-13B	09/27/2005		17.1000	mg/L
Calcium, dissolved	MW-13B	12/15/2005		16.1000	mg/L
Calcium, dissolved	MW-13B	03/29/2006		17.0000	mg/L
Calcium, dissolved	MW-13B	06/21/2006		17.0000	mg/L
Calcium, dissolved	MW-13B	09/26/2006		16.0000	mg/L
Calcium, dissolved	MW-13B	12/13/2006		17.0000	mg/L
Calcium, dissolved	MW-13B	03/27/2007		16.0000	mg/L
Calcium, dissolved	MW-13B	06/19/2007		16.0000	mg/L
Calcium, dissolved	MW-13B	09/18/2007		17.0000	mg/L
Calcium, dissolved	MW-13B	12/19/2007		15.0000	mg/L
Calcium, dissolved	MW-13B	03/25/2008		16.0000	mg/L
Calcium, dissolved	MW-13B	06/18/2008		17.0000	mg/L
Calcium, dissolved	MW-13B	09/17/2008		16.0000	mg/L
Calcium, dissolved	MW-13B	12/16/2008		16.0000	mg/L
Calcium, dissolved	MW-13B	03/24/2009		16.0000	mg/L
Calcium, dissolved	MW-13B	06/17/2009		17.0000	mg/L
Calcium, dissolved	MW-13B	09/10/2009		16.0000	mg/L
Calcium, dissolved	MW-13B	12/03/2009		16.0000	mg/L
Calcium, dissolved	MW-13B	03/25/2010		17.0000	mg/L
Calcium, dissolved	MW-13B	06/23/2010		16.0000	mg/L
Calcium, dissolved	MW-13B	09/23/2010		16.0000	mg/L
Calcium, dissolved	MW-13B	12/08/2010		16.0000	mg/L
Calcium, dissolved	MW-13B	03/30/2011		16.0000	mg/L
Calcium, dissolved	MW-13B	06/06/2011		16.0000	mg/L
Calcium, dissolved	MW-13B	09/27/2011		16.0000	mg/L
Calcium, dissolved	MW-13B	12/14/2011		16.0000	mg/L
Calcium, dissolved	MW-13B	03/21/2012		16.0000	mg/L
Calcium, dissolved	MW-13B	06/08/2012		16.0000	mg/L
Calcium, dissolved	MW-13B	09/26/2012		16.0000	mg/L
Calcium, dissolved	MW-13B	12/03/2012		17.0000	mg/L
Calcium, dissolved	MW-13B	03/11/2013		17.0000	mg/L
Calcium, dissolved	MW-13B	06/05/2013		17.0000	mg/L
Calcium, dissolved	MW-13B	12/03/2013		17.0000	mg/L
Calcium, dissolved	MW-13B	03/04/2014		17.0000	mg/L
Calcium, dissolved	MW-13B	06/02/2014		16.0000	mg/L
Calcium, dissolved	MW-13B	09/22/2014		15.0000	mg/L
Calcium, dissolved	MW-13B	11/17/2014		16.0000	mg/L
Calcium, dissolved	MW-13B	02/23/2015		17.0000	mg/L
Calcium, dissolved	MW-13B	05/19/2015		17.0000	mg/L
Calcium, dissolved	MW-13B	08/26/2015		16.0000	mg/L
Calcium, dissolved	MW-13B	11/10/2015		17.0000	mg/L
Calcium, dissolved	MW-13B	02/22/2016		18.0000	mg/L
Calcium, dissolved	MW-13B	05/16/2016		16.0000	mg/L
Calcium, dissolved	MW-13B	08/31/2016		18.0000	mg/L
Calcium, dissolved	MW-13B	11/14/2016		17.0000	mg/L
Calcium, dissolved	MW-13B	02/22/2017		18.0000	mg/L
Calcium, dissolved	MW-13B	05/24/2017		14.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Calcium, dissolved	MW-13B	08/30/2017	17.0000	mg/L
Calcium, dissolved	MW-13B	11/13/2017	17.0000	mg/L
Calcium, dissolved	MW-13B	02/20/2018	16.0000	mg/L
Calcium, dissolved	MW-13B	05/15/2018	17.0000	mg/L
Calcium, dissolved	MW-13B	08/21/2018	18.0000	mg/L
Calcium, dissolved	MW-13B	11/12/2018	17.0000	mg/L
Calcium, dissolved	MW-13B	11/11/2019	16.0000	mg/L
Calcium, dissolved	MW-16	03/24/2009	12.0000	mg/L
Calcium, dissolved	MW-16	06/16/2009	10.0000	mg/L
Calcium, dissolved	MW-16	09/09/2009	11.0000	mg/L
Calcium, dissolved	MW-16	12/03/2009	14.0000	mg/L
Calcium, dissolved	MW-16	03/25/2010	9.6000	mg/L
Calcium, dissolved	MW-16	06/24/2010	12.0000	mg/L
Calcium, dissolved	MW-16	09/24/2010	13.0000	mg/L
Calcium, dissolved	MW-16	12/09/2010	13.0000	mg/L
Calcium, dissolved	MW-16	03/30/2011	9.8000	mg/L
Calcium, dissolved	MW-16	06/07/2011	9.7000	mg/L
Calcium, dissolved	MW-16	09/27/2011	12.0000	mg/L
Calcium, dissolved	MW-16	12/13/2011	11.0000	mg/L
Calcium, dissolved	MW-16	03/21/2012	8.9000	mg/L
Calcium, dissolved	MW-16	06/08/2012	9.1000	mg/L
Calcium, dissolved	MW-16	09/27/2012	11.0000	mg/L
Calcium, dissolved	MW-16	12/04/2012	11.0000	mg/L
Calcium, dissolved	MW-16	03/12/2013	10.0000	mg/L
Calcium, dissolved	MW-16	06/04/2013	10.0000	mg/L
Calcium, dissolved	MW-16	09/05/2013	11.0000	mg/L
Calcium, dissolved	MW-16	12/16/2013	11.0000	mg/L
Calcium, dissolved	MW-16	03/05/2014	9.8000	mg/L
Calcium, dissolved	MW-16	06/02/2014	8.8000	mg/L
Calcium, dissolved	MW-16	09/22/2014	9.9000	mg/L
Calcium, dissolved	MW-16	11/18/2014	11.0000	mg/L
Calcium, dissolved	MW-16	02/23/2015	9.5000	mg/L
Calcium, dissolved	MW-16	05/20/2015	10.0000	mg/L
Calcium, dissolved	MW-16	08/26/2015	9.8000	mg/L
Calcium, dissolved	MW-16	11/11/2015	12.0000	mg/L
Calcium, dissolved	MW-16	02/24/2016	7.7000	mg/L
Calcium, dissolved	MW-16	05/16/2016	8.4000	mg/L
Calcium, dissolved	MW-16	08/31/2016	12.0000	mg/L
Calcium, dissolved	MW-16	11/14/2016	9.6000	mg/L
Calcium, dissolved	MW-16	02/22/2017	8.4000	mg/L
Calcium, dissolved	MW-16	05/24/2017	7.6000	mg/L
Calcium, dissolved	MW-16	08/30/2017	9.2000	mg/L
Calcium, dissolved	MW-16	11/13/2017	8.9000	mg/L
Calcium, dissolved	MW-16	02/20/2018	7.5000	mg/L
Calcium, dissolved	MW-16	05/17/2018	7.9000	mg/L
Calcium, dissolved	MW-16	08/22/2018	8.8000	mg/L
Calcium, dissolved	MW-16	11/12/2018	9.7000	mg/L
Calcium, dissolved	MW-16	11/12/2019	12.0000	mg/L
Calcium, dissolved	MW-35	03/22/2005	13.9000	mg/L
Calcium, dissolved	MW-35	06/14/2005	12.9000	mg/L
Calcium, dissolved	MW-35	09/27/2005	14.8000	mg/L
Calcium, dissolved	MW-35	12/15/2005	13.2000	mg/L
Calcium, dissolved	MW-35	03/28/2006	14.0000	mg/L
Calcium, dissolved	MW-35	06/21/2006	14.0000	mg/L
Calcium, dissolved	MW-35	09/26/2006	13.0000	mg/L
Calcium, dissolved	MW-35	12/12/2006	14.0000	mg/L
Calcium, dissolved	MW-35	03/27/2007	13.0000	mg/L
Calcium, dissolved	MW-35	06/20/2007	14.0000	mg/L
Calcium, dissolved	MW-35	09/18/2007	14.0000	mg/L
Calcium, dissolved	MW-35	12/20/2007	13.0000	mg/L
Calcium, dissolved	MW-35	03/25/2008	13.0000	mg/L
Calcium, dissolved	MW-35	06/18/2008	13.0000	mg/L
Calcium, dissolved	MW-35	09/18/2008	13.0000	mg/L
Calcium, dissolved	MW-35	12/19/2008	12.0000	mg/L
Calcium, dissolved	MW-35	03/24/2009	13.0000	mg/L
Calcium, dissolved	MW-35	06/16/2009	13.0000	mg/L
Calcium, dissolved	MW-35	09/10/2009	12.0000	mg/L
Calcium, dissolved	MW-35	12/03/2009	13.0000	mg/L
Calcium, dissolved	MW-35	03/25/2010	13.0000	mg/L
Calcium, dissolved	MW-35	06/23/2010	13.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Calcium, dissolved	MW-35	09/23/2010	13.0000	mg/L
Calcium, dissolved	MW-35	12/09/2010	14.0000	mg/L
Calcium, dissolved	MW-35	03/30/2011	14.0000	mg/L
Calcium, dissolved	MW-35	06/06/2011	13.0000	mg/L
Calcium, dissolved	MW-35	09/26/2011	14.0000	mg/L
Calcium, dissolved	MW-35	12/13/2011	14.0000	mg/L
Calcium, dissolved	MW-35	03/21/2012	14.0000	mg/L
Calcium, dissolved	MW-35	06/06/2012	13.0000	mg/L
Calcium, dissolved	MW-35	09/26/2012	13.0000	mg/L
Calcium, dissolved	MW-35	12/04/2012	14.0000	mg/L
Calcium, dissolved	MW-35	03/13/2013	14.0000	mg/L
Calcium, dissolved	MW-35	06/06/2013	13.0000	mg/L
Calcium, dissolved	MW-35	09/05/2013	13.0000	mg/L
Calcium, dissolved	MW-35	12/16/2013	14.0000	mg/L
Calcium, dissolved	MW-35	03/04/2014	14.0000	mg/L
Calcium, dissolved	MW-35	06/02/2014	14.0000	mg/L
Calcium, dissolved	MW-35	09/22/2014	13.0000	mg/L
Calcium, dissolved	MW-35	11/17/2014	14.0000	mg/L
Calcium, dissolved	MW-35	02/25/2015	15.0000	mg/L
Calcium, dissolved	MW-35	05/19/2015	13.0000	mg/L
Calcium, dissolved	MW-35	08/26/2015	13.0000	mg/L
Calcium, dissolved	MW-35	11/10/2015	15.0000	mg/L
Calcium, dissolved	MW-35	02/22/2016	15.0000	mg/L
Calcium, dissolved	MW-35	05/16/2016	14.0000	mg/L
Calcium, dissolved	MW-35	08/31/2016	15.0000	mg/L
Calcium, dissolved	MW-35	11/15/2016	14.0000	mg/L
Calcium, dissolved	MW-35	02/22/2017	15.0000	mg/L
Calcium, dissolved	MW-35	05/24/2017	13.0000	mg/L
Calcium, dissolved	MW-35	08/30/2017	14.0000	mg/L
Calcium, dissolved	MW-35	11/15/2017	13.0000	mg/L
Calcium, dissolved	MW-35	02/20/2018	13.0000	mg/L
Calcium, dissolved	MW-35	05/17/2018	14.0000	mg/L
Calcium, dissolved	MW-35	08/22/2018	14.0000	mg/L
Calcium, dissolved	MW-35	11/12/2018	15.0000	mg/L
Calcium, dissolved	MW-35	11/12/2019	14.0000	mg/L
Chloride	MW-13A	03/22/2005	2.6000	mg/L
Chloride	MW-13A	06/15/2005	1.9000	mg/L
Chloride	MW-13A	09/27/2005	2.4000	mg/L
Chloride	MW-13A	12/15/2005	2.1000	mg/L
Chloride	MW-13A	03/28/2006	3.0000	mg/L
Chloride	MW-13A	06/21/2006	2.4000	mg/L
Chloride	MW-13A	09/26/2006	2.6000	mg/L
Chloride	MW-13A	12/13/2006	3.0000	mg/L
Chloride	MW-13A	03/27/2007	2.8000	mg/L
Chloride	MW-13A	06/19/2007	2.6000	mg/L
Chloride	MW-13A	09/19/2007	2.6000	mg/L
Chloride	MW-13A	12/19/2007	2.6000	mg/L
Chloride	MW-13A	03/25/2008	2.5000	mg/L
Chloride	MW-13A	06/18/2008	2.6000	mg/L
Chloride	MW-13A	09/17/2008	2.5000	mg/L
Chloride	MW-13A	12/17/2008	3.1000	mg/L
Chloride	MW-13A	03/24/2009	2.7000	mg/L
Chloride	MW-13A	06/17/2009	2.4000	mg/L
Chloride	MW-13A	09/10/2009	2.1000	mg/L
Chloride	MW-13A	12/03/2009	3.4000	mg/L
Chloride	MW-13A	03/25/2010	2.2000	mg/L
Chloride	MW-13A	06/23/2010	2.6000	mg/L
Chloride	MW-13A	09/23/2010	2.8000	mg/L
Chloride	MW-13A	12/08/2010	2.9000	mg/L
Chloride	MW-13A	03/30/2011	2.9000	mg/L
Chloride	MW-13A	06/06/2011	3.0000	mg/L
Chloride	MW-13A	09/27/2011	3.8000	mg/L
Chloride	MW-13A	12/14/2011	4.4000	mg/L
Chloride	MW-13A	03/21/2012	2.7000	mg/L
Chloride	MW-13A	06/08/2012	3.0000	mg/L
Chloride	MW-13A	09/26/2012	2.6000	mg/L
Chloride	MW-13A	12/03/2012	1.8000	mg/L
Chloride	MW-13A	03/11/2013	3.0000	mg/L
Chloride	MW-13A	06/05/2013	1.7000	mg/L
Chloride	MW-13A	12/03/2013	1.7000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Chloride	MW-13A	03/04/2014		1.7000	mg/L
Chloride	MW-13A	06/02/2014		2.0000	mg/L
Chloride	MW-13A	09/22/2014		1.7000	mg/L
Chloride	MW-13A	11/17/2014		1.9000	mg/L
Chloride	MW-13A	02/23/2015		1.8000	mg/L
Chloride	MW-13A	05/19/2015		1.9000	mg/L
Chloride	MW-13A	08/26/2015		2.1000	mg/L
Chloride	MW-13A	11/10/2015		1.9000	mg/L
Chloride	MW-13A	02/22/2016		1.9000	mg/L
Chloride	MW-13A	05/16/2016		1.9000	mg/L
Chloride	MW-13A	08/31/2016		1.9000	mg/L
Chloride	MW-13A	11/14/2016		1.8000	mg/L
Chloride	MW-13A	02/22/2017		2.0000	mg/L
Chloride	MW-13A	05/24/2017		1.9000	mg/L
Chloride	MW-13A	08/30/2017		2.4000	mg/L
Chloride	MW-13A	11/13/2017		1.7000	mg/L
Chloride	MW-13A	02/20/2018		2.1000	mg/L
Chloride	MW-13A	05/15/2018		1.8000	mg/L
Chloride	MW-13A	08/21/2018		1.8000	mg/L
Chloride	MW-13A	11/12/2018		1.9000	mg/L
Chloride	MW-13A	11/11/2019	ND	3.0000	mg/L
Chloride	MW-13B	03/22/2005		3.0000	mg/L
Chloride	MW-13B	06/15/2005		2.3000	mg/L
Chloride	MW-13B	09/27/2005		2.8000	mg/L
Chloride	MW-13B	12/15/2005		2.4000	mg/L
Chloride	MW-13B	03/29/2006		3.2000	mg/L
Chloride	MW-13B	06/21/2006		2.9000	mg/L
Chloride	MW-13B	09/26/2006		2.7000	mg/L
Chloride	MW-13B	12/13/2006		3.3000	mg/L
Chloride	MW-13B	03/27/2007		3.0000	mg/L
Chloride	MW-13B	06/19/2007		2.8000	mg/L
Chloride	MW-13B	09/18/2007		2.8000	mg/L
Chloride	MW-13B	12/19/2007		2.8000	mg/L
Chloride	MW-13B	03/25/2008		2.7000	mg/L
Chloride	MW-13B	06/18/2008		2.8000	mg/L
Chloride	MW-13B	09/17/2008		2.7000	mg/L
Chloride	MW-13B	12/16/2008		3.2000	mg/L
Chloride	MW-13B	03/24/2009		2.6000	mg/L
Chloride	MW-13B	06/17/2009		3.0000	mg/L
Chloride	MW-13B	09/10/2009		2.3000	mg/L
Chloride	MW-13B	12/03/2009		2.9000	mg/L
Chloride	MW-13B	03/25/2010		2.5000	mg/L
Chloride	MW-13B	06/23/2010		2.8000	mg/L
Chloride	MW-13B	09/23/2010		3.0000	mg/L
Chloride	MW-13B	12/08/2010		2.5000	mg/L
Chloride	MW-13B	03/30/2011		3.1000	mg/L
Chloride	MW-13B	06/06/2011		3.2000	mg/L
Chloride	MW-13B	09/27/2011		3.7000	mg/L
Chloride	MW-13B	12/14/2011		3.4000	mg/L
Chloride	MW-13B	03/21/2012		2.8000	mg/L
Chloride	MW-13B	06/08/2012		3.4000	mg/L
Chloride	MW-13B	09/26/2012		2.9000	mg/L
Chloride	MW-13B	12/03/2012		2.1000	mg/L
Chloride	MW-13B	03/11/2013		2.1000	mg/L
Chloride	MW-13B	06/05/2013		2.0000	mg/L
Chloride	MW-13B	12/03/2013		1.9000	mg/L
Chloride	MW-13B	03/04/2014		1.9000	mg/L
Chloride	MW-13B	06/02/2014		2.1000	mg/L
Chloride	MW-13B	09/22/2014		1.9000	mg/L
Chloride	MW-13B	11/17/2014		2.1000	mg/L
Chloride	MW-13B	02/23/2015		2.0000	mg/L
Chloride	MW-13B	05/19/2015		2.0000	mg/L
Chloride	MW-13B	08/26/2015		2.1000	mg/L
Chloride	MW-13B	11/10/2015		2.0000	mg/L
Chloride	MW-13B	02/22/2016		2.0000	mg/L
Chloride	MW-13B	05/16/2016		2.0000	mg/L
Chloride	MW-13B	08/31/2016		2.0000	mg/L
Chloride	MW-13B	11/14/2016		1.9000	mg/L
Chloride	MW-13B	02/22/2017		2.0000	mg/L
Chloride	MW-13B	05/24/2017		2.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Chloride	MW-13B	08/30/2017		2.2000	mg/L
Chloride	MW-13B	11/13/2017		1.9000	mg/L
Chloride	MW-13B	02/20/2018		2.2000	mg/L
Chloride	MW-13B	05/15/2018		1.9000	mg/L
Chloride	MW-13B	08/21/2018		1.9000	mg/L
Chloride	MW-13B	11/12/2018		2.0000	mg/L
Chloride	MW-13B	11/11/2019	ND	3.0000	mg/L
Chloride	MW-16	03/24/2009		2.1000	mg/L
Chloride	MW-16	06/16/2009		2.2000	mg/L
Chloride	MW-16	09/09/2009		1.3000	mg/L
Chloride	MW-16	12/03/2009		1.9000	mg/L
Chloride	MW-16	03/25/2010		1.7000	mg/L
Chloride	MW-16	06/24/2010		1.6000	mg/L
Chloride	MW-16	09/24/2010		1.7000	mg/L
Chloride	MW-16	12/09/2010		2.3000	mg/L
Chloride	MW-16	03/30/2011		3.6000	mg/L
Chloride	MW-16	06/07/2011		2.4000	mg/L
Chloride	MW-16	09/27/2011		3.9000	mg/L
Chloride	MW-16	12/13/2011		2.1000	mg/L
Chloride	MW-16	03/21/2012		2.2000	mg/L
Chloride	MW-16	06/08/2012		2.8000	mg/L
Chloride	MW-16	09/27/2012		1.0000	mg/L
Chloride	MW-16	12/04/2012		1.3000	mg/L
Chloride	MW-16	03/12/2013		1.3000	mg/L
Chloride	MW-16	06/04/2013		1.3000	mg/L
Chloride	MW-16	09/05/2013		1.3000	mg/L
Chloride	MW-16	12/16/2013	ND	1.0000	mg/L
Chloride	MW-16	03/05/2014		1.0000	mg/L
Chloride	MW-16	06/02/2014		1.4000	mg/L
Chloride	MW-16	09/22/2014		1.1000	mg/L
Chloride	MW-16	11/18/2014		1.5000	mg/L
Chloride	MW-16	02/23/2015		1.2000	mg/L
Chloride	MW-16	05/20/2015		1.4000	mg/L
Chloride	MW-16	08/26/2015		1.1000	mg/L
Chloride	MW-16	11/11/2015	ND	1.0000	mg/L
Chloride	MW-16	02/24/2016		1.2000	mg/L
Chloride	MW-16	05/16/2016		1.2000	mg/L
Chloride	MW-16	08/31/2016		1.1000	mg/L
Chloride	MW-16	11/14/2016		1.0000	mg/L
Chloride	MW-16	02/22/2017		1.3000	mg/L
Chloride	MW-16	05/24/2017		1.2000	mg/L
Chloride	MW-16	08/30/2017	ND	1.0000	mg/L
Chloride	MW-16	11/13/2017	ND	1.0000	mg/L
Chloride	MW-16	02/20/2018		1.6000	mg/L
Chloride	MW-16	05/17/2018		1.1000	mg/L
Chloride	MW-16	08/22/2018		1.7000	mg/L
Chloride	MW-16	11/12/2018		1.4000	mg/L
Chloride	MW-16	11/12/2019	ND	3.0000	mg/L
Chloride	MW-35	03/22/2005		2.2000	mg/L
Chloride	MW-35	06/14/2005		2.2000	mg/L
Chloride	MW-35	09/27/2005		2.6000	mg/L
Chloride	MW-35	12/15/2005		1.9000	mg/L
Chloride	MW-35	03/28/2006		2.9000	mg/L
Chloride	MW-35	06/21/2006		2.8000	mg/L
Chloride	MW-35	09/26/2006		2.5000	mg/L
Chloride	MW-35	12/12/2006		3.0000	mg/L
Chloride	MW-35	03/27/2007		2.8000	mg/L
Chloride	MW-35	06/20/2007		2.6000	mg/L
Chloride	MW-35	09/18/2007		2.4000	mg/L
Chloride	MW-35	12/20/2007		2.3000	mg/L
Chloride	MW-35	03/25/2008		2.4000	mg/L
Chloride	MW-35	06/18/2008		2.6000	mg/L
Chloride	MW-35	09/18/2008		2.4000	mg/L
Chloride	MW-35	12/19/2008		2.9000	mg/L
Chloride	MW-35	03/24/2009		2.3000	mg/L
Chloride	MW-35	06/16/2009		2.4000	mg/L
Chloride	MW-35	09/10/2009		2.5000	mg/L
Chloride	MW-35	12/03/2009		2.8000	mg/L
Chloride	MW-35	03/25/2010		2.0000	mg/L
Chloride	MW-35	06/23/2010		2.1000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Chloride	MW-35	09/23/2010		2.6000	mg/L
Chloride	MW-35	12/09/2010		2.7000	mg/L
Chloride	MW-35	03/30/2011		3.2000	mg/L
Chloride	MW-35	06/06/2011		2.3000	mg/L
Chloride	MW-35	09/26/2011		3.0000	mg/L
Chloride	MW-35	12/13/2011		3.2000	mg/L
Chloride	MW-35	03/21/2012		2.9000	mg/L
Chloride	MW-35	06/06/2012		1.3000	mg/L
Chloride	MW-35	09/26/2012		2.4000	mg/L
Chloride	MW-35	12/04/2012		1.9000	mg/L
Chloride	MW-35	03/13/2013		1.8000	mg/L
Chloride	MW-35	06/06/2013		1.7000	mg/L
Chloride	MW-35	09/05/2013		1.8000	mg/L
Chloride	MW-35	12/16/2013		1.7000	mg/L
Chloride	MW-35	03/04/2014		1.8000	mg/L
Chloride	MW-35	06/02/2014		2.0000	mg/L
Chloride	MW-35	09/22/2014		1.7000	mg/L
Chloride	MW-35	11/17/2014		1.8000	mg/L
Chloride	MW-35	02/25/2015		1.8000	mg/L
Chloride	MW-35	05/19/2015		1.9000	mg/L
Chloride	MW-35	08/26/2015		1.9000	mg/L
Chloride	MW-35	11/10/2015		1.8000	mg/L
Chloride	MW-35	02/22/2016		2.1000	mg/L
Chloride	MW-35	05/16/2016		1.9000	mg/L
Chloride	MW-35	08/31/2016		1.9000	mg/L
Chloride	MW-35	11/15/2016		1.8000	mg/L
Chloride	MW-35	02/22/2017		1.9000	mg/L
Chloride	MW-35	05/24/2017		1.9000	mg/L
Chloride	MW-35	08/30/2017		1.6000	mg/L
Chloride	MW-35	11/15/2017		1.7000	mg/L
Chloride	MW-35	02/20/2018		2.1000	mg/L
Chloride	MW-35	05/17/2018		1.9000	mg/L
Chloride	MW-35	08/22/2018		2.1000	mg/L
Chloride	MW-35	11/12/2018		1.9000	mg/L
Chloride	MW-35	11/12/2019	ND	3.0000	mg/L
Chromium, total	MW-13A	12/03/2013	ND	0.0030	mg/L
Chromium, total	MW-13A	03/04/2014	ND	0.0030	mg/L
Chromium, total	MW-13A	06/02/2014	ND	0.0030	mg/L
Chromium, total	MW-13A	09/22/2014	ND	0.0030	mg/L
Chromium, total	MW-13A	11/17/2014	ND	0.0030	mg/L
Chromium, total	MW-13A	02/23/2015	ND	0.0030	mg/L
Chromium, total	MW-13A	05/19/2015	ND	0.0030	mg/L
Chromium, total	MW-13A	08/26/2015	ND	0.0030	mg/L
Chromium, total	MW-13A	11/10/2015	ND	0.0030	mg/L
Chromium, total	MW-13A	02/22/2016	ND	0.0030	mg/L
Chromium, total	MW-13A	05/16/2016	ND	0.0030	mg/L
Chromium, total	MW-13A	08/31/2016	ND	0.0030	mg/L
Chromium, total	MW-13A	11/14/2016	ND	0.0030	mg/L
Chromium, total	MW-13A	02/22/2017	ND	0.0030	mg/L
Chromium, total	MW-13A	05/24/2017	ND	0.0030	mg/L
Chromium, total	MW-13A	08/30/2017	ND	0.0030	mg/L
Chromium, total	MW-13A	11/13/2017	ND	0.0030	mg/L
Chromium, total	MW-13A	02/20/2018	ND	0.0030	mg/L
Chromium, total	MW-13A	05/15/2018	ND	0.0030	mg/L
Chromium, total	MW-13A	08/21/2018	ND	0.0030	mg/L
Chromium, total	MW-13A	11/12/2018	ND	0.0030	mg/L
Chromium, total	MW-13A	11/11/2019	ND	0.0030	mg/L
Chromium, total	MW-13B	12/03/2013		0.0030	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	0.0030	mg/L
Chromium, total	MW-13B	11/17/2014		0.0032	mg/L
Chromium, total	MW-13B	02/23/2015	ND	0.0030	mg/L
Chromium, total	MW-13B	05/19/2015		0.0030	mg/L
Chromium, total	MW-13B	08/26/2015	ND	0.0030	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

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Chromium, total	MW-13B	02/22/2017		0.0033	mg/L
Chromium, total	MW-13B	05/24/2017	ND	0.0030	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	0.0030	mg/L
Chromium, total	MW-13B	08/21/2018		0.0031	mg/L
Chromium, total	MW-13B	11/12/2018		0.0030	mg/L
Chromium, total	MW-13B	11/11/2019	ND	0.0030	mg/L
Chromium, total	MW-16	09/05/2013		0.0063	mg/L
Chromium, total	MW-16	12/16/2013		0.0080	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		0.0090	mg/L
Chromium, total	MW-16	05/20/2015		0.0070	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		0.0070	mg/L
Chromium, total	MW-16	11/12/2018		0.0092	mg/L
Chromium, total	MW-16	11/12/2019		0.0076	mg/L
Chromium, total	MW-35	09/05/2013	ND	0.0030	mg/L
Chromium, total	MW-35	12/16/2013	ND	0.0030	mg/L
Chromium, total	MW-35	03/04/2014	ND	0.0030	mg/L
Chromium, total	MW-35	06/02/2014	ND	0.0030	mg/L
Chromium, total	MW-35	09/22/2014	ND	0.0030	mg/L
Chromium, total	MW-35	11/17/2014	ND	0.0030	mg/L
Chromium, total	MW-35	02/25/2015	ND	0.0030	mg/L
Chromium, total	MW-35	05/19/2015	ND	0.0030	mg/L
Chromium, total	MW-35	08/26/2015	ND	0.0030	mg/L
Chromium, total	MW-35	11/10/2015	ND	0.0030	mg/L
Chromium, total	MW-35	02/22/2016	ND	0.0030	mg/L
Chromium, total	MW-35	05/16/2016	ND	0.0030	mg/L
Chromium, total	MW-35	08/31/2016	ND	0.0030	mg/L
Chromium, total	MW-35	11/15/2016	ND	0.0030	mg/L
Chromium, total	MW-35	02/22/2017	ND	0.0030	mg/L
Chromium, total	MW-35	05/24/2017	ND	0.0030	mg/L
Chromium, total	MW-35	08/30/2017	ND	0.0030	mg/L
Chromium, total	MW-35	11/15/2017	ND	0.0030	mg/L
Chromium, total	MW-35	02/20/2018	ND	0.0030	mg/L
Chromium, total	MW-35	05/17/2018	ND	0.0030	mg/L
Chromium, total	MW-35	08/22/2018		0.0047	mg/L
Chromium, total	MW-35	11/12/2018	ND	0.0030	mg/L
Chromium, total	MW-35	11/12/2019	ND	0.0030	mg/L
Cobalt, total	MW-13A	12/03/2013	ND	0.0030	mg/L
Cobalt, total	MW-13A	03/04/2014	ND	0.0030	mg/L
Cobalt, total	MW-13A	06/02/2014	ND	0.0030	mg/L
Cobalt, total	MW-13A	09/22/2014	ND	0.0030	mg/L
Cobalt, total	MW-13A	11/17/2014	ND	0.0030	mg/L
Cobalt, total	MW-13A	02/23/2015	ND	0.0030	mg/L
Cobalt, total	MW-13A	05/19/2015	ND	0.0030	mg/L
Cobalt, total	MW-13A	08/26/2015	ND	0.0030	mg/L
Cobalt, total	MW-13A	11/10/2015	ND	0.0030	mg/L
Cobalt, total	MW-13A	02/22/2016	ND	0.0030	mg/L
Cobalt, total	MW-13A	05/16/2016	ND	0.0030	mg/L
Cobalt, total	MW-13A	08/31/2016	ND	0.0030	mg/L
Cobalt, total	MW-13A	11/14/2016	ND	0.0030	mg/L
Cobalt, total	MW-13A	02/22/2017	ND	0.0030	mg/L
Cobalt, total	MW-13A	05/24/2017	ND	0.0030	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Cobalt, total	MW-13A	08/30/2017	ND	0.0030	mg/L
Cobalt, total	MW-13A	11/13/2017	ND	0.0030	mg/L
Cobalt, total	MW-13A	02/20/2018	ND	0.0030	mg/L
Cobalt, total	MW-13A	05/15/2018	ND	0.0030	mg/L
Cobalt, total	MW-13A	08/21/2018	ND	0.0030	mg/L
Cobalt, total	MW-13A	11/12/2018	ND	0.0030	mg/L
Cobalt, total	MW-13A	11/11/2019	ND	0.0030	mg/L
Cobalt, total	MW-13B	12/03/2013	ND	0.0030	mg/L
Cobalt, total	MW-13B	03/04/2014	ND	0.0030	mg/L
Cobalt, total	MW-13B	06/02/2014	ND	0.0030	mg/L
Cobalt, total	MW-13B	09/22/2014	ND	0.0030	mg/L
Cobalt, total	MW-13B	11/17/2014	ND	0.0030	mg/L
Cobalt, total	MW-13B	02/23/2015	ND	0.0030	mg/L
Cobalt, total	MW-13B	05/19/2015	ND	0.0030	mg/L
Cobalt, total	MW-13B	08/26/2015	ND	0.0030	mg/L
Cobalt, total	MW-13B	11/10/2015	ND	0.0030	mg/L
Cobalt, total	MW-13B	02/22/2016	ND	0.0030	mg/L
Cobalt, total	MW-13B	05/16/2016	ND	0.0030	mg/L
Cobalt, total	MW-13B	08/31/2016	ND	0.0030	mg/L
Cobalt, total	MW-13B	11/14/2016	ND	0.0030	mg/L
Cobalt, total	MW-13B	02/22/2017	ND	0.0030	mg/L
Cobalt, total	MW-13B	05/24/2017	ND	0.0030	mg/L
Cobalt, total	MW-13B	08/30/2017	ND	0.0030	mg/L
Cobalt, total	MW-13B	11/13/2017	ND	0.0030	mg/L
Cobalt, total	MW-13B	02/20/2018	ND	0.0030	mg/L
Cobalt, total	MW-13B	05/15/2018	ND	0.0030	mg/L
Cobalt, total	MW-13B	08/21/2018	ND	0.0030	mg/L
Cobalt, total	MW-13B	11/12/2018	ND	0.0030	mg/L
Cobalt, total	MW-13B	11/11/2019	ND	0.0030	mg/L
Cobalt, total	MW-16	09/05/2013	ND	0.0030	mg/L
Cobalt, total	MW-16	12/16/2013	ND	0.0030	mg/L
Cobalt, total	MW-16	03/05/2014	ND	0.0030	mg/L
Cobalt, total	MW-16	06/02/2014	ND	0.0030	mg/L
Cobalt, total	MW-16	09/22/2014	ND	0.0030	mg/L
Cobalt, total	MW-16	11/18/2014	ND	0.0030	mg/L
Cobalt, total	MW-16	02/23/2015	ND	0.0030	mg/L
Cobalt, total	MW-16	05/20/2015	ND	0.0030	mg/L
Cobalt, total	MW-16	08/26/2015	ND	0.0030	mg/L
Cobalt, total	MW-16	11/11/2015	ND	0.0030	mg/L
Cobalt, total	MW-16	02/24/2016	ND	0.0030	mg/L
Cobalt, total	MW-16	05/16/2016	ND	0.0030	mg/L
Cobalt, total	MW-16	08/31/2016	ND	0.0030	mg/L
Cobalt, total	MW-16	11/14/2016	ND	0.0030	mg/L
Cobalt, total	MW-16	02/22/2017	ND	0.0030	mg/L
Cobalt, total	MW-16	05/24/2017	ND	0.0030	mg/L
Cobalt, total	MW-16	08/30/2017	ND	0.0030	mg/L
Cobalt, total	MW-16	11/13/2017	ND	0.0030	mg/L
Cobalt, total	MW-16	02/20/2018	ND	0.0030	mg/L
Cobalt, total	MW-16	05/17/2018	ND	0.0030	mg/L
Cobalt, total	MW-16	08/22/2018	ND	0.0030	mg/L
Cobalt, total	MW-16	11/12/2018	ND	0.0030	mg/L
Cobalt, total	MW-16	11/12/2019	ND	0.0030	mg/L
Cobalt, total	MW-35	09/05/2013	ND	0.0030	mg/L
Cobalt, total	MW-35	12/16/2013	ND	0.0030	mg/L
Cobalt, total	MW-35	03/04/2014	ND	0.0030	mg/L
Cobalt, total	MW-35	06/02/2014	ND	0.0030	mg/L
Cobalt, total	MW-35	09/22/2014	ND	0.0030	mg/L
Cobalt, total	MW-35	11/17/2014	ND	0.0030	mg/L
Cobalt, total	MW-35	02/25/2015	ND	0.0030	mg/L
Cobalt, total	MW-35	05/19/2015	ND	0.0030	mg/L
Cobalt, total	MW-35	08/26/2015	ND	0.0030	mg/L
Cobalt, total	MW-35	11/10/2015	ND	0.0030	mg/L
Cobalt, total	MW-35	02/22/2016	ND	0.0030	mg/L
Cobalt, total	MW-35	05/16/2016	ND	0.0030	mg/L
Cobalt, total	MW-35	08/31/2016	ND	0.0030	mg/L
Cobalt, total	MW-35	11/15/2016	ND	0.0030	mg/L
Cobalt, total	MW-35	02/22/2017	ND	0.0030	mg/L
Cobalt, total	MW-35	05/24/2017	ND	0.0030	mg/L
Cobalt, total	MW-35	08/30/2017	ND	0.0030	mg/L
Cobalt, total	MW-35	11/15/2017	ND	0.0030	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Cobalt, total	MW-35	02/20/2018	ND	0.0030	mg/L
Cobalt, total	MW-35	05/17/2018	ND	0.0030	mg/L
Cobalt, total	MW-35	08/22/2018	ND	0.0030	mg/L
Cobalt, total	MW-35	11/12/2018	ND	0.0030	mg/L
Cobalt, total	MW-35	11/12/2019	ND	0.0030	mg/L
Copper, total	MW-13A	12/03/2013	ND	0.0020	mg/L
Copper, total	MW-13A	03/04/2014	ND	0.0020	mg/L
Copper, total	MW-13A	06/02/2014	ND	0.0020	mg/L
Copper, total	MW-13A	09/22/2014	ND	0.0020	mg/L
Copper, total	MW-13A	11/17/2014	ND	0.0020	mg/L
Copper, total	MW-13A	02/23/2015	ND	0.0020	mg/L
Copper, total	MW-13A	05/19/2015	ND	0.0020	mg/L
Copper, total	MW-13A	08/26/2015	ND	0.0020	mg/L
Copper, total	MW-13A	11/10/2015	ND	0.0020	mg/L
Copper, total	MW-13A	02/22/2016	ND	0.0020	mg/L
Copper, total	MW-13A	05/16/2016	ND	0.0020	mg/L
Copper, total	MW-13A	08/31/2016	ND	0.0020	mg/L
Copper, total	MW-13A	11/14/2016		0.0021	mg/L
Copper, total	MW-13A	02/22/2017	ND	0.0020	mg/L
Copper, total	MW-13A	05/24/2017	ND	0.0020	mg/L
Copper, total	MW-13A	08/30/2017	ND	0.0020	mg/L
Copper, total	MW-13A	11/13/2017	ND	0.0020	mg/L
Copper, total	MW-13A	02/20/2018	ND	0.0020	mg/L
Copper, total	MW-13A	05/15/2018	ND	0.0020	mg/L
Copper, total	MW-13A	08/21/2018	ND	0.0020	mg/L
Copper, total	MW-13A	11/12/2018	ND	0.0020	mg/L
Copper, total	MW-13A	11/11/2019	ND	0.0020	mg/L
Copper, total	MW-13B	12/03/2013	ND	0.0020	mg/L
Copper, total	MW-13B	03/04/2014	ND	0.0020	mg/L
Copper, total	MW-13B	06/02/2014	ND	0.0020	mg/L
Copper, total	MW-13B	09/22/2014	ND	0.0020	mg/L
Copper, total	MW-13B	11/17/2014	ND	0.0020	mg/L
Copper, total	MW-13B	02/23/2015	ND	0.0020	mg/L
Copper, total	MW-13B	05/19/2015	ND	0.0020	mg/L
Copper, total	MW-13B	08/26/2015	ND	0.0020	mg/L
Copper, total	MW-13B	11/10/2015	ND	0.0020	mg/L
Copper, total	MW-13B	02/22/2016	ND	0.0020	mg/L
Copper, total	MW-13B	05/16/2016	ND	0.0020	mg/L
Copper, total	MW-13B	08/31/2016	ND	0.0020	mg/L
Copper, total	MW-13B	11/14/2016	ND	0.0020	mg/L
Copper, total	MW-13B	02/22/2017	ND	0.0020	mg/L
Copper, total	MW-13B	05/24/2017	ND	0.0020	mg/L
Copper, total	MW-13B	08/30/2017	ND	0.0020	mg/L
Copper, total	MW-13B	11/13/2017	ND	0.0020	mg/L
Copper, total	MW-13B	02/20/2018	ND	0.0020	mg/L
Copper, total	MW-13B	05/15/2018	ND	0.0020	mg/L
Copper, total	MW-13B	08/21/2018	ND	0.0020	mg/L
Copper, total	MW-13B	11/12/2018	ND	0.0020	mg/L
Copper, total	MW-13B	11/11/2019	ND	0.0020	mg/L
Copper, total	MW-16	09/05/2013	ND	0.0020	mg/L
Copper, total	MW-16	12/16/2013	ND	0.0020	mg/L
Copper, total	MW-16	03/05/2014	ND	0.0020	mg/L
Copper, total	MW-16	06/02/2014	ND	0.0020	mg/L
Copper, total	MW-16	09/22/2014	ND	0.0020	mg/L
Copper, total	MW-16	11/18/2014	ND	0.0020	mg/L
Copper, total	MW-16	02/23/2015	ND	0.0020	mg/L
Copper, total	MW-16	05/20/2015	ND	0.0020	mg/L
Copper, total	MW-16	08/26/2015	ND	0.0020	mg/L
Copper, total	MW-16	11/11/2015	ND	0.0020	mg/L
Copper, total	MW-16	02/24/2016	ND	0.0020	mg/L
Copper, total	MW-16	05/16/2016	ND	0.0020	mg/L
Copper, total	MW-16	08/31/2016	ND	0.0020	mg/L
Copper, total	MW-16	11/14/2016	ND	0.0020	mg/L
Copper, total	MW-16	02/22/2017	ND	0.0020	mg/L
Copper, total	MW-16	05/24/2017	ND	0.0020	mg/L
Copper, total	MW-16	08/30/2017	ND	0.0020	mg/L
Copper, total	MW-16	11/13/2017	ND	0.0020	mg/L
Copper, total	MW-16	02/20/2018	ND	0.0020	mg/L
Copper, total	MW-16	05/17/2018	ND	0.0020	mg/L
Copper, total	MW-16	08/22/2018	ND	0.0020	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Copper, total	MW-16	11/12/2018	ND	0.0020	mg/L
Copper, total	MW-16	11/12/2019	ND	0.0020	mg/L
Copper, total	MW-35	09/05/2013	ND	0.0020	mg/L
Copper, total	MW-35	12/16/2013	ND	0.0020	mg/L
Copper, total	MW-35	03/04/2014	ND	0.0020	mg/L
Copper, total	MW-35	06/02/2014	ND	0.0020	mg/L
Copper, total	MW-35	09/22/2014	ND	0.0020	mg/L
Copper, total	MW-35	11/17/2014	ND	0.0020	mg/L
Copper, total	MW-35	02/25/2015	ND	0.0020	mg/L
Copper, total	MW-35	05/19/2015	ND	0.0020	mg/L
Copper, total	MW-35	08/26/2015	ND	0.0020	mg/L
Copper, total	MW-35	11/10/2015	ND	0.0020	mg/L
Copper, total	MW-35	02/22/2016	ND	0.0020	mg/L
Copper, total	MW-35	05/16/2016	ND	0.0020	mg/L
Copper, total	MW-35	08/31/2016	ND	0.0020	mg/L
Copper, total	MW-35	11/15/2016	ND	0.0020	mg/L
Copper, total	MW-35	02/22/2017	ND	0.0020	mg/L
Copper, total	MW-35	05/24/2017	ND	0.0020	mg/L
Copper, total	MW-35	08/30/2017	ND	0.0020	mg/L
Copper, total	MW-35	11/15/2017	ND	0.0020	mg/L
Copper, total	MW-35	02/20/2018	ND	0.0020	mg/L
Copper, total	MW-35	05/17/2018	ND	0.0020	mg/L
Copper, total	MW-35	08/22/2018	ND	0.0020	mg/L
Copper, total	MW-35	11/12/2018	ND	0.0020	mg/L
Copper, total	MW-35	11/12/2019	ND	0.0020	mg/L
Iron, total	MW-13A	12/03/2013	ND	0.0600	mg/L
Iron, total	MW-13A	03/04/2014	ND	0.0600	mg/L
Iron, total	MW-13A	06/02/2014	ND	0.0600	mg/L
Iron, total	MW-13A	09/22/2014	ND	0.0600	mg/L
Iron, total	MW-13A	11/17/2014	ND	0.0600	mg/L
Iron, total	MW-13A	02/23/2015	ND	0.0600	mg/L
Iron, total	MW-13A	05/19/2015	ND	0.0600	mg/L
Iron, total	MW-13A	08/26/2015	ND	0.0600	mg/L
Iron, total	MW-13A	11/10/2015	ND	0.0600	mg/L
Iron, total	MW-13A	02/22/2016	ND	0.0600	mg/L
Iron, total	MW-13A	05/16/2016	ND	0.0600	mg/L
Iron, total	MW-13A	08/31/2016	ND	0.0600	mg/L
Iron, total	MW-13A	11/14/2016		0.0730	mg/L
Iron, total	MW-13A	02/22/2017	ND	0.0600	mg/L
Iron, total	MW-13A	05/24/2017		0.0870	mg/L
Iron, total	MW-13A	08/30/2017	ND	0.0600	mg/L
Iron, total	MW-13A	11/13/2017	ND	0.0600	mg/L
Iron, total	MW-13A	02/20/2018	ND	0.0600	mg/L
Iron, total	MW-13A	05/15/2018	ND	0.0600	mg/L
Iron, total	MW-13A	08/21/2018	ND	0.0600	mg/L
Iron, total	MW-13A	11/12/2018	ND	0.0600	mg/L
Iron, total	MW-13A	11/11/2019	ND	0.0600	mg/L
Iron, total	MW-13B	12/03/2013	ND	0.0600	mg/L
Iron, total	MW-13B	03/04/2014	ND	0.0600	mg/L
Iron, total	MW-13B	06/02/2014	ND	0.0600	mg/L
Iron, total	MW-13B	09/22/2014	ND	0.0600	mg/L
Iron, total	MW-13B	11/17/2014	ND	0.0600	mg/L
Iron, total	MW-13B	02/23/2015	ND	0.0600	mg/L
Iron, total	MW-13B	05/19/2015	ND	0.0600	mg/L
Iron, total	MW-13B	08/26/2015	ND	0.0600	mg/L
Iron, total	MW-13B	11/10/2015	ND	0.0600	mg/L
Iron, total	MW-13B	02/22/2016	ND	0.0600	mg/L
Iron, total	MW-13B	05/16/2016	ND	0.0600	mg/L
Iron, total	MW-13B	08/31/2016	ND	0.0600	mg/L
Iron, total	MW-13B	11/14/2016	ND	0.0600	mg/L
Iron, total	MW-13B	02/22/2017	ND	0.0600	mg/L
Iron, total	MW-13B	05/24/2017	ND	0.0600	mg/L
Iron, total	MW-13B	08/30/2017	ND	0.0600	mg/L
Iron, total	MW-13B	11/13/2017	ND	0.0600	mg/L
Iron, total	MW-13B	02/20/2018	ND	0.0600	mg/L
Iron, total	MW-13B	05/15/2018	ND	0.0600	mg/L
Iron, total	MW-13B	08/21/2018	ND	0.0600	mg/L
Iron, total	MW-13B	11/12/2018	ND	0.0600	mg/L
Iron, total	MW-13B	11/11/2019	ND	0.0600	mg/L
Iron, total	MW-16	09/05/2013		0.1200	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Iron, total	MW-16	12/16/2013		0.0680	mg/L
Iron, total	MW-16	03/05/2014		0.2000	mg/L
Iron, total	MW-16	06/02/2014	ND	0.0600	mg/L
Iron, total	MW-16	09/22/2014	ND	0.0600	mg/L
Iron, total	MW-16	11/18/2014		0.1800	mg/L
Iron, total	MW-16	02/23/2015		0.3100	mg/L
Iron, total	MW-16	05/20/2015	ND	0.0600	mg/L
Iron, total	MW-16	08/26/2015	ND	0.0600	mg/L
Iron, total	MW-16	11/11/2015	ND	0.0600	mg/L
Iron, total	MW-16	02/24/2016	ND	0.0600	mg/L
Iron, total	MW-16	05/16/2016	ND	0.0600	mg/L
Iron, total	MW-16	08/31/2016	ND	0.0600	mg/L
Iron, total	MW-16	11/14/2016		0.1200	mg/L
Iron, total	MW-16	02/22/2017	ND	0.0600	mg/L
Iron, total	MW-16	05/24/2017		0.0680	mg/L
Iron, total	MW-16	08/30/2017	ND	0.0600	mg/L
Iron, total	MW-16	11/13/2017	ND	0.0600	mg/L
Iron, total	MW-16	02/20/2018		0.0670	mg/L
Iron, total	MW-16	05/17/2018	ND	0.0600	mg/L
Iron, total	MW-16	08/22/2018	ND	0.0600	mg/L
Iron, total	MW-16	11/12/2018		0.2200	mg/L
Iron, total	MW-16	11/12/2019		0.1100	mg/L
Iron, total	MW-35	09/05/2013	ND	0.0600	mg/L
Iron, total	MW-35	12/16/2013	ND	0.0600	mg/L
Iron, total	MW-35	03/04/2014	ND	0.0600	mg/L
Iron, total	MW-35	06/02/2014	ND	0.0600	mg/L
Iron, total	MW-35	09/22/2014	ND	0.0600	mg/L
Iron, total	MW-35	11/17/2014	ND	0.0600	mg/L
Iron, total	MW-35	02/25/2015	ND	0.0600	mg/L
Iron, total	MW-35	05/19/2015	ND	0.0600	mg/L
Iron, total	MW-35	08/26/2015	ND	0.0600	mg/L
Iron, total	MW-35	11/10/2015	ND	0.0600	mg/L
Iron, total	MW-35	02/22/2016	ND	0.0600	mg/L
Iron, total	MW-35	05/16/2016	ND	0.0600	mg/L
Iron, total	MW-35	08/31/2016	ND	0.0600	mg/L
Iron, total	MW-35	11/15/2016	ND	0.0600	mg/L
Iron, total	MW-35	02/22/2017	ND	0.0600	mg/L
Iron, total	MW-35	05/24/2017	ND	0.0600	mg/L
Iron, total	MW-35	08/30/2017	ND	0.0600	mg/L
Iron, total	MW-35	11/15/2017	ND	0.0600	mg/L
Iron, total	MW-35	02/20/2018	ND	0.0600	mg/L
Iron, total	MW-35	05/17/2018	ND	0.0600	mg/L
Iron, total	MW-35	08/22/2018	ND	0.0600	mg/L
Iron, total	MW-35	11/12/2018	ND	0.0600	mg/L
Iron, total	MW-35	11/12/2019	ND	0.0600	mg/L
Lead, total	MW-13A	12/03/2013	ND	0.0010	mg/L
Lead, total	MW-13A	03/04/2014	ND	0.0010	mg/L
Lead, total	MW-13A	06/02/2014	ND	0.0010	mg/L
Lead, total	MW-13A	09/22/2014	ND	0.0010	mg/L
Lead, total	MW-13A	11/17/2014	ND	0.0010	mg/L
Lead, total	MW-13A	02/23/2015	ND	0.0010	mg/L
Lead, total	MW-13A	05/19/2015	ND	0.0010	mg/L
Lead, total	MW-13A	08/26/2015	ND	0.0010	mg/L
Lead, total	MW-13A	11/10/2015	ND	0.0010	mg/L
Lead, total	MW-13A	02/22/2016	ND	0.0010	mg/L
Lead, total	MW-13A	05/16/2016	ND	0.0010	mg/L
Lead, total	MW-13A	08/31/2016	ND	0.0010	mg/L
Lead, total	MW-13A	11/14/2016	ND	0.0010	mg/L
Lead, total	MW-13A	02/22/2017	ND	0.0010	mg/L
Lead, total	MW-13A	05/24/2017	ND	0.0010	mg/L
Lead, total	MW-13A	08/30/2017	ND	0.0010	mg/L
Lead, total	MW-13A	11/13/2017	ND	0.0010	mg/L
Lead, total	MW-13A	02/20/2018	ND	0.0010	mg/L
Lead, total	MW-13A	05/15/2018	ND	0.0010	mg/L
Lead, total	MW-13A	08/21/2018	ND	0.0010	mg/L
Lead, total	MW-13A	11/12/2018	ND	0.0010	mg/L
Lead, total	MW-13A	11/11/2019	ND	0.0010	mg/L
Lead, total	MW-13B	12/03/2013	ND	0.0010	mg/L
Lead, total	MW-13B	03/04/2014	ND	0.0010	mg/L
Lead, total	MW-13B	06/02/2014	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Lead, total	MW-13B	09/22/2014	ND	0.0010	mg/L
Lead, total	MW-13B	11/17/2014	ND	0.0010	mg/L
Lead, total	MW-13B	02/23/2015	ND	0.0010	mg/L
Lead, total	MW-13B	05/19/2015	ND	0.0010	mg/L
Lead, total	MW-13B	08/26/2015	ND	0.0010	mg/L
Lead, total	MW-13B	11/10/2015	ND	0.0010	mg/L
Lead, total	MW-13B	02/22/2016	ND	0.0010	mg/L
Lead, total	MW-13B	05/16/2016	ND	0.0010	mg/L
Lead, total	MW-13B	08/31/2016	ND	0.0010	mg/L
Lead, total	MW-13B	11/14/2016	ND	0.0010	mg/L
Lead, total	MW-13B	02/22/2017	ND	0.0010	mg/L
Lead, total	MW-13B	05/24/2017	ND	0.0010	mg/L
Lead, total	MW-13B	08/30/2017	ND	0.0010	mg/L
Lead, total	MW-13B	11/13/2017	ND	0.0010	mg/L
Lead, total	MW-13B	02/20/2018	ND	0.0010	mg/L
Lead, total	MW-13B	05/15/2018	ND	0.0010	mg/L
Lead, total	MW-13B	08/21/2018	ND	0.0010	mg/L
Lead, total	MW-13B	11/12/2018	ND	0.0010	mg/L
Lead, total	MW-13B	11/11/2019	ND	0.0010	mg/L
Lead, total	MW-16	09/05/2013	ND	0.0010	mg/L
Lead, total	MW-16	12/16/2013	ND	0.0010	mg/L
Lead, total	MW-16	03/05/2014	ND	0.0010	mg/L
Lead, total	MW-16	06/02/2014	ND	0.0010	mg/L
Lead, total	MW-16	09/22/2014		0.0014	mg/L
Lead, total	MW-16	11/18/2014	ND	0.0010	mg/L
Lead, total	MW-16	02/23/2015	ND	0.0010	mg/L
Lead, total	MW-16	05/20/2015	ND	0.0010	mg/L
Lead, total	MW-16	08/26/2015	ND	0.0010	mg/L
Lead, total	MW-16	11/11/2015	ND	0.0010	mg/L
Lead, total	MW-16	02/24/2016	ND	0.0010	mg/L
Lead, total	MW-16	05/16/2016	ND	0.0010	mg/L
Lead, total	MW-16	08/31/2016	ND	0.0010	mg/L
Lead, total	MW-16	11/14/2016	ND	0.0010	mg/L
Lead, total	MW-16	02/22/2017	ND	0.0010	mg/L
Lead, total	MW-16	05/24/2017	ND	0.0010	mg/L
Lead, total	MW-16	08/30/2017	ND	0.0010	mg/L
Lead, total	MW-16	11/13/2017	ND	0.0010	mg/L
Lead, total	MW-16	02/20/2018	ND	0.0010	mg/L
Lead, total	MW-16	05/17/2018	ND	0.0010	mg/L
Lead, total	MW-16	08/22/2018	ND	0.0010	mg/L
Lead, total	MW-16	11/12/2018	ND	0.0010	mg/L
Lead, total	MW-16	11/12/2019	ND	0.0010	mg/L
Lead, total	MW-35	09/05/2013	ND	0.0010	mg/L
Lead, total	MW-35	12/16/2013	ND	0.0010	mg/L
Lead, total	MW-35	03/04/2014	ND	0.0010	mg/L
Lead, total	MW-35	06/02/2014	ND	0.0010	mg/L
Lead, total	MW-35	09/22/2014	ND	0.0010	mg/L
Lead, total	MW-35	11/17/2014	ND	0.0010	mg/L
Lead, total	MW-35	02/25/2015	ND	0.0010	mg/L
Lead, total	MW-35	05/19/2015	ND	0.0010	mg/L
Lead, total	MW-35	08/26/2015	ND	0.0010	mg/L
Lead, total	MW-35	11/10/2015	ND	0.0010	mg/L
Lead, total	MW-35	02/22/2016	ND	0.0010	mg/L
Lead, total	MW-35	05/16/2016	ND	0.0010	mg/L
Lead, total	MW-35	08/31/2016	ND	0.0010	mg/L
Lead, total	MW-35	11/15/2016	ND	0.0010	mg/L
Lead, total	MW-35	02/22/2017	ND	0.0010	mg/L
Lead, total	MW-35	05/24/2017	ND	0.0010	mg/L
Lead, total	MW-35	08/30/2017	ND	0.0010	mg/L
Lead, total	MW-35	11/15/2017	ND	0.0010	mg/L
Lead, total	MW-35	02/20/2018	ND	0.0010	mg/L
Lead, total	MW-35	05/17/2018	ND	0.0010	mg/L
Lead, total	MW-35	08/22/2018	ND	0.0010	mg/L
Lead, total	MW-35	11/12/2018	ND	0.0010	mg/L
Lead, total	MW-35	11/12/2019	ND	0.0010	mg/L
Magnesium, dissolved	MW-13A	03/22/2005		9.2000	mg/L
Magnesium, dissolved	MW-13A	06/15/2005		8.2000	mg/L
Magnesium, dissolved	MW-13A	09/27/2005		8.4000	mg/L
Magnesium, dissolved	MW-13A	12/15/2005		8.6000	mg/L
Magnesium, dissolved	MW-13A	03/28/2006		9.2000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Magnesium, dissolved	MW-13A	06/21/2006		9.1000	mg/L
Magnesium, dissolved	MW-13A	09/26/2006		9.2000	mg/L
Magnesium, dissolved	MW-13A	12/13/2006		9.3000	mg/L
Magnesium, dissolved	MW-13A	03/27/2007		9.3000	mg/L
Magnesium, dissolved	MW-13A	06/19/2007		9.0000	mg/L
Magnesium, dissolved	MW-13A	09/19/2007		9.4000	mg/L
Magnesium, dissolved	MW-13A	12/19/2007		8.6000	mg/L
Magnesium, dissolved	MW-13A	03/25/2008		9.1000	mg/L
Magnesium, dissolved	MW-13A	06/18/2008		9.3000	mg/L
Magnesium, dissolved	MW-13A	09/17/2008		9.2000	mg/L
Magnesium, dissolved	MW-13A	12/17/2008		9.3000	mg/L
Magnesium, dissolved	MW-13A	03/24/2009		9.6000	mg/L
Magnesium, dissolved	MW-13A	06/17/2009		9.6000	mg/L
Magnesium, dissolved	MW-13A	09/10/2009		9.3000	mg/L
Magnesium, dissolved	MW-13A	12/03/2009		9.1000	mg/L
Magnesium, dissolved	MW-13A	03/25/2010		8.7000	mg/L
Magnesium, dissolved	MW-13A	06/23/2010		9.7000	mg/L
Magnesium, dissolved	MW-13A	09/23/2010		9.4000	mg/L
Magnesium, dissolved	MW-13A	12/08/2010		8.1000	mg/L
Magnesium, dissolved	MW-13A	03/30/2011		9.6000	mg/L
Magnesium, dissolved	MW-13A	06/06/2011		10.0000	mg/L
Magnesium, dissolved	MW-13A	09/27/2011		9.7000	mg/L
Magnesium, dissolved	MW-13A	12/14/2011		9.3000	mg/L
Magnesium, dissolved	MW-13A	03/21/2012		9.9000	mg/L
Magnesium, dissolved	MW-13A	06/08/2012		8.9000	mg/L
Magnesium, dissolved	MW-13A	09/26/2012		9.6000	mg/L
Magnesium, dissolved	MW-13A	12/03/2012		9.2000	mg/L
Magnesium, dissolved	MW-13A	03/11/2013		9.4000	mg/L
Magnesium, dissolved	MW-13A	06/05/2013		9.8000	mg/L
Magnesium, dissolved	MW-13A	12/03/2013		9.4000	mg/L
Magnesium, dissolved	MW-13A	03/04/2014		9.8000	mg/L
Magnesium, dissolved	MW-13A	06/02/2014		9.2000	mg/L
Magnesium, dissolved	MW-13A	09/22/2014		8.7000	mg/L
Magnesium, dissolved	MW-13A	11/17/2014		9.3000	mg/L
Magnesium, dissolved	MW-13A	02/23/2015		9.2000	mg/L
Magnesium, dissolved	MW-13A	05/19/2015		9.5000	mg/L
Magnesium, dissolved	MW-13A	08/26/2015		9.3000	mg/L
Magnesium, dissolved	MW-13A	11/10/2015		9.1000	mg/L
Magnesium, dissolved	MW-13A	02/22/2016		9.7000	mg/L
Magnesium, dissolved	MW-13A	05/16/2016		9.5000	mg/L
Magnesium, dissolved	MW-13A	08/31/2016		8.6000	mg/L
Magnesium, dissolved	MW-13A	11/14/2016		10.0000	mg/L
Magnesium, dissolved	MW-13A	02/22/2017		10.0000	mg/L
Magnesium, dissolved	MW-13A	05/24/2017		8.9000	mg/L
Magnesium, dissolved	MW-13A	08/30/2017		8.8000	mg/L
Magnesium, dissolved	MW-13A	11/13/2017		8.6000	mg/L
Magnesium, dissolved	MW-13A	02/20/2018		8.2000	mg/L
Magnesium, dissolved	MW-13A	05/15/2018		8.5000	mg/L
Magnesium, dissolved	MW-13A	08/21/2018		8.3000	mg/L
Magnesium, dissolved	MW-13A	11/12/2018		8.3000	mg/L
Magnesium, dissolved	MW-13A	11/11/2019		8.6000	mg/L
Magnesium, dissolved	MW-13B	03/22/2005		8.6000	mg/L
Magnesium, dissolved	MW-13B	06/15/2005		8.0000	mg/L
Magnesium, dissolved	MW-13B	09/27/2005		8.7000	mg/L
Magnesium, dissolved	MW-13B	12/15/2005		8.0000	mg/L
Magnesium, dissolved	MW-13B	03/29/2006		8.1000	mg/L
Magnesium, dissolved	MW-13B	06/21/2006		8.3000	mg/L
Magnesium, dissolved	MW-13B	09/26/2006		8.5000	mg/L
Magnesium, dissolved	MW-13B	12/13/2006		8.7000	mg/L
Magnesium, dissolved	MW-13B	03/27/2007		8.4000	mg/L
Magnesium, dissolved	MW-13B	06/19/2007		7.9000	mg/L
Magnesium, dissolved	MW-13B	09/18/2007		8.7000	mg/L
Magnesium, dissolved	MW-13B	12/19/2007		7.6000	mg/L
Magnesium, dissolved	MW-13B	03/25/2008		8.0000	mg/L
Magnesium, dissolved	MW-13B	06/18/2008		8.2000	mg/L
Magnesium, dissolved	MW-13B	09/17/2008		8.3000	mg/L
Magnesium, dissolved	MW-13B	12/16/2008		8.3000	mg/L
Magnesium, dissolved	MW-13B	03/24/2009		8.5000	mg/L
Magnesium, dissolved	MW-13B	06/17/2009		8.5000	mg/L
Magnesium, dissolved	MW-13B	09/10/2009		8.3000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Magnesium, dissolved	MW-13B	12/03/2009		8.0000	mg/L
Magnesium, dissolved	MW-13B	03/25/2010		8.1000	mg/L
Magnesium, dissolved	MW-13B	06/23/2010		8.7000	mg/L
Magnesium, dissolved	MW-13B	09/23/2010		8.3000	mg/L
Magnesium, dissolved	MW-13B	12/08/2010		9.3000	mg/L
Magnesium, dissolved	MW-13B	03/30/2011		8.2000	mg/L
Magnesium, dissolved	MW-13B	06/06/2011		9.0000	mg/L
Magnesium, dissolved	MW-13B	09/27/2011		8.4000	mg/L
Magnesium, dissolved	MW-13B	12/14/2011		8.1000	mg/L
Magnesium, dissolved	MW-13B	03/21/2012		8.5000	mg/L
Magnesium, dissolved	MW-13B	06/08/2012		8.1000	mg/L
Magnesium, dissolved	MW-13B	09/26/2012		8.6000	mg/L
Magnesium, dissolved	MW-13B	12/03/2012		8.2000	mg/L
Magnesium, dissolved	MW-13B	03/11/2013		8.6000	mg/L
Magnesium, dissolved	MW-13B	06/05/2013		8.9000	mg/L
Magnesium, dissolved	MW-13B	12/03/2013		8.9000	mg/L
Magnesium, dissolved	MW-13B	03/04/2014		8.7000	mg/L
Magnesium, dissolved	MW-13B	06/02/2014		8.3000	mg/L
Magnesium, dissolved	MW-13B	09/22/2014		7.7000	mg/L
Magnesium, dissolved	MW-13B	11/17/2014		8.7000	mg/L
Magnesium, dissolved	MW-13B	02/23/2015		8.6000	mg/L
Magnesium, dissolved	MW-13B	05/19/2015		8.9000	mg/L
Magnesium, dissolved	MW-13B	08/26/2015		8.8000	mg/L
Magnesium, dissolved	MW-13B	11/10/2015		8.6000	mg/L
Magnesium, dissolved	MW-13B	02/22/2016		9.1000	mg/L
Magnesium, dissolved	MW-13B	05/16/2016		8.6000	mg/L
Magnesium, dissolved	MW-13B	08/31/2016		8.1000	mg/L
Magnesium, dissolved	MW-13B	11/14/2016		9.3000	mg/L
Magnesium, dissolved	MW-13B	02/22/2017		9.3000	mg/L
Magnesium, dissolved	MW-13B	05/24/2017		8.6000	mg/L
Magnesium, dissolved	MW-13B	08/30/2017		8.5000	mg/L
Magnesium, dissolved	MW-13B	11/13/2017		8.3000	mg/L
Magnesium, dissolved	MW-13B	02/20/2018		8.2000	mg/L
Magnesium, dissolved	MW-13B	05/15/2018		7.8000	mg/L
Magnesium, dissolved	MW-13B	08/21/2018		8.6000	mg/L
Magnesium, dissolved	MW-13B	11/12/2018		8.2000	mg/L
Magnesium, dissolved	MW-13B	11/11/2019		8.3000	mg/L
Magnesium, dissolved	MW-16	03/24/2009		7.2000	mg/L
Magnesium, dissolved	MW-16	06/16/2009		5.9000	mg/L
Magnesium, dissolved	MW-16	09/09/2009		6.9000	mg/L
Magnesium, dissolved	MW-16	12/03/2009		8.0000	mg/L
Magnesium, dissolved	MW-16	03/25/2010		5.1000	mg/L
Magnesium, dissolved	MW-16	06/24/2010		6.9000	mg/L
Magnesium, dissolved	MW-16	09/24/2010		7.4000	mg/L
Magnesium, dissolved	MW-16	12/09/2010		8.3000	mg/L
Magnesium, dissolved	MW-16	03/30/2011		5.8000	mg/L
Magnesium, dissolved	MW-16	06/07/2011		5.6000	mg/L
Magnesium, dissolved	MW-16	09/27/2011		6.6000	mg/L
Magnesium, dissolved	MW-16	12/13/2011		6.2000	mg/L
Magnesium, dissolved	MW-16	03/21/2012		5.5000	mg/L
Magnesium, dissolved	MW-16	06/08/2012		5.0000	mg/L
Magnesium, dissolved	MW-16	09/27/2012		6.4000	mg/L
Magnesium, dissolved	MW-16	12/04/2012		6.6000	mg/L
Magnesium, dissolved	MW-16	03/12/2013		5.6000	mg/L
Magnesium, dissolved	MW-16	06/04/2013		5.8000	mg/L
Magnesium, dissolved	MW-16	09/05/2013		6.0000	mg/L
Magnesium, dissolved	MW-16	12/16/2013		5.9000	mg/L
Magnesium, dissolved	MW-16	03/05/2014		6.6000	mg/L
Magnesium, dissolved	MW-16	06/02/2014		5.0000	mg/L
Magnesium, dissolved	MW-16	09/22/2014		5.5000	mg/L
Magnesium, dissolved	MW-16	11/18/2014		6.4000	mg/L
Magnesium, dissolved	MW-16	02/23/2015		5.7000	mg/L
Magnesium, dissolved	MW-16	05/20/2015		5.7000	mg/L
Magnesium, dissolved	MW-16	08/26/2015		5.9000	mg/L
Magnesium, dissolved	MW-16	11/11/2015		6.7000	mg/L
Magnesium, dissolved	MW-16	02/24/2016		4.5000	mg/L
Magnesium, dissolved	MW-16	05/16/2016		5.0000	mg/L
Magnesium, dissolved	MW-16	08/31/2016		5.4000	mg/L
Magnesium, dissolved	MW-16	11/14/2016		5.9000	mg/L
Magnesium, dissolved	MW-16	02/22/2017		5.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Magnesium, dissolved	MW-16	05/24/2017		4.2000	mg/L
Magnesium, dissolved	MW-16	08/30/2017		4.9000	mg/L
Magnesium, dissolved	MW-16	11/13/2017		4.8000	mg/L
Magnesium, dissolved	MW-16	02/20/2018		4.3000	mg/L
Magnesium, dissolved	MW-16	05/17/2018		4.3000	mg/L
Magnesium, dissolved	MW-16	08/22/2018		4.6000	mg/L
Magnesium, dissolved	MW-16	11/12/2018		5.2000	mg/L
Magnesium, dissolved	MW-16	11/12/2019		6.9000	mg/L
Magnesium, dissolved	MW-35	03/22/2005		8.6000	mg/L
Magnesium, dissolved	MW-35	06/14/2005		8.1000	mg/L
Magnesium, dissolved	MW-35	09/27/2005		9.2000	mg/L
Magnesium, dissolved	MW-35	12/15/2005		8.0000	mg/L
Magnesium, dissolved	MW-35	03/28/2006		8.3000	mg/L
Magnesium, dissolved	MW-35	06/21/2006		8.4000	mg/L
Magnesium, dissolved	MW-35	09/26/2006		8.2000	mg/L
Magnesium, dissolved	MW-35	12/12/2006		8.8000	mg/L
Magnesium, dissolved	MW-35	03/27/2007		8.6000	mg/L
Magnesium, dissolved	MW-35	06/20/2007		8.4000	mg/L
Magnesium, dissolved	MW-35	09/18/2007		9.1000	mg/L
Magnesium, dissolved	MW-35	12/20/2007		8.1000	mg/L
Magnesium, dissolved	MW-35	03/25/2008		8.2000	mg/L
Magnesium, dissolved	MW-35	06/18/2008		8.1000	mg/L
Magnesium, dissolved	MW-35	09/18/2008		8.1000	mg/L
Magnesium, dissolved	MW-35	12/19/2008		8.1000	mg/L
Magnesium, dissolved	MW-35	03/24/2009		8.7000	mg/L
Magnesium, dissolved	MW-35	06/16/2009		8.1000	mg/L
Magnesium, dissolved	MW-35	09/10/2009		8.1000	mg/L
Magnesium, dissolved	MW-35	12/03/2009		8.3000	mg/L
Magnesium, dissolved	MW-35	03/25/2010		7.9000	mg/L
Magnesium, dissolved	MW-35	06/23/2010		8.8000	mg/L
Magnesium, dissolved	MW-35	09/23/2010		8.7000	mg/L
Magnesium, dissolved	MW-35	12/09/2010		9.3000	mg/L
Magnesium, dissolved	MW-35	03/30/2011		8.8000	mg/L
Magnesium, dissolved	MW-35	06/06/2011		9.0000	mg/L
Magnesium, dissolved	MW-35	09/26/2011		8.7000	mg/L
Magnesium, dissolved	MW-35	12/13/2011		8.8000	mg/L
Magnesium, dissolved	MW-35	03/21/2012		9.0000	mg/L
Magnesium, dissolved	MW-35	06/06/2012		8.3000	mg/L
Magnesium, dissolved	MW-35	09/26/2012		8.9000	mg/L
Magnesium, dissolved	MW-35	12/04/2012		8.6000	mg/L
Magnesium, dissolved	MW-35	03/13/2013		9.2000	mg/L
Magnesium, dissolved	MW-35	06/06/2013		8.5000	mg/L
Magnesium, dissolved	MW-35	09/05/2013		8.1000	mg/L
Magnesium, dissolved	MW-35	12/16/2013		8.4000	mg/L
Magnesium, dissolved	MW-35	03/04/2014		9.2000	mg/L
Magnesium, dissolved	MW-35	06/02/2014		8.6000	mg/L
Magnesium, dissolved	MW-35	09/22/2014		8.2000	mg/L
Magnesium, dissolved	MW-35	11/17/2014		8.7000	mg/L
Magnesium, dissolved	MW-35	02/25/2015		9.3000	mg/L
Magnesium, dissolved	MW-35	05/19/2015		8.5000	mg/L
Magnesium, dissolved	MW-35	08/26/2015		9.0000	mg/L
Magnesium, dissolved	MW-35	11/10/2015		9.3000	mg/L
Magnesium, dissolved	MW-35	02/22/2016		9.3000	mg/L
Magnesium, dissolved	MW-35	05/16/2016		9.0000	mg/L
Magnesium, dissolved	MW-35	08/31/2016		8.1000	mg/L
Magnesium, dissolved	MW-35	11/15/2016		10.0000	mg/L
Magnesium, dissolved	MW-35	02/22/2017		9.9000	mg/L
Magnesium, dissolved	MW-35	05/24/2017		8.6000	mg/L
Magnesium, dissolved	MW-35	08/30/2017		8.9000	mg/L
Magnesium, dissolved	MW-35	11/15/2017		8.5000	mg/L
Magnesium, dissolved	MW-35	02/20/2018		8.2000	mg/L
Magnesium, dissolved	MW-35	05/17/2018		8.4000	mg/L
Magnesium, dissolved	MW-35	08/22/2018		8.6000	mg/L
Magnesium, dissolved	MW-35	11/12/2018		8.6000	mg/L
Magnesium, dissolved	MW-35	11/12/2019		9.0000	mg/L
Manganese, total	MW-13A	12/03/2013	ND	0.0010	mg/L
Manganese, total	MW-13A	03/04/2014	ND	0.0010	mg/L
Manganese, total	MW-13A	06/02/2014	ND	0.0010	mg/L
Manganese, total	MW-13A	09/22/2014	ND	0.0010	mg/L
Manganese, total	MW-13A	11/17/2014	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Manganese, total	MW-13A	02/23/2015	ND	0.0010	mg/L
Manganese, total	MW-13A	05/19/2015	ND	0.0010	mg/L
Manganese, total	MW-13A	08/26/2015	ND	0.0010	mg/L
Manganese, total	MW-13A	11/10/2015	ND	0.0010	mg/L
Manganese, total	MW-13A	02/22/2016	ND	0.0010	mg/L
Manganese, total	MW-13A	05/16/2016	ND	0.0010	mg/L
Manganese, total	MW-13A	08/31/2016	ND	0.0010	mg/L
Manganese, total	MW-13A	11/14/2016	ND	0.0010	mg/L
Manganese, total	MW-13A	02/22/2017	ND	0.0010	mg/L
Manganese, total	MW-13A	05/24/2017	ND	0.0010	mg/L
Manganese, total	MW-13A	08/30/2017	ND	0.0010	mg/L
Manganese, total	MW-13A	11/13/2017	ND	0.0010	mg/L
Manganese, total	MW-13A	02/20/2018	ND	0.0010	mg/L
Manganese, total	MW-13A	05/15/2018	ND	0.0010	mg/L
Manganese, total	MW-13A	08/21/2018	ND	0.0010	mg/L
Manganese, total	MW-13A	11/12/2018	ND	0.0010	mg/L
Manganese, total	MW-13A	11/11/2019	ND	0.0010	mg/L
Manganese, total	MW-13B	12/03/2013	ND	0.0010	mg/L
Manganese, total	MW-13B	03/04/2014	ND	0.0010	mg/L
Manganese, total	MW-13B	06/02/2014		0.0020	mg/L
Manganese, total	MW-13B	09/22/2014	ND	0.0010	mg/L
Manganese, total	MW-13B	11/17/2014	ND	0.0010	mg/L
Manganese, total	MW-13B	02/23/2015	ND	0.0010	mg/L
Manganese, total	MW-13B	05/19/2015	ND	0.0010	mg/L
Manganese, total	MW-13B	08/26/2015	ND	0.0010	mg/L
Manganese, total	MW-13B	11/10/2015	ND	0.0010	mg/L
Manganese, total	MW-13B	02/22/2016	ND	0.0010	mg/L
Manganese, total	MW-13B	05/16/2016	ND	0.0010	mg/L
Manganese, total	MW-13B	08/31/2016	ND	0.0010	mg/L
Manganese, total	MW-13B	11/14/2016	ND	0.0010	mg/L
Manganese, total	MW-13B	02/22/2017	ND	0.0010	mg/L
Manganese, total	MW-13B	05/24/2017	ND	0.0010	mg/L
Manganese, total	MW-13B	08/30/2017	ND	0.0010	mg/L
Manganese, total	MW-13B	11/13/2017	ND	0.0010	mg/L
Manganese, total	MW-13B	02/20/2018		0.0018	mg/L
Manganese, total	MW-13B	05/15/2018	ND	0.0010	mg/L
Manganese, total	MW-13B	08/21/2018	ND	0.0010	mg/L
Manganese, total	MW-13B	11/12/2018	ND	0.0010	mg/L
Manganese, total	MW-13B	11/11/2019	ND	0.0010	mg/L
Manganese, total	MW-16	09/05/2013		0.0160	mg/L
Manganese, total	MW-16	12/16/2013		0.0130	mg/L
Manganese, total	MW-16	03/05/2014		0.0200	mg/L
Manganese, total	MW-16	06/02/2014		0.0049	mg/L
Manganese, total	MW-16	09/22/2014		0.0140	mg/L
Manganese, total	MW-16	11/18/2014		0.0320	mg/L
Manganese, total	MW-16	02/23/2015		0.0620	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	0.0010	mg/L
Manganese, total	MW-16	08/31/2016		0.0024	mg/L
Manganese, total	MW-16	11/14/2016		0.0170	mg/L
Manganese, total	MW-16	02/22/2017		0.0045	mg/L
Manganese, total	MW-16	05/24/2017		0.0100	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		0.0130	mg/L
Manganese, total	MW-16	05/17/2018		0.0033	mg/L
Manganese, total	MW-16	08/22/2018		0.0020	mg/L
Manganese, total	MW-16	11/12/2018		0.0250	mg/L
Manganese, total	MW-16	11/12/2019		0.0180	mg/L
Manganese, total	MW-35	09/05/2013	ND	0.0010	mg/L
Manganese, total	MW-35	12/16/2013	ND	0.0010	mg/L
Manganese, total	MW-35	03/04/2014	ND	0.0010	mg/L
Manganese, total	MW-35	06/02/2014	ND	0.0010	mg/L
Manganese, total	MW-35	09/22/2014	ND	0.0010	mg/L
Manganese, total	MW-35	11/17/2014	ND	0.0010	mg/L
Manganese, total	MW-35	02/25/2015	ND	0.0010	mg/L
Manganese, total	MW-35	05/19/2015		0.0014	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Manganese, total	MW-35	08/26/2015	ND	0.0010	mg/L
Manganese, total	MW-35	11/10/2015	ND	0.0010	mg/L
Manganese, total	MW-35	02/22/2016	ND	0.0010	mg/L
Manganese, total	MW-35	05/16/2016	ND	0.0010	mg/L
Manganese, total	MW-35	08/31/2016	ND	0.0010	mg/L
Manganese, total	MW-35	11/15/2016	ND	0.0010	mg/L
Manganese, total	MW-35	02/22/2017	ND	0.0010	mg/L
Manganese, total	MW-35	05/24/2017	ND	0.0010	mg/L
Manganese, total	MW-35	08/30/2017	ND	0.0010	mg/L
Manganese, total	MW-35	11/15/2017	ND	0.0010	mg/L
Manganese, total	MW-35	02/20/2018	ND	0.0010	mg/L
Manganese, total	MW-35	05/17/2018	ND	0.0010	mg/L
Manganese, total	MW-35	08/22/2018	ND	0.0010	mg/L
Manganese, total	MW-35	11/12/2018	ND	0.0010	mg/L
Manganese, total	MW-35	11/12/2019	ND	0.0010	mg/L
Nickel, total	MW-13A	12/03/2013	ND	0.0040	mg/L
Nickel, total	MW-13A	03/04/2014	ND	0.0040	mg/L
Nickel, total	MW-13A	06/02/2014	ND	0.0040	mg/L
Nickel, total	MW-13A	09/22/2014	ND	0.0040	mg/L
Nickel, total	MW-13A	11/17/2014	ND	0.0040	mg/L
Nickel, total	MW-13A	02/23/2015	ND	0.0040	mg/L
Nickel, total	MW-13A	05/19/2015	ND	0.0040	mg/L
Nickel, total	MW-13A	08/26/2015	ND	0.0040	mg/L
Nickel, total	MW-13A	11/10/2015	ND	0.0040	mg/L
Nickel, total	MW-13A	02/22/2016	ND	0.0040	mg/L
Nickel, total	MW-13A	05/16/2016	ND	0.0040	mg/L
Nickel, total	MW-13A	08/31/2016	ND	0.0040	mg/L
Nickel, total	MW-13A	11/14/2016	ND	0.0040	mg/L
Nickel, total	MW-13A	02/22/2017	ND	0.0040	mg/L
Nickel, total	MW-13A	05/24/2017	ND	0.0040	mg/L
Nickel, total	MW-13A	08/30/2017	ND	0.0040	mg/L
Nickel, total	MW-13A	11/13/2017	ND	0.0040	mg/L
Nickel, total	MW-13A	02/20/2018	ND	0.0040	mg/L
Nickel, total	MW-13A	05/15/2018	ND	0.0040	mg/L
Nickel, total	MW-13A	08/21/2018	ND	0.0040	mg/L
Nickel, total	MW-13A	11/12/2018	ND	0.0040	mg/L
Nickel, total	MW-13A	11/11/2019	ND	0.0040	mg/L
Nickel, total	MW-13B	12/03/2013	ND	0.0040	mg/L
Nickel, total	MW-13B	03/04/2014	ND	0.0040	mg/L
Nickel, total	MW-13B	06/02/2014	ND	0.0040	mg/L
Nickel, total	MW-13B	09/22/2014	ND	0.0040	mg/L
Nickel, total	MW-13B	11/17/2014	ND	0.0040	mg/L
Nickel, total	MW-13B	02/23/2015	ND	0.0040	mg/L
Nickel, total	MW-13B	05/19/2015	ND	0.0040	mg/L
Nickel, total	MW-13B	08/26/2015	ND	0.0040	mg/L
Nickel, total	MW-13B	11/10/2015	ND	0.0040	mg/L
Nickel, total	MW-13B	02/22/2016	ND	0.0040	mg/L
Nickel, total	MW-13B	05/16/2016	ND	0.0040	mg/L
Nickel, total	MW-13B	08/31/2016	ND	0.0040	mg/L
Nickel, total	MW-13B	11/14/2016	ND	0.0040	mg/L
Nickel, total	MW-13B	02/22/2017	ND	0.0040	mg/L
Nickel, total	MW-13B	05/24/2017	ND	0.0040	mg/L
Nickel, total	MW-13B	08/30/2017	ND	0.0040	mg/L
Nickel, total	MW-13B	11/13/2017	ND	0.0040	mg/L
Nickel, total	MW-13B	02/20/2018	ND	0.0040	mg/L
Nickel, total	MW-13B	05/15/2018	ND	0.0040	mg/L
Nickel, total	MW-13B	08/21/2018	ND	0.0040	mg/L
Nickel, total	MW-13B	11/12/2018	ND	0.0040	mg/L
Nickel, total	MW-13B	11/11/2019	ND	0.0040	mg/L
Nickel, total	MW-16	09/05/2013	ND	0.0040	mg/L
Nickel, total	MW-16	12/16/2013	ND	0.0040	mg/L
Nickel, total	MW-16	03/05/2014	ND	0.0040	mg/L
Nickel, total	MW-16	06/02/2014	ND	0.0040	mg/L
Nickel, total	MW-16	09/22/2014	ND	0.0040	mg/L
Nickel, total	MW-16	11/18/2014	ND	0.0040	mg/L
Nickel, total	MW-16	02/23/2015		0.0041	mg/L
Nickel, total	MW-16	05/20/2015	ND	0.0040	mg/L
Nickel, total	MW-16	08/26/2015	ND	0.0040	mg/L
Nickel, total	MW-16	11/11/2015	ND	0.0040	mg/L
Nickel, total	MW-16	02/24/2016	ND	0.0040	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Nickel, total	MW-16	05/16/2016	ND	0.0040	mg/L	
Nickel, total	MW-16	08/31/2016	ND	0.0040	mg/L	
Nickel, total	MW-16	11/14/2016	ND	0.0040	mg/L	
Nickel, total	MW-16	02/22/2017	ND	0.0040	mg/L	
Nickel, total	MW-16	05/24/2017	ND	0.0040	mg/L	
Nickel, total	MW-16	08/30/2017	ND	0.0040	mg/L	
Nickel, total	MW-16	11/13/2017	ND	0.0040	mg/L	
Nickel, total	MW-16	02/20/2018	ND	0.0040	mg/L	
Nickel, total	MW-16	05/17/2018	ND	0.0040	mg/L	
Nickel, total	MW-16	08/22/2018	ND	0.0040	mg/L	
Nickel, total	MW-16	11/12/2018	ND	0.0040	mg/L	
Nickel, total	MW-16	11/12/2019	ND	0.0040	mg/L	
Nickel, total	MW-35	09/05/2013	ND	0.0040	mg/L	
Nickel, total	MW-35	12/16/2013	ND	0.0040	mg/L	
Nickel, total	MW-35	03/04/2014	ND	0.0040	mg/L	
Nickel, total	MW-35	06/02/2014	ND	0.0040	mg/L	
Nickel, total	MW-35	09/22/2014	ND	0.0040	mg/L	
Nickel, total	MW-35	11/17/2014	ND	0.0040	mg/L	
Nickel, total	MW-35	02/25/2015	ND	0.0040	mg/L	
Nickel, total	MW-35	05/19/2015	ND	0.0040	mg/L	
Nickel, total	MW-35	08/26/2015	ND	0.0040	mg/L	
Nickel, total	MW-35	11/10/2015	ND	0.0040	mg/L	
Nickel, total	MW-35	02/22/2016	ND	0.0040	mg/L	
Nickel, total	MW-35	05/16/2016	ND	0.0040	mg/L	
Nickel, total	MW-35	08/31/2016	ND	0.0040	mg/L	
Nickel, total	MW-35	11/15/2016	ND	0.0040	mg/L	
Nickel, total	MW-35	02/22/2017	ND	0.0040	mg/L	
Nickel, total	MW-35	05/24/2017	ND	0.0040	mg/L	
Nickel, total	MW-35	08/30/2017	ND	0.0040	mg/L	
Nickel, total	MW-35	11/15/2017	ND	0.0040	mg/L	
Nickel, total	MW-35	02/20/2018	ND	0.0040	mg/L	
Nickel, total	MW-35	05/17/2018	ND	0.0040	mg/L	
Nickel, total	MW-35	08/22/2018	ND	0.0040	mg/L	
Nickel, total	MW-35	11/12/2018	ND	0.0040	mg/L	
Nickel, total	MW-35	11/12/2019	ND	0.0040	mg/L	
Nitrate (as n)	MW-13A	03/22/2005		0.5100	mg/L	
Nitrate (as n)	MW-13A	06/15/2005		0.4400	mg/L	
Nitrate (as n)	MW-13A	09/27/2005		1.8000	mg/L	*
Nitrate (as n)	MW-13A	12/15/2005		0.4700	mg/L	
Nitrate (as n)	MW-13A	03/28/2006		0.4400	mg/L	
Nitrate (as n)	MW-13A	06/21/2006		0.5400	mg/L	
Nitrate (as n)	MW-13A	09/26/2006		0.4400	mg/L	
Nitrate (as n)	MW-13A	12/13/2006		0.4600	mg/L	
Nitrate (as n)	MW-13A	03/27/2007		0.4200	mg/L	
Nitrate (as n)	MW-13A	06/19/2007		0.4600	mg/L	
Nitrate (as n)	MW-13A	09/19/2007		0.4600	mg/L	
Nitrate (as n)	MW-13A	12/19/2007		0.4100	mg/L	
Nitrate (as n)	MW-13A	03/25/2008		0.4900	mg/L	
Nitrate (as n)	MW-13A	06/18/2008		0.5100	mg/L	
Nitrate (as n)	MW-13A	09/17/2008		0.4400	mg/L	
Nitrate (as n)	MW-13A	12/17/2008		0.4800	mg/L	
Nitrate (as n)	MW-13A	03/24/2009		0.4700	mg/L	
Nitrate (as n)	MW-13A	06/17/2009		0.4900	mg/L	
Nitrate (as n)	MW-13A	09/10/2009		0.4500	mg/L	
Nitrate (as n)	MW-13A	12/03/2009		0.4100	mg/L	
Nitrate (as n)	MW-13A	03/25/2010		0.4800	mg/L	
Nitrate (as n)	MW-13A	06/23/2010		0.4700	mg/L	
Nitrate (as n)	MW-13A	09/23/2010		0.5100	mg/L	
Nitrate (as n)	MW-13A	12/08/2010		0.4900	mg/L	
Nitrate (as n)	MW-13A	03/30/2011		0.5300	mg/L	
Nitrate (as n)	MW-13A	06/06/2011		0.4600	mg/L	
Nitrate (as n)	MW-13A	09/27/2011		0.4800	mg/L	
Nitrate (as n)	MW-13A	12/14/2011		0.4800	mg/L	
Nitrate (as n)	MW-13A	03/21/2012		9.4000	mg/L	*
Nitrate (as n)	MW-13A	06/08/2012		0.4500	mg/L	
Nitrate (as n)	MW-13A	09/26/2012		0.4200	mg/L	
Nitrate (as n)	MW-13A	12/03/2012		0.5400	mg/L	
Nitrate (as n)	MW-13A	03/11/2013		0.4600	mg/L	
Nitrate (as n)	MW-13A	06/05/2013		0.4900	mg/L	
Nitrate (as n)	MW-13A	12/03/2013		0.4700	mg/L	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Nitrate (as n)	MW-13A	03/04/2014	0.4800	mg/L
Nitrate (as n)	MW-13A	06/02/2014	0.4800	mg/L
Nitrate (as n)	MW-13A	09/22/2014	0.4400	mg/L
Nitrate (as n)	MW-13A	11/17/2014	0.4600	mg/L
Nitrate (as n)	MW-13A	02/23/2015	0.4700	mg/L
Nitrate (as n)	MW-13A	05/19/2015	0.4500	mg/L
Nitrate (as n)	MW-13A	08/26/2015	0.4100	mg/L
Nitrate (as n)	MW-13A	11/10/2015	0.4400	mg/L
Nitrate (as n)	MW-13A	02/22/2016	0.4200	mg/L
Nitrate (as n)	MW-13A	05/16/2016	0.4500	mg/L
Nitrate (as n)	MW-13A	08/31/2016	0.4500	mg/L
Nitrate (as n)	MW-13A	11/14/2016	0.4800	mg/L
Nitrate (as n)	MW-13A	05/24/2017	0.4500	mg/L
Nitrate (as n)	MW-13A	11/13/2017	0.4200	mg/L
Nitrate (as n)	MW-13A	02/20/2018	0.4100	mg/L
Nitrate (as n)	MW-13A	05/15/2018	0.4800	mg/L
Nitrate (as n)	MW-13A	08/21/2018	0.3900	mg/L
Nitrate (as n)	MW-13A	11/12/2018	0.3800	mg/L
Nitrate (as n)	MW-13A	11/11/2019	0.4100	mg/L
Nitrate (as n)	MW-13B	03/22/2005	0.5000	mg/L
Nitrate (as n)	MW-13B	06/15/2005	0.7400	mg/L
Nitrate (as n)	MW-13B	09/27/2005	0.4600	mg/L
Nitrate (as n)	MW-13B	12/15/2005	0.4900	mg/L
Nitrate (as n)	MW-13B	03/29/2006	0.4400	mg/L
Nitrate (as n)	MW-13B	06/21/2006	0.5600	mg/L
Nitrate (as n)	MW-13B	09/26/2006	0.4400	mg/L
Nitrate (as n)	MW-13B	12/13/2006	0.4000	mg/L
Nitrate (as n)	MW-13B	03/27/2007	0.4300	mg/L
Nitrate (as n)	MW-13B	06/19/2007	0.4800	mg/L
Nitrate (as n)	MW-13B	09/18/2007	0.4800	mg/L
Nitrate (as n)	MW-13B	12/19/2007	0.8900	mg/L
Nitrate (as n)	MW-13B	03/25/2008	0.4800	mg/L
Nitrate (as n)	MW-13B	06/18/2008	0.9500	mg/L
Nitrate (as n)	MW-13B	09/17/2008	0.4600	mg/L
Nitrate (as n)	MW-13B	12/16/2008	0.5300	mg/L
Nitrate (as n)	MW-13B	03/24/2009	0.4600	mg/L
Nitrate (as n)	MW-13B	06/17/2009	0.4900	mg/L
Nitrate (as n)	MW-13B	09/10/2009	0.4600	mg/L
Nitrate (as n)	MW-13B	12/03/2009	0.4000	mg/L
Nitrate (as n)	MW-13B	03/25/2010	0.4600	mg/L
Nitrate (as n)	MW-13B	06/23/2010	0.4500	mg/L
Nitrate (as n)	MW-13B	09/23/2010	0.4800	mg/L
Nitrate (as n)	MW-13B	12/08/2010	0.5000	mg/L
Nitrate (as n)	MW-13B	03/30/2011	0.5100	mg/L
Nitrate (as n)	MW-13B	06/06/2011	0.4300	mg/L
Nitrate (as n)	MW-13B	09/27/2011	0.4600	mg/L
Nitrate (as n)	MW-13B	12/14/2011	0.4700	mg/L
Nitrate (as n)	MW-13B	03/21/2012	9.7000	mg/L *
Nitrate (as n)	MW-13B	06/08/2012	0.4500	mg/L
Nitrate (as n)	MW-13B	09/26/2012	0.4000	mg/L
Nitrate (as n)	MW-13B	12/03/2012	0.4200	mg/L
Nitrate (as n)	MW-13B	03/11/2013	0.4300	mg/L
Nitrate (as n)	MW-13B	06/05/2013	0.4900	mg/L
Nitrate (as n)	MW-13B	12/03/2013	0.5100	mg/L
Nitrate (as n)	MW-13B	03/04/2014	0.4500	mg/L
Nitrate (as n)	MW-13B	06/02/2014	0.5300	mg/L
Nitrate (as n)	MW-13B	09/22/2014	0.4500	mg/L
Nitrate (as n)	MW-13B	11/17/2014	0.4700	mg/L
Nitrate (as n)	MW-13B	02/23/2015	0.4500	mg/L
Nitrate (as n)	MW-13B	05/19/2015	0.4500	mg/L
Nitrate (as n)	MW-13B	08/26/2015	0.4400	mg/L
Nitrate (as n)	MW-13B	11/10/2015	0.4500	mg/L
Nitrate (as n)	MW-13B	02/22/2016	0.4300	mg/L
Nitrate (as n)	MW-13B	05/16/2016	0.4600	mg/L
Nitrate (as n)	MW-13B	08/31/2016	0.4500	mg/L
Nitrate (as n)	MW-13B	11/14/2016	0.6400	mg/L
Nitrate (as n)	MW-13B	05/24/2017	0.4800	mg/L
Nitrate (as n)	MW-13B	11/13/2017	0.4400	mg/L
Nitrate (as n)	MW-13B	02/20/2018	0.4300	mg/L
Nitrate (as n)	MW-13B	05/15/2018	0.4300	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Nitrate (as n)	MW-13B	08/21/2018	0.4500	mg/L
Nitrate (as n)	MW-13B	11/12/2018	0.4000	mg/L
Nitrate (as n)	MW-13B	11/11/2019	0.4200	mg/L
Nitrate (as n)	MW-16	03/24/2009	0.2800	mg/L
Nitrate (as n)	MW-16	06/16/2009	0.3300	mg/L
Nitrate (as n)	MW-16	09/09/2009	0.3100	mg/L
Nitrate (as n)	MW-16	12/03/2009	0.4000	mg/L
Nitrate (as n)	MW-16	03/25/2010	0.2900	mg/L
Nitrate (as n)	MW-16	06/24/2010	0.1600	mg/L
Nitrate (as n)	MW-16	09/24/2010	0.5100	mg/L
Nitrate (as n)	MW-16	12/09/2010	0.9000	mg/L
Nitrate (as n)	MW-16	03/30/2011	0.5200	mg/L
Nitrate (as n)	MW-16	06/07/2011	0.4600	mg/L
Nitrate (as n)	MW-16	09/27/2011	0.7300	mg/L
Nitrate (as n)	MW-16	12/13/2011	1.1000	mg/L
Nitrate (as n)	MW-16	03/21/2012	0.8900	mg/L *
Nitrate (as n)	MW-16	06/08/2012	1.4000	mg/L
Nitrate (as n)	MW-16	09/27/2012	0.9600	mg/L
Nitrate (as n)	MW-16	12/04/2012	0.8600	mg/L
Nitrate (as n)	MW-16	03/12/2013	1.6000	mg/L
Nitrate (as n)	MW-16	06/04/2013	1.5000	mg/L
Nitrate (as n)	MW-16	09/05/2013	0.7200	mg/L
Nitrate (as n)	MW-16	12/16/2013	0.7500	mg/L
Nitrate (as n)	MW-16	03/05/2014	0.5500	mg/L
Nitrate (as n)	MW-16	06/02/2014	1.2000	mg/L
Nitrate (as n)	MW-16	09/22/2014	0.3600	mg/L
Nitrate (as n)	MW-16	11/18/2014	0.2800	mg/L
Nitrate (as n)	MW-16	02/23/2015	0.2600	mg/L
Nitrate (as n)	MW-16	05/20/2015	0.5500	mg/L
Nitrate (as n)	MW-16	08/26/2015	0.3800	mg/L
Nitrate (as n)	MW-16	11/11/2015	0.1900	mg/L
Nitrate (as n)	MW-16	02/24/2016	0.5000	mg/L
Nitrate (as n)	MW-16	05/16/2016	0.6900	mg/L
Nitrate (as n)	MW-16	08/31/2016	0.2700	mg/L
Nitrate (as n)	MW-16	11/14/2016	0.2400	mg/L
Nitrate (as n)	MW-16	05/24/2017	0.5500	mg/L
Nitrate (as n)	MW-16	11/13/2017	0.2800	mg/L
Nitrate (as n)	MW-16	02/20/2018	0.3200	mg/L
Nitrate (as n)	MW-16	05/17/2018	0.6200	mg/L
Nitrate (as n)	MW-16	08/22/2018	0.1700	mg/L
Nitrate (as n)	MW-16	11/12/2018	0.2800	mg/L
Nitrate (as n)	MW-16	11/12/2019	0.1000	mg/L
Nitrate (as n)	MW-35	03/22/2005	0.3700	mg/L
Nitrate (as n)	MW-35	06/14/2005	0.3300	mg/L
Nitrate (as n)	MW-35	09/27/2005	0.9600	mg/L
Nitrate (as n)	MW-35	12/15/2005	0.2900	mg/L
Nitrate (as n)	MW-35	03/28/2006	0.3400	mg/L
Nitrate (as n)	MW-35	06/21/2006	0.4000	mg/L
Nitrate (as n)	MW-35	09/26/2006	0.3100	mg/L
Nitrate (as n)	MW-35	12/12/2006	0.3500	mg/L
Nitrate (as n)	MW-35	03/27/2007	0.3000	mg/L
Nitrate (as n)	MW-35	06/20/2007	0.3400	mg/L
Nitrate (as n)	MW-35	09/18/2007	0.3200	mg/L
Nitrate (as n)	MW-35	12/20/2007	0.3200	mg/L
Nitrate (as n)	MW-35	03/25/2008	0.3000	mg/L
Nitrate (as n)	MW-35	06/18/2008	1.0000	mg/L
Nitrate (as n)	MW-35	09/18/2008	0.3500	mg/L
Nitrate (as n)	MW-35	12/19/2008	0.3700	mg/L
Nitrate (as n)	MW-35	03/24/2009	0.3500	mg/L
Nitrate (as n)	MW-35	06/16/2009	0.3700	mg/L
Nitrate (as n)	MW-35	09/10/2009	0.3500	mg/L
Nitrate (as n)	MW-35	12/03/2009	0.5200	mg/L
Nitrate (as n)	MW-35	03/25/2010	0.3600	mg/L
Nitrate (as n)	MW-35	06/23/2010	0.3200	mg/L
Nitrate (as n)	MW-35	09/23/2010	0.4000	mg/L
Nitrate (as n)	MW-35	12/09/2010	0.3900	mg/L
Nitrate (as n)	MW-35	03/30/2011	0.3900	mg/L
Nitrate (as n)	MW-35	06/06/2011	0.3900	mg/L
Nitrate (as n)	MW-35	09/26/2011	0.4000	mg/L
Nitrate (as n)	MW-35	12/13/2011	0.3900	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Nitrate (as n)	MW-35	03/21/2012	0.4500	mg/L	*
Nitrate (as n)	MW-35	06/06/2012	0.4300	mg/L	
Nitrate (as n)	MW-35	09/26/2012	0.3700	mg/L	
Nitrate (as n)	MW-35	12/04/2012	0.4200	mg/L	
Nitrate (as n)	MW-35	03/13/2013	0.4700	mg/L	
Nitrate (as n)	MW-35	06/06/2013	0.4500	mg/L	
Nitrate (as n)	MW-35	09/05/2013	0.4200	mg/L	
Nitrate (as n)	MW-35	12/16/2013	0.4000	mg/L	
Nitrate (as n)	MW-35	03/04/2014	0.4200	mg/L	
Nitrate (as n)	MW-35	06/02/2014	0.4200	mg/L	
Nitrate (as n)	MW-35	09/22/2014	0.4200	mg/L	
Nitrate (as n)	MW-35	11/17/2014	0.4200	mg/L	
Nitrate (as n)	MW-35	02/25/2015	0.4100	mg/L	
Nitrate (as n)	MW-35	05/19/2015	0.4000	mg/L	
Nitrate (as n)	MW-35	08/26/2015	0.4000	mg/L	
Nitrate (as n)	MW-35	11/10/2015	0.4100	mg/L	
Nitrate (as n)	MW-35	02/22/2016	0.4100	mg/L	
Nitrate (as n)	MW-35	05/16/2016	0.4400	mg/L	
Nitrate (as n)	MW-35	08/31/2016	0.4300	mg/L	
Nitrate (as n)	MW-35	11/15/2016	0.4700	mg/L	
Nitrate (as n)	MW-35	05/24/2017	0.4900	mg/L	
Nitrate (as n)	MW-35	11/15/2017	0.5100	mg/L	
Nitrate (as n)	MW-35	02/20/2018	0.4400	mg/L	
Nitrate (as n)	MW-35	05/17/2018	0.4400	mg/L	
Nitrate (as n)	MW-35	08/22/2018	0.4200	mg/L	
Nitrate (as n)	MW-35	11/12/2018	0.4100	mg/L	
Nitrate (as n)	MW-35	11/12/2019	0.3600	mg/L	
pH	MW-13A	03/22/2005	7.0100	pH Units	
pH	MW-13A	06/15/2005	7.2100	pH Units	
pH	MW-13A	09/27/2005	7.1000	pH Units	
pH	MW-13A	12/15/2005	6.3400	pH Units	
pH	MW-13A	03/28/2006	6.9000	pH Units	
pH	MW-13A	06/21/2006	7.2500	pH Units	
pH	MW-13A	09/26/2006	7.2500	pH Units	
pH	MW-13A	12/13/2006	6.8700	pH Units	
pH	MW-13A	03/27/2007	7.3200	pH Units	
pH	MW-13A	09/19/2007	6.6800	pH Units	
pH	MW-13A	12/19/2007	7.2900	pH Units	
pH	MW-13A	03/25/2008	7.1200	pH Units	
pH	MW-13A	06/18/2008	7.1900	pH Units	
pH	MW-13A	09/17/2008	7.0000	pH Units	
pH	MW-13A	12/17/2008	6.5100	pH Units	
pH	MW-13A	03/24/2009	6.8500	pH Units	
pH	MW-13A	06/17/2009	7.0700	pH Units	
pH	MW-13A	12/03/2009	7.0300	pH Units	
pH	MW-13A	03/25/2010	6.9600	pH Units	
pH	MW-13A	06/23/2010	6.9900	pH Units	
pH	MW-13A	09/23/2010	6.7800	pH Units	
pH	MW-13A	12/08/2010	7.4800	pH Units	
pH	MW-13A	03/30/2011	6.9500	pH Units	
pH	MW-13A	06/06/2011	7.4500	pH Units	
pH	MW-13A	09/27/2011	6.9100	pH Units	
pH	MW-13A	12/14/2011	7.1300	pH Units	
pH	MW-13A	03/21/2012	6.7800	pH Units	
pH	MW-13A	06/08/2012	6.7200	pH Units	
pH	MW-13A	09/26/2012	7.3500	pH Units	
pH	MW-13A	12/03/2012	6.9500	pH Units	
pH	MW-13A	03/11/2013	7.1800	pH Units	
pH	MW-13A	06/05/2013	7.3300	pH Units	
pH	MW-13A	12/03/2013	7.1600	pH Units	
pH	MW-13A	03/04/2014	7.4800	pH Units	
pH	MW-13A	06/02/2014	7.2600	pH Units	
pH	MW-13A	09/22/2014	7.2600	pH Units	
pH	MW-13A	11/17/2014	6.9900	pH Units	
pH	MW-13A	05/19/2015	7.0300	pH Units	
pH	MW-13A	08/26/2015	7.0700	pH Units	
pH	MW-13A	11/10/2015	6.6800	pH Units	
pH	MW-13A	02/22/2016	6.6900	pH Units	
pH	MW-13A	05/16/2016	6.8700	pH Units	
pH	MW-13A	08/31/2016	6.6500	pH Units	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

pH	MW-13A	11/14/2016		6.5000	pH Units
pH	MW-13A	02/22/2017		6.9700	pH Units
pH	MW-13A	05/24/2017		7.1700	pH Units
pH	MW-13A	08/30/2017		7.0000	pH Units
pH	MW-13A	11/13/2017		6.7900	pH Units
pH	MW-13A	02/20/2018		6.8700	pH Units
pH	MW-13A	05/15/2018		6.9100	pH Units
pH	MW-13A	08/21/2018		6.8800	pH Units
pH	MW-13A	11/12/2018		7.0200	pH Units
pH	MW-13A	05/28/2019		6.7000	pH Units
pH	MW-13A	11/11/2019		6.7200	pH Units
pH	MW-13B	03/22/2005		7.4900	pH Units
pH	MW-13B	06/15/2005		7.8100	pH Units
pH	MW-13B	09/27/2005		7.7300	pH Units
pH	MW-13B	12/15/2005		6.9300	pH Units
pH	MW-13B	03/29/2006		7.4500	pH Units
pH	MW-13B	06/21/2006		7.7600	pH Units
pH	MW-13B	09/26/2006		7.7800	pH Units
pH	MW-13B	12/13/2006		7.3200	pH Units
pH	MW-13B	03/27/2007		7.7600	pH Units
pH	MW-13B	09/18/2007		7.4800	pH Units
pH	MW-13B	12/19/2007		7.8500	pH Units
pH	MW-13B	03/25/2008		7.7800	pH Units
pH	MW-13B	06/18/2008		7.7400	pH Units
pH	MW-13B	09/17/2008		7.5700	pH Units
pH	MW-13B	12/16/2008		7.2300	pH Units
pH	MW-13B	03/24/2009		7.3700	pH Units
pH	MW-13B	06/17/2009		7.5600	pH Units
pH	MW-13B	12/03/2009		6.9300	pH Units
pH	MW-13B	03/25/2010		7.4900	pH Units
pH	MW-13B	06/23/2010		7.2700	pH Units
pH	MW-13B	09/23/2010		7.1100	pH Units
pH	MW-13B	12/08/2010		7.0500	pH Units
pH	MW-13B	03/30/2011		7.5100	pH Units
pH	MW-13B	06/06/2011		7.5800	pH Units
pH	MW-13B	09/27/2011		7.0800	pH Units
pH	MW-13B	12/14/2011		7.5300	pH Units
pH	MW-13B	03/21/2012		7.0900	pH Units
pH	MW-13B	06/08/2012		7.1500	pH Units
pH	MW-13B	09/26/2012		7.3200	pH Units
pH	MW-13B	12/03/2012		7.3200	pH Units
pH	MW-13B	03/11/2013		7.4200	pH Units
pH	MW-13B	06/05/2013		7.2700	pH Units
pH	MW-13B	12/03/2013		7.3400	pH Units
pH	MW-13B	03/04/2014		7.4000	pH Units
pH	MW-13B	06/02/2014		7.3500	pH Units
pH	MW-13B	09/22/2014		7.6800	pH Units
pH	MW-13B	11/17/2014		7.0800	pH Units
pH	MW-13B	05/19/2015		7.6500	pH Units
pH	MW-13B	08/26/2015		7.5900	pH Units
pH	MW-13B	11/10/2015		7.2800	pH Units
pH	MW-13B	02/22/2016		7.0100	pH Units
pH	MW-13B	05/16/2016		7.3100	pH Units
pH	MW-13B	08/31/2016		7.2300	pH Units
pH	MW-13B	11/14/2016		7.1700	pH Units
pH	MW-13B	02/22/2017		7.6500	pH Units
pH	MW-13B	05/24/2017		7.7600	pH Units
pH	MW-13B	08/30/2017		7.4100	pH Units
pH	MW-13B	11/13/2017		7.4900	pH Units
pH	MW-13B	02/20/2018		7.3500	pH Units
pH	MW-13B	05/15/2018		7.3500	pH Units
pH	MW-13B	08/21/2018		7.3100	pH Units
pH	MW-13B	11/12/2018		7.6500	pH Units
pH	MW-13B	05/28/2019		7.0900	pH Units
pH	MW-13B	11/11/2019		7.0300	pH Units
pH	MW-16	03/24/2009		6.2700	pH Units
pH	MW-16	06/16/2009		6.3300	pH Units
pH	MW-16	12/03/2009		6.2700	pH Units
pH	MW-16	03/25/2010		6.2600	pH Units
pH	MW-16	06/24/2010		6.0400	pH Units

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

pH	MW-16	09/24/2010		5.9000	pH Units	
pH	MW-16	12/09/2010		6.1700	pH Units	
pH	MW-16	03/30/2011		6.3100	pH Units	
pH	MW-16	06/07/2011		6.1500	pH Units	
pH	MW-16	09/27/2011		6.4400	pH Units	
pH	MW-16	12/13/2011		6.3000	pH Units	
pH	MW-16	03/21/2012		6.3200	pH Units	
pH	MW-16	06/08/2012		6.2500	pH Units	
pH	MW-16	09/27/2012		6.2600	pH Units	
pH	MW-16	12/04/2012		6.2200	pH Units	
pH	MW-16	03/12/2013		6.3500	pH Units	
pH	MW-16	06/04/2013		6.4500	pH Units	
pH	MW-16	09/05/2013		6.6200	pH Units	
pH	MW-16	12/16/2013		6.3200	pH Units	
pH	MW-16	03/05/2014		6.5000	pH Units	
pH	MW-16	06/02/2014		6.6100	pH Units	
pH	MW-16	09/22/2014		6.4000	pH Units	
pH	MW-16	11/18/2014		6.3800	pH Units	
pH	MW-16	02/23/2015		6.4800	pH Units	
pH	MW-16	05/20/2015		6.5100	pH Units	
pH	MW-16	08/26/2015		6.3500	pH Units	
pH	MW-16	11/11/2015		6.1300	pH Units	
pH	MW-16	02/24/2016		6.4900	pH Units	
pH	MW-16	05/16/2016		6.1100	pH Units	
pH	MW-16	08/31/2016		5.9300	pH Units	
pH	MW-16	11/14/2016		5.8900	pH Units	
pH	MW-16	02/22/2017		6.4200	pH Units	
pH	MW-16	05/24/2017		6.3500	pH Units	
pH	MW-16	08/30/2017		6.1700	pH Units	
pH	MW-16	11/13/2017		6.3500	pH Units	
pH	MW-16	02/20/2018		6.1100	pH Units	
pH	MW-16	05/17/2018		6.2700	pH Units	
pH	MW-16	08/22/2018		6.1000	pH Units	
pH	MW-16	11/12/2018		6.3400	pH Units	
pH	MW-16	05/29/2019		5.9800	pH Units	
pH	MW-16	11/12/2019		6.1700	pH Units	
pH	MW-35	03/22/2005		7.0600	pH Units	
pH	MW-35	06/14/2005		7.4300	pH Units	
pH	MW-35	09/27/2005		7.3900	pH Units	
pH	MW-35	12/15/2005		6.4100	pH Units	
pH	MW-35	03/28/2006		7.1000	pH Units	
pH	MW-35	06/21/2006		7.4600	pH Units	
pH	MW-35	09/26/2006		7.5000	pH Units	
pH	MW-35	12/12/2006		6.9900	pH Units	
pH	MW-35	03/27/2007		7.5100	pH Units	
pH	MW-35	09/18/2007		6.9700	pH Units	
pH	MW-35	12/20/2007		7.2500	pH Units	
pH	MW-35	03/25/2008		7.4000	pH Units	
pH	MW-35	06/18/2008		7.4400	pH Units	
pH	MW-35	09/18/2008		7.4200	pH Units	
pH	MW-35	12/19/2008		7.1900	pH Units	
pH	MW-35	03/24/2009		7.2100	pH Units	
pH	MW-35	06/16/2009		7.1500	pH Units	
pH	MW-35	12/03/2009		7.2200	pH Units	
pH	MW-35	03/25/2010		7.2400	pH Units	
pH	MW-35	06/23/2010		7.3700	pH Units	
pH	MW-35	09/23/2010		6.8500	pH Units	
pH	MW-35	12/09/2010		7.3900	pH Units	
pH	MW-35	03/30/2011		7.3700	pH Units	
pH	MW-35	06/06/2011		7.2300	pH Units	
pH	MW-35	09/26/2011		6.8600	pH Units	
pH	MW-35	12/13/2011		7.0000	pH Units	
pH	MW-35	03/21/2012		7.0200	pH Units	
pH	MW-35	06/06/2012		6.9800	pH Units	
pH	MW-35	09/26/2012		7.1100	pH Units	
pH	MW-35	12/04/2012		7.1600	pH Units	
pH	MW-35	03/13/2013		7.0600	pH Units	
pH	MW-35	06/06/2013		7.3700	pH Units	
pH	MW-35	09/05/2013		7.1000	pH Units	
pH	MW-35	12/16/2013		7.1500	pH Units	

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

pH	MW-35	03/04/2014		7.5300	pH Units
pH	MW-35	06/02/2014		7.1700	pH Units
pH	MW-35	09/22/2014		6.6200	pH Units
pH	MW-35	11/17/2014		7.4800	pH Units
pH	MW-35	02/25/2015		7.7700	pH Units
pH	MW-35	05/19/2015		6.7200	pH Units
pH	MW-35	08/26/2015		7.2500	pH Units
pH	MW-35	11/10/2015		6.9200	pH Units
pH	MW-35	02/22/2016		6.5800	pH Units
pH	MW-35	05/16/2016		6.9500	pH Units
pH	MW-35	08/31/2016		7.0900	pH Units
pH	MW-35	11/15/2016		6.6100	pH Units
pH	MW-35	02/22/2017		7.3800	pH Units
pH	MW-35	05/24/2017		7.2300	pH Units
pH	MW-35	08/30/2017		7.2900	pH Units
pH	MW-35	11/15/2017		6.9800	pH Units
pH	MW-35	02/20/2018		6.9300	pH Units
pH	MW-35	05/17/2018		6.9500	pH Units
pH	MW-35	08/22/2018		7.0600	pH Units
pH	MW-35	11/12/2018		7.4000	pH Units
pH	MW-35	05/29/2019		6.7700	pH Units
pH	MW-35	11/12/2019		6.6100	pH Units
Potassium, dissolved	MW-13A	03/22/2005		0.5700	mg/L
Potassium, dissolved	MW-13A	06/15/2005		0.5200	mg/L
Potassium, dissolved	MW-13A	09/27/2005		0.4800	mg/L
Potassium, dissolved	MW-13A	12/15/2005		0.5000	mg/L
Potassium, dissolved	MW-13A	03/28/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/21/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/26/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/13/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/27/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/19/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/19/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/19/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/25/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/18/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/17/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/17/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/24/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/17/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/10/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/03/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/25/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/23/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/23/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/08/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/30/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/06/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/27/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/14/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/21/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/08/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/26/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/03/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/11/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/05/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	12/03/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	03/04/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	06/02/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	09/22/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	11/17/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	02/23/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	05/19/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	08/26/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	11/10/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	02/22/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	05/16/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	08/31/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	11/14/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	02/22/2017	ND	1.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Potassium, dissolved	MW-13A	05/24/2017		1.4000	mg/L
Potassium, dissolved	MW-13A	08/30/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	11/13/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	02/20/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	05/15/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	08/21/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	11/12/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13A	11/11/2019	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/22/2005		0.6000	mg/L
Potassium, dissolved	MW-13B	06/15/2005		0.5500	mg/L
Potassium, dissolved	MW-13B	09/27/2005		0.5500	mg/L
Potassium, dissolved	MW-13B	12/15/2005		0.5200	mg/L
Potassium, dissolved	MW-13B	03/29/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/21/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/26/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/13/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/27/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/19/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/18/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/19/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/25/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/18/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/17/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/16/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/24/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/17/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/10/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/03/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/25/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/23/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/23/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/08/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/30/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/06/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/27/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/14/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/21/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/08/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/26/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/03/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/11/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/05/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	12/03/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	03/04/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	06/02/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	09/22/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	11/17/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	02/23/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	05/19/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	08/26/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	11/10/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	02/22/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	05/16/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	08/31/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	11/14/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	02/22/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	05/24/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	08/30/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	11/13/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	02/20/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	05/15/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	08/21/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	11/12/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-13B	11/11/2019	ND	1.0000	mg/L
Potassium, dissolved	MW-16	03/24/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-16	06/16/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-16	09/09/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-16	12/03/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-16	03/25/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-16	06/24/2010	ND	1.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Potassium, dissolved	MW-16	09/24/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-16	12/09/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-16	03/30/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-16	06/07/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-16	09/27/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-16	12/13/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-16	03/21/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-16	06/08/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-16	09/27/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-16	12/04/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-16	03/12/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-16	06/04/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-16	09/05/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-16	12/16/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-16	03/05/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-16	06/02/2014		1.2000	mg/L
Potassium, dissolved	MW-16	09/22/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-16	11/18/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-16	02/23/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-16	05/20/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-16	08/26/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-16	11/11/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-16	02/24/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-16	05/16/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-16	08/31/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-16	11/14/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-16	02/22/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-16	05/24/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-16	08/30/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-16	11/13/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-16	02/20/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-16	05/17/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-16	08/22/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-16	11/12/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-16	11/12/2019	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/22/2005		0.5200	mg/L
Potassium, dissolved	MW-35	06/14/2005		0.4800	mg/L
Potassium, dissolved	MW-35	09/27/2005		0.5200	mg/L
Potassium, dissolved	MW-35	12/15/2005		0.4600	mg/L
Potassium, dissolved	MW-35	03/28/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/21/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/26/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/12/2006	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/27/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/20/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/18/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/20/2007	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/25/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/18/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/18/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/19/2008	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/24/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/16/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/10/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/03/2009	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/25/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/23/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/23/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/09/2010	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/30/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/06/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/26/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/13/2011	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/21/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/06/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/26/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-35	12/04/2012	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/13/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/06/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/05/2013	ND	1.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Potassium, dissolved	MW-35	12/16/2013	ND	1.0000	mg/L
Potassium, dissolved	MW-35	03/04/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-35	06/02/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-35	09/22/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-35	11/17/2014	ND	1.0000	mg/L
Potassium, dissolved	MW-35	02/25/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-35	05/19/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-35	08/26/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-35	11/10/2015	ND	1.0000	mg/L
Potassium, dissolved	MW-35	02/22/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-35	05/16/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-35	08/31/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-35	11/15/2016	ND	1.0000	mg/L
Potassium, dissolved	MW-35	02/22/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-35	05/24/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-35	08/30/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-35	11/15/2017	ND	1.0000	mg/L
Potassium, dissolved	MW-35	02/20/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-35	05/17/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-35	08/22/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-35	11/12/2018	ND	1.0000	mg/L
Potassium, dissolved	MW-35	11/12/2019	ND	1.0000	mg/L
Selenium, total	MW-13A	12/03/2013	ND	0.0010	mg/L
Selenium, total	MW-13A	03/04/2014	ND	0.0010	mg/L
Selenium, total	MW-13A	06/02/2014	ND	0.0010	mg/L
Selenium, total	MW-13A	09/22/2014	ND	0.0010	mg/L
Selenium, total	MW-13A	11/17/2014	ND	0.0010	mg/L
Selenium, total	MW-13A	02/23/2015	ND	0.0010	mg/L
Selenium, total	MW-13A	05/19/2015	ND	0.0010	mg/L
Selenium, total	MW-13A	08/26/2015	ND	0.0010	mg/L
Selenium, total	MW-13A	11/10/2015	ND	0.0010	mg/L
Selenium, total	MW-13A	02/22/2016	ND	0.0010	mg/L
Selenium, total	MW-13A	05/16/2016	ND	0.0010	mg/L
Selenium, total	MW-13A	08/31/2016	ND	0.0010	mg/L
Selenium, total	MW-13A	11/14/2016	ND	0.0010	mg/L
Selenium, total	MW-13A	02/22/2017	ND	0.0010	mg/L
Selenium, total	MW-13A	05/24/2017	ND	0.0010	mg/L
Selenium, total	MW-13A	08/30/2017	ND	0.0010	mg/L
Selenium, total	MW-13A	11/13/2017	ND	0.0010	mg/L
Selenium, total	MW-13A	02/20/2018	ND	0.0010	mg/L
Selenium, total	MW-13A	05/15/2018	ND	0.0010	mg/L
Selenium, total	MW-13A	08/21/2018	ND	0.0010	mg/L
Selenium, total	MW-13A	11/12/2018	ND	0.0010	mg/L
Selenium, total	MW-13A	11/11/2019	ND	0.0010	mg/L
Selenium, total	MW-13B	12/03/2013	ND	0.0010	mg/L
Selenium, total	MW-13B	03/04/2014	ND	0.0010	mg/L
Selenium, total	MW-13B	06/02/2014	ND	0.0010	mg/L
Selenium, total	MW-13B	09/22/2014	ND	0.0010	mg/L
Selenium, total	MW-13B	11/17/2014	ND	0.0010	mg/L
Selenium, total	MW-13B	02/23/2015	ND	0.0010	mg/L
Selenium, total	MW-13B	05/19/2015	ND	0.0010	mg/L
Selenium, total	MW-13B	08/26/2015	ND	0.0010	mg/L
Selenium, total	MW-13B	11/10/2015	ND	0.0010	mg/L
Selenium, total	MW-13B	02/22/2016	ND	0.0010	mg/L
Selenium, total	MW-13B	05/16/2016	ND	0.0010	mg/L
Selenium, total	MW-13B	08/31/2016	ND	0.0010	mg/L
Selenium, total	MW-13B	11/14/2016	ND	0.0010	mg/L
Selenium, total	MW-13B	02/22/2017	ND	0.0010	mg/L
Selenium, total	MW-13B	05/24/2017	ND	0.0010	mg/L
Selenium, total	MW-13B	08/30/2017	ND	0.0010	mg/L
Selenium, total	MW-13B	11/13/2017	ND	0.0010	mg/L
Selenium, total	MW-13B	02/20/2018	ND	0.0010	mg/L
Selenium, total	MW-13B	05/15/2018	ND	0.0010	mg/L
Selenium, total	MW-13B	08/21/2018	ND	0.0010	mg/L
Selenium, total	MW-13B	11/12/2018	ND	0.0010	mg/L
Selenium, total	MW-13B	11/11/2019	ND	0.0010	mg/L
Selenium, total	MW-16	09/05/2013	ND	0.0010	mg/L
Selenium, total	MW-16	12/16/2013	ND	0.0010	mg/L
Selenium, total	MW-16	03/05/2014	ND	0.0010	mg/L
Selenium, total	MW-16	06/02/2014	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Selenium, total	MW-16	09/22/2014	ND	0.0010	mg/L
Selenium, total	MW-16	11/18/2014	ND	0.0010	mg/L
Selenium, total	MW-16	02/23/2015	ND	0.0010	mg/L
Selenium, total	MW-16	05/20/2015	ND	0.0010	mg/L
Selenium, total	MW-16	08/26/2015	ND	0.0010	mg/L
Selenium, total	MW-16	11/11/2015	ND	0.0010	mg/L
Selenium, total	MW-16	02/24/2016	ND	0.0010	mg/L
Selenium, total	MW-16	05/16/2016	ND	0.0010	mg/L
Selenium, total	MW-16	08/31/2016	ND	0.0010	mg/L
Selenium, total	MW-16	11/14/2016	ND	0.0010	mg/L
Selenium, total	MW-16	02/22/2017	ND	0.0010	mg/L
Selenium, total	MW-16	05/24/2017	ND	0.0010	mg/L
Selenium, total	MW-16	08/30/2017	ND	0.0010	mg/L
Selenium, total	MW-16	11/13/2017	ND	0.0010	mg/L
Selenium, total	MW-16	02/20/2018	ND	0.0010	mg/L
Selenium, total	MW-16	05/17/2018	ND	0.0010	mg/L
Selenium, total	MW-16	08/22/2018	ND	0.0010	mg/L
Selenium, total	MW-16	11/12/2018	ND	0.0010	mg/L
Selenium, total	MW-16	11/12/2019	ND	0.0010	mg/L
Selenium, total	MW-35	09/05/2013	ND	0.0010	mg/L
Selenium, total	MW-35	12/16/2013	ND	0.0010	mg/L
Selenium, total	MW-35	03/04/2014	ND	0.0010	mg/L
Selenium, total	MW-35	06/02/2014	ND	0.0010	mg/L
Selenium, total	MW-35	09/22/2014	ND	0.0010	mg/L
Selenium, total	MW-35	11/17/2014	ND	0.0010	mg/L
Selenium, total	MW-35	02/25/2015	ND	0.0010	mg/L
Selenium, total	MW-35	05/19/2015	ND	0.0010	mg/L
Selenium, total	MW-35	08/26/2015	ND	0.0010	mg/L
Selenium, total	MW-35	11/10/2015	ND	0.0010	mg/L
Selenium, total	MW-35	02/22/2016	ND	0.0010	mg/L
Selenium, total	MW-35	05/16/2016	ND	0.0010	mg/L
Selenium, total	MW-35	08/31/2016	ND	0.0010	mg/L
Selenium, total	MW-35	11/15/2016	ND	0.0010	mg/L
Selenium, total	MW-35	02/22/2017	ND	0.0010	mg/L
Selenium, total	MW-35	05/24/2017	ND	0.0010	mg/L
Selenium, total	MW-35	08/30/2017	ND	0.0010	mg/L
Selenium, total	MW-35	11/15/2017	ND	0.0010	mg/L
Selenium, total	MW-35	02/20/2018	ND	0.0010	mg/L
Selenium, total	MW-35	05/17/2018	ND	0.0010	mg/L
Selenium, total	MW-35	08/22/2018	ND	0.0010	mg/L
Selenium, total	MW-35	11/12/2018	ND	0.0010	mg/L
Selenium, total	MW-35	11/12/2019	ND	0.0010	mg/L
Silver, total	MW-13A	12/03/2013	ND	0.0020	mg/L
Silver, total	MW-13A	03/04/2014	ND	0.0020	mg/L
Silver, total	MW-13A	06/02/2014	ND	0.0020	mg/L
Silver, total	MW-13A	09/22/2014	ND	0.0020	mg/L
Silver, total	MW-13A	11/17/2014	ND	0.0020	mg/L
Silver, total	MW-13A	02/23/2015	ND	0.0020	mg/L
Silver, total	MW-13A	05/19/2015	ND	0.0020	mg/L
Silver, total	MW-13A	08/26/2015	ND	0.0020	mg/L
Silver, total	MW-13A	11/10/2015	ND	0.0020	mg/L
Silver, total	MW-13A	02/22/2016	ND	0.0020	mg/L
Silver, total	MW-13A	05/16/2016	ND	0.0020	mg/L
Silver, total	MW-13A	08/31/2016	ND	0.0020	mg/L
Silver, total	MW-13A	11/14/2016	ND	0.0020	mg/L
Silver, total	MW-13A	02/22/2017	ND	0.0020	mg/L
Silver, total	MW-13A	05/24/2017	ND	0.0020	mg/L
Silver, total	MW-13A	08/30/2017	ND	0.0020	mg/L
Silver, total	MW-13A	11/13/2017	ND	0.0020	mg/L
Silver, total	MW-13A	02/20/2018	ND	0.0020	mg/L
Silver, total	MW-13A	05/15/2018	ND	0.0020	mg/L
Silver, total	MW-13A	08/21/2018	ND	0.0020	mg/L
Silver, total	MW-13A	11/12/2018	ND	0.0020	mg/L
Silver, total	MW-13A	11/11/2019	ND	0.0020	mg/L
Silver, total	MW-13B	12/03/2013	ND	0.0020	mg/L
Silver, total	MW-13B	03/04/2014	ND	0.0020	mg/L
Silver, total	MW-13B	06/02/2014	ND	0.0020	mg/L
Silver, total	MW-13B	09/22/2014	ND	0.0020	mg/L
Silver, total	MW-13B	11/17/2014	ND	0.0020	mg/L
Silver, total	MW-13B	02/23/2015	ND	0.0020	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Silver, total	MW-13B	05/19/2015	ND	0.0020	mg/L
Silver, total	MW-13B	08/26/2015	ND	0.0020	mg/L
Silver, total	MW-13B	11/10/2015	ND	0.0020	mg/L
Silver, total	MW-13B	02/22/2016	ND	0.0020	mg/L
Silver, total	MW-13B	05/16/2016	ND	0.0020	mg/L
Silver, total	MW-13B	08/31/2016	ND	0.0020	mg/L
Silver, total	MW-13B	11/14/2016	ND	0.0020	mg/L
Silver, total	MW-13B	02/22/2017	ND	0.0020	mg/L
Silver, total	MW-13B	05/24/2017	ND	0.0020	mg/L
Silver, total	MW-13B	08/30/2017	ND	0.0020	mg/L
Silver, total	MW-13B	11/13/2017	ND	0.0020	mg/L
Silver, total	MW-13B	02/20/2018	ND	0.0020	mg/L
Silver, total	MW-13B	05/15/2018	ND	0.0020	mg/L
Silver, total	MW-13B	08/21/2018	ND	0.0020	mg/L
Silver, total	MW-13B	11/12/2018	ND	0.0020	mg/L
Silver, total	MW-13B	11/11/2019	ND	0.0020	mg/L
Silver, total	MW-16	09/05/2013	ND	0.0020	mg/L
Silver, total	MW-16	12/16/2013	ND	0.0020	mg/L
Silver, total	MW-16	03/05/2014	ND	0.0020	mg/L
Silver, total	MW-16	06/02/2014	ND	0.0020	mg/L
Silver, total	MW-16	09/22/2014	ND	0.0020	mg/L
Silver, total	MW-16	11/18/2014	ND	0.0020	mg/L
Silver, total	MW-16	02/23/2015	ND	0.0020	mg/L
Silver, total	MW-16	05/20/2015	ND	0.0020	mg/L
Silver, total	MW-16	08/26/2015	ND	0.0020	mg/L
Silver, total	MW-16	11/11/2015	ND	0.0020	mg/L
Silver, total	MW-16	02/24/2016	ND	0.0020	mg/L
Silver, total	MW-16	05/16/2016	ND	0.0020	mg/L
Silver, total	MW-16	08/31/2016	ND	0.0020	mg/L
Silver, total	MW-16	11/14/2016	ND	0.0020	mg/L
Silver, total	MW-16	02/22/2017	ND	0.0020	mg/L
Silver, total	MW-16	05/24/2017	ND	0.0020	mg/L
Silver, total	MW-16	08/30/2017	ND	0.0020	mg/L
Silver, total	MW-16	11/13/2017	ND	0.0020	mg/L
Silver, total	MW-16	02/20/2018	ND	0.0020	mg/L
Silver, total	MW-16	05/17/2018	ND	0.0020	mg/L
Silver, total	MW-16	08/22/2018	ND	0.0020	mg/L
Silver, total	MW-16	11/12/2018	ND	0.0020	mg/L
Silver, total	MW-16	11/12/2019	ND	0.0020	mg/L
Silver, total	MW-35	09/05/2013	ND	0.0020	mg/L
Silver, total	MW-35	12/16/2013	ND	0.0020	mg/L
Silver, total	MW-35	03/04/2014	ND	0.0020	mg/L
Silver, total	MW-35	06/02/2014	ND	0.0020	mg/L
Silver, total	MW-35	09/22/2014	ND	0.0020	mg/L
Silver, total	MW-35	11/17/2014	ND	0.0020	mg/L
Silver, total	MW-35	02/25/2015	ND	0.0020	mg/L
Silver, total	MW-35	05/19/2015	ND	0.0020	mg/L
Silver, total	MW-35	08/26/2015	ND	0.0020	mg/L
Silver, total	MW-35	11/10/2015	ND	0.0020	mg/L
Silver, total	MW-35	02/22/2016	ND	0.0020	mg/L
Silver, total	MW-35	05/16/2016	ND	0.0020	mg/L
Silver, total	MW-35	08/31/2016	ND	0.0020	mg/L
Silver, total	MW-35	11/15/2016	ND	0.0020	mg/L
Silver, total	MW-35	02/22/2017	ND	0.0020	mg/L
Silver, total	MW-35	05/24/2017	ND	0.0020	mg/L
Silver, total	MW-35	08/30/2017	ND	0.0020	mg/L
Silver, total	MW-35	11/15/2017	ND	0.0020	mg/L
Silver, total	MW-35	02/20/2018	ND	0.0020	mg/L
Silver, total	MW-35	05/17/2018	ND	0.0020	mg/L
Silver, total	MW-35	08/22/2018	ND	0.0020	mg/L
Silver, total	MW-35	11/12/2018	ND	0.0020	mg/L
Silver, total	MW-35	11/12/2019	ND	0.0020	mg/L
Sodium, dissolved	MW-13A	03/22/2005		5.4000	mg/L
Sodium, dissolved	MW-13A	06/15/2005		4.4000	mg/L
Sodium, dissolved	MW-13A	09/27/2005		4.5000	mg/L
Sodium, dissolved	MW-13A	12/15/2005		4.8000	mg/L
Sodium, dissolved	MW-13A	03/28/2006		5.4000	mg/L
Sodium, dissolved	MW-13A	06/21/2006		5.2000	mg/L
Sodium, dissolved	MW-13A	09/26/2006		5.5000	mg/L
Sodium, dissolved	MW-13A	12/13/2006		4.8000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Sodium, dissolved	MW-13A	03/27/2007	5.4000	mg/L
Sodium, dissolved	MW-13A	06/19/2007	5.5000	mg/L
Sodium, dissolved	MW-13A	09/19/2007	5.4000	mg/L
Sodium, dissolved	MW-13A	12/19/2007	4.9000	mg/L
Sodium, dissolved	MW-13A	03/25/2008	5.5000	mg/L
Sodium, dissolved	MW-13A	06/18/2008	5.5000	mg/L
Sodium, dissolved	MW-13A	09/17/2008	5.2000	mg/L
Sodium, dissolved	MW-13A	12/17/2008	5.5000	mg/L
Sodium, dissolved	MW-13A	03/24/2009	5.3000	mg/L
Sodium, dissolved	MW-13A	06/17/2009	5.4000	mg/L
Sodium, dissolved	MW-13A	09/10/2009	5.2000	mg/L
Sodium, dissolved	MW-13A	12/03/2009	5.6000	mg/L
Sodium, dissolved	MW-13A	03/25/2010	6.1000	mg/L
Sodium, dissolved	MW-13A	06/23/2010	5.7000	mg/L
Sodium, dissolved	MW-13A	09/23/2010	5.0000	mg/L
Sodium, dissolved	MW-13A	12/08/2010	5.2000	mg/L
Sodium, dissolved	MW-13A	03/30/2011	5.4000	mg/L
Sodium, dissolved	MW-13A	06/06/2011	5.4000	mg/L
Sodium, dissolved	MW-13A	09/27/2011	5.6000	mg/L
Sodium, dissolved	MW-13A	12/14/2011	5.5000	mg/L
Sodium, dissolved	MW-13A	03/21/2012	5.3000	mg/L
Sodium, dissolved	MW-13A	06/08/2012	5.2000	mg/L
Sodium, dissolved	MW-13A	09/26/2012	5.2000	mg/L
Sodium, dissolved	MW-13A	12/03/2012	5.5000	mg/L
Sodium, dissolved	MW-13A	03/11/2013	5.7000	mg/L
Sodium, dissolved	MW-13A	06/05/2013	5.6000	mg/L
Sodium, dissolved	MW-13A	12/03/2013	5.5000	mg/L
Sodium, dissolved	MW-13A	03/04/2014	5.4000	mg/L
Sodium, dissolved	MW-13A	06/02/2014	5.2000	mg/L
Sodium, dissolved	MW-13A	09/22/2014	5.2000	mg/L
Sodium, dissolved	MW-13A	11/17/2014	5.4000	mg/L
Sodium, dissolved	MW-13A	02/23/2015	5.2000	mg/L
Sodium, dissolved	MW-13A	05/19/2015	5.5000	mg/L
Sodium, dissolved	MW-13A	08/26/2015	5.3000	mg/L
Sodium, dissolved	MW-13A	11/10/2015	5.4000	mg/L
Sodium, dissolved	MW-13A	02/22/2016	5.9000	mg/L
Sodium, dissolved	MW-13A	05/16/2016	5.5000	mg/L
Sodium, dissolved	MW-13A	08/31/2016	5.4000	mg/L
Sodium, dissolved	MW-13A	11/14/2016	5.4000	mg/L
Sodium, dissolved	MW-13A	02/22/2017	5.4000	mg/L
Sodium, dissolved	MW-13A	05/24/2017	7.7000	mg/L
Sodium, dissolved	MW-13A	08/30/2017	5.4000	mg/L
Sodium, dissolved	MW-13A	11/13/2017	5.1000	mg/L
Sodium, dissolved	MW-13A	02/20/2018	4.6000	mg/L
Sodium, dissolved	MW-13A	05/15/2018	4.8000	mg/L
Sodium, dissolved	MW-13A	08/21/2018	4.9000	mg/L
Sodium, dissolved	MW-13A	11/12/2018	5.2000	mg/L
Sodium, dissolved	MW-13A	11/11/2019	5.0000	mg/L
Sodium, dissolved	MW-13B	03/22/2005	5.3000	mg/L
Sodium, dissolved	MW-13B	06/15/2005	4.8000	mg/L
Sodium, dissolved	MW-13B	09/27/2005	5.0000	mg/L
Sodium, dissolved	MW-13B	12/15/2005	4.8000	mg/L
Sodium, dissolved	MW-13B	03/29/2006	4.9000	mg/L
Sodium, dissolved	MW-13B	06/21/2006	5.0000	mg/L
Sodium, dissolved	MW-13B	09/26/2006	5.5000	mg/L
Sodium, dissolved	MW-13B	12/13/2006	4.8000	mg/L
Sodium, dissolved	MW-13B	03/27/2007	5.2000	mg/L
Sodium, dissolved	MW-13B	06/19/2007	5.2000	mg/L
Sodium, dissolved	MW-13B	09/18/2007	5.2000	mg/L
Sodium, dissolved	MW-13B	12/19/2007	4.9000	mg/L
Sodium, dissolved	MW-13B	03/25/2008	5.3000	mg/L
Sodium, dissolved	MW-13B	06/18/2008	5.3000	mg/L
Sodium, dissolved	MW-13B	09/17/2008	5.0000	mg/L
Sodium, dissolved	MW-13B	12/16/2008	5.1000	mg/L
Sodium, dissolved	MW-13B	03/24/2009	5.1000	mg/L
Sodium, dissolved	MW-13B	06/17/2009	5.3000	mg/L
Sodium, dissolved	MW-13B	09/10/2009	5.1000	mg/L
Sodium, dissolved	MW-13B	12/03/2009	5.3000	mg/L
Sodium, dissolved	MW-13B	03/25/2010	5.3000	mg/L
Sodium, dissolved	MW-13B	06/23/2010	5.3000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Sodium, dissolved	MW-13B	09/23/2010	4.8000	mg/L
Sodium, dissolved	MW-13B	12/08/2010	5.6000	mg/L
Sodium, dissolved	MW-13B	03/30/2011	5.1000	mg/L
Sodium, dissolved	MW-13B	06/06/2011	5.2000	mg/L
Sodium, dissolved	MW-13B	09/27/2011	5.2000	mg/L
Sodium, dissolved	MW-13B	12/14/2011	5.1000	mg/L
Sodium, dissolved	MW-13B	03/21/2012	4.9000	mg/L
Sodium, dissolved	MW-13B	06/08/2012	5.1000	mg/L
Sodium, dissolved	MW-13B	09/26/2012	5.0000	mg/L
Sodium, dissolved	MW-13B	12/03/2012	5.7000	mg/L
Sodium, dissolved	MW-13B	03/11/2013	5.3000	mg/L
Sodium, dissolved	MW-13B	06/05/2013	5.4000	mg/L
Sodium, dissolved	MW-13B	12/03/2013	5.4000	mg/L
Sodium, dissolved	MW-13B	03/04/2014	5.1000	mg/L
Sodium, dissolved	MW-13B	06/02/2014	4.9000	mg/L
Sodium, dissolved	MW-13B	09/22/2014	5.0000	mg/L
Sodium, dissolved	MW-13B	11/17/2014	5.3000	mg/L
Sodium, dissolved	MW-13B	02/23/2015	5.0000	mg/L
Sodium, dissolved	MW-13B	05/19/2015	5.5000	mg/L
Sodium, dissolved	MW-13B	08/26/2015	5.2000	mg/L
Sodium, dissolved	MW-13B	11/10/2015	5.2000	mg/L
Sodium, dissolved	MW-13B	02/22/2016	5.8000	mg/L
Sodium, dissolved	MW-13B	05/16/2016	5.2000	mg/L
Sodium, dissolved	MW-13B	08/31/2016	5.8000	mg/L
Sodium, dissolved	MW-13B	11/14/2016	5.1000	mg/L
Sodium, dissolved	MW-13B	02/22/2017	4.9000	mg/L
Sodium, dissolved	MW-13B	05/24/2017	5.4000	mg/L
Sodium, dissolved	MW-13B	08/30/2017	5.4000	mg/L
Sodium, dissolved	MW-13B	11/13/2017	5.1000	mg/L
Sodium, dissolved	MW-13B	02/20/2018	5.0000	mg/L
Sodium, dissolved	MW-13B	05/15/2018	4.6000	mg/L
Sodium, dissolved	MW-13B	08/21/2018	5.1000	mg/L
Sodium, dissolved	MW-13B	11/12/2018	5.3000	mg/L
Sodium, dissolved	MW-13B	11/11/2019	5.0000	mg/L
Sodium, dissolved	MW-16	03/24/2009	5.4000	mg/L
Sodium, dissolved	MW-16	06/16/2009	5.3000	mg/L
Sodium, dissolved	MW-16	09/09/2009	5.4000	mg/L
Sodium, dissolved	MW-16	12/03/2009	6.2000	mg/L
Sodium, dissolved	MW-16	03/25/2010	4.9000	mg/L
Sodium, dissolved	MW-16	06/24/2010	5.7000	mg/L
Sodium, dissolved	MW-16	09/24/2010	5.7000	mg/L
Sodium, dissolved	MW-16	12/09/2010	5.2000	mg/L
Sodium, dissolved	MW-16	03/30/2011	4.7000	mg/L
Sodium, dissolved	MW-16	06/07/2011	5.0000	mg/L
Sodium, dissolved	MW-16	09/27/2011	5.8000	mg/L
Sodium, dissolved	MW-16	12/13/2011	5.3000	mg/L
Sodium, dissolved	MW-16	03/21/2012	4.7000	mg/L
Sodium, dissolved	MW-16	06/08/2012	4.8000	mg/L
Sodium, dissolved	MW-16	09/27/2012	5.4000	mg/L
Sodium, dissolved	MW-16	12/04/2012	4.7000	mg/L
Sodium, dissolved	MW-16	03/12/2013	5.1000	mg/L
Sodium, dissolved	MW-16	06/04/2013	5.3000	mg/L
Sodium, dissolved	MW-16	09/05/2013	6.2000	mg/L
Sodium, dissolved	MW-16	12/16/2013	5.7000	mg/L
Sodium, dissolved	MW-16	03/05/2014	4.9000	mg/L
Sodium, dissolved	MW-16	06/02/2014	4.5000	mg/L
Sodium, dissolved	MW-16	09/22/2014	4.9000	mg/L
Sodium, dissolved	MW-16	11/18/2014	4.8000	mg/L
Sodium, dissolved	MW-16	02/23/2015	4.7000	mg/L
Sodium, dissolved	MW-16	05/20/2015	4.6000	mg/L
Sodium, dissolved	MW-16	08/26/2015	4.9000	mg/L
Sodium, dissolved	MW-16	11/11/2015	5.7000	mg/L
Sodium, dissolved	MW-16	02/24/2016	4.4000	mg/L
Sodium, dissolved	MW-16	05/16/2016	4.8000	mg/L
Sodium, dissolved	MW-16	08/31/2016	5.4000	mg/L
Sodium, dissolved	MW-16	11/14/2016	5.0000	mg/L
Sodium, dissolved	MW-16	02/22/2017	4.2000	mg/L
Sodium, dissolved	MW-16	05/24/2017	4.4000	mg/L
Sodium, dissolved	MW-16	08/30/2017	4.9000	mg/L
Sodium, dissolved	MW-16	11/13/2017	4.9000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Sodium, dissolved	MW-16	02/20/2018		4.2000	mg/L
Sodium, dissolved	MW-16	05/17/2018		4.2000	mg/L
Sodium, dissolved	MW-16	08/22/2018		4.4000	mg/L
Sodium, dissolved	MW-16	11/12/2018		5.1000	mg/L
Sodium, dissolved	MW-16	11/12/2019		5.5000	mg/L
Sodium, dissolved	MW-35	03/22/2005		5.1000	mg/L
Sodium, dissolved	MW-35	06/14/2005		4.5000	mg/L
Sodium, dissolved	MW-35	09/27/2005		5.1000	mg/L
Sodium, dissolved	MW-35	12/15/2005		4.6000	mg/L
Sodium, dissolved	MW-35	03/28/2006		5.0000	mg/L
Sodium, dissolved	MW-35	06/21/2006		4.9000	mg/L
Sodium, dissolved	MW-35	09/26/2006		5.1000	mg/L
Sodium, dissolved	MW-35	12/12/2006		4.7000	mg/L
Sodium, dissolved	MW-35	03/27/2007		5.1000	mg/L
Sodium, dissolved	MW-35	06/20/2007		5.2000	mg/L
Sodium, dissolved	MW-35	09/18/2007		5.2000	mg/L
Sodium, dissolved	MW-35	12/20/2007		4.8000	mg/L
Sodium, dissolved	MW-35	03/25/2008		5.1000	mg/L
Sodium, dissolved	MW-35	06/18/2008		4.9000	mg/L
Sodium, dissolved	MW-35	09/18/2008		4.8000	mg/L
Sodium, dissolved	MW-35	12/19/2008		4.7000	mg/L
Sodium, dissolved	MW-35	03/24/2009		5.0000	mg/L
Sodium, dissolved	MW-35	06/16/2009		5.1000	mg/L
Sodium, dissolved	MW-35	09/10/2009		4.9000	mg/L
Sodium, dissolved	MW-35	12/03/2009		5.3000	mg/L
Sodium, dissolved	MW-35	03/25/2010		5.0000	mg/L
Sodium, dissolved	MW-35	06/23/2010		5.1000	mg/L
Sodium, dissolved	MW-35	09/23/2010		4.7000	mg/L
Sodium, dissolved	MW-35	12/09/2010		4.8000	mg/L
Sodium, dissolved	MW-35	03/30/2011		4.9000	mg/L
Sodium, dissolved	MW-35	06/06/2011		5.1000	mg/L
Sodium, dissolved	MW-35	09/26/2011		5.2000	mg/L
Sodium, dissolved	MW-35	12/13/2011		5.1000	mg/L
Sodium, dissolved	MW-35	03/21/2012		5.0000	mg/L
Sodium, dissolved	MW-35	06/06/2012		4.8000	mg/L
Sodium, dissolved	MW-35	09/26/2012		4.9000	mg/L
Sodium, dissolved	MW-35	12/04/2012		4.5000	mg/L
Sodium, dissolved	MW-35	03/13/2013		4.9000	mg/L
Sodium, dissolved	MW-35	06/06/2013		4.9000	mg/L
Sodium, dissolved	MW-35	09/05/2013		4.9000	mg/L
Sodium, dissolved	MW-35	12/16/2013		5.9000	mg/L
Sodium, dissolved	MW-35	03/04/2014		5.1000	mg/L
Sodium, dissolved	MW-35	06/02/2014		4.9000	mg/L
Sodium, dissolved	MW-35	09/22/2014		5.1000	mg/L
Sodium, dissolved	MW-35	11/17/2014		5.2000	mg/L
Sodium, dissolved	MW-35	02/25/2015		5.2000	mg/L
Sodium, dissolved	MW-35	05/19/2015		4.8000	mg/L
Sodium, dissolved	MW-35	08/26/2015		5.1000	mg/L
Sodium, dissolved	MW-35	11/10/2015		5.5000	mg/L
Sodium, dissolved	MW-35	02/22/2016		5.6000	mg/L
Sodium, dissolved	MW-35	05/16/2016		5.2000	mg/L
Sodium, dissolved	MW-35	08/31/2016		5.1000	mg/L
Sodium, dissolved	MW-35	11/15/2016		6.3000	mg/L
Sodium, dissolved	MW-35	02/22/2017		4.9000	mg/L
Sodium, dissolved	MW-35	05/24/2017		5.0000	mg/L
Sodium, dissolved	MW-35	08/30/2017		5.4000	mg/L
Sodium, dissolved	MW-35	11/15/2017		5.0000	mg/L
Sodium, dissolved	MW-35	02/20/2018		4.8000	mg/L
Sodium, dissolved	MW-35	05/17/2018		4.8000	mg/L
Sodium, dissolved	MW-35	08/22/2018		4.8000	mg/L
Sodium, dissolved	MW-35	11/12/2018		5.2000	mg/L
Sodium, dissolved	MW-35	11/12/2019		5.6000	mg/L
Specific conductivity	MW-13A	03/22/2005		0.1580	mS/cm
Specific conductivity	MW-13A	06/15/2005		0.1670	mS/cm
Specific conductivity	MW-13A	09/27/2005		0.1610	mS/cm
Specific conductivity	MW-13A	12/15/2005		0.1590	mS/cm
Specific conductivity	MW-13A	03/28/2006		0.1520	mS/cm
Specific conductivity	MW-13A	06/21/2006		0.1690	mS/cm
Specific conductivity	MW-13A	09/26/2006		0.1710	mS/cm
Specific conductivity	MW-13A	12/13/2006		0.1700	mS/cm

* = outlier for that constituent/well
 ND = not detected; result = detection limit

**TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits**

Specific conductivity	MW-13A	03/27/2007		0.1670	mS/cm
Specific conductivity	MW-13A	09/19/2007		0.1670	mS/cm
Specific conductivity	MW-13A	12/19/2007		0.1690	mS/cm
Specific conductivity	MW-13A	03/25/2008		0.1660	mS/cm
Specific conductivity	MW-13A	06/18/2008		0.1700	mS/cm
Specific conductivity	MW-13A	09/17/2008		0.1680	mS/cm
Specific conductivity	MW-13A	12/17/2008		0.1390	mS/cm
Specific conductivity	MW-13A	03/24/2009		0.1680	mS/cm
Specific conductivity	MW-13A	06/17/2009		0.1740	mS/cm
Specific conductivity	MW-13A	12/03/2009		0.1730	mS/cm
Specific conductivity	MW-13A	03/25/2010		0.0930	mS/cm
Specific conductivity	MW-13A	06/23/2010		0.1450	mS/cm
Specific conductivity	MW-13A	09/23/2010		0.1700	mS/cm
Specific conductivity	MW-13A	12/08/2010		0.0700	mS/cm
Specific conductivity	MW-13A	03/30/2011		0.1510	mS/cm
Specific conductivity	MW-13A	06/06/2011		0.1580	mS/cm
Specific conductivity	MW-13A	09/27/2011		0.1580	mS/cm
Specific conductivity	MW-13A	12/14/2011		0.1760	mS/cm
Specific conductivity	MW-13A	03/21/2012		0.1710	mS/cm
Specific conductivity	MW-13A	06/08/2012		0.1800	mS/cm
Specific conductivity	MW-13A	09/26/2012		0.1500	mS/cm
Specific conductivity	MW-13A	12/03/2012		0.1070	mS/cm
Specific conductivity	MW-13A	03/11/2013		0.1450	mS/cm
Specific conductivity	MW-13A	06/05/2013		0.1470	mS/cm
Specific conductivity	MW-13A	12/03/2013		0.1560	mS/cm
Specific conductivity	MW-13A	03/04/2014		0.1410	mS/cm
Specific conductivity	MW-13A	06/02/2014		0.1540	mS/cm
Specific conductivity	MW-13A	09/22/2014		0.1660	mS/cm
Specific conductivity	MW-13A	11/17/2014		0.1720	mS/cm
Specific conductivity	MW-13A	02/23/2015		0.1650	mS/cm
Specific conductivity	MW-13A	05/19/2015		0.1640	mS/cm
Specific conductivity	MW-13A	08/26/2015		0.1660	mS/cm
Specific conductivity	MW-13A	11/10/2015		0.1690	mS/cm
Specific conductivity	MW-13A	02/22/2016		0.1770	mS/cm
Specific conductivity	MW-13A	05/16/2016		0.1690	mS/cm
Specific conductivity	MW-13A	08/31/2016		0.1710	mS/cm
Specific conductivity	MW-13A	11/14/2016		0.1690	mS/cm
Specific conductivity	MW-13A	02/22/2017		0.1700	mS/cm
Specific conductivity	MW-13A	05/24/2017		0.1750	mS/cm
Specific conductivity	MW-13A	08/30/2017		0.1750	mS/cm
Specific conductivity	MW-13A	11/13/2017		0.1710	mS/cm
Specific conductivity	MW-13A	02/20/2018		0.1700	mS/cm
Specific conductivity	MW-13A	05/15/2018		0.1700	mS/cm
Specific conductivity	MW-13A	08/21/2018		0.1710	mS/cm
Specific conductivity	MW-13A	11/12/2018		0.1690	mS/cm
Specific conductivity	MW-13A	05/28/2019		0.1690	mS/cm
Specific conductivity	MW-13A	11/11/2019		0.1690	mS/cm
Specific conductivity	MW-13B	03/22/2005		0.1550	mS/cm
Specific conductivity	MW-13B	06/15/2005		0.1650	mS/cm
Specific conductivity	MW-13B	09/27/2005		0.1590	mS/cm
Specific conductivity	MW-13B	12/15/2005		0.1570	mS/cm
Specific conductivity	MW-13B	03/29/2006		0.1510	mS/cm
Specific conductivity	MW-13B	06/21/2006		0.1650	mS/cm
Specific conductivity	MW-13B	09/26/2006		0.1680	mS/cm
Specific conductivity	MW-13B	12/13/2006		0.1650	mS/cm
Specific conductivity	MW-13B	03/27/2007		0.1610	mS/cm
Specific conductivity	MW-13B	09/18/2007		0.1680	mS/cm
Specific conductivity	MW-13B	12/19/2007		0.1640	mS/cm
Specific conductivity	MW-13B	03/25/2008		0.1620	mS/cm
Specific conductivity	MW-13B	06/18/2008		0.1650	mS/cm
Specific conductivity	MW-13B	09/17/2008		0.1640	mS/cm
Specific conductivity	MW-13B	12/16/2008		0.1630	mS/cm
Specific conductivity	MW-13B	03/24/2009		0.1670	mS/cm
Specific conductivity	MW-13B	06/17/2009		0.1690	mS/cm
Specific conductivity	MW-13B	12/03/2009		0.1670	mS/cm
Specific conductivity	MW-13B	03/25/2010		0.0900	mS/cm
Specific conductivity	MW-13B	06/23/2010		0.1410	mS/cm
Specific conductivity	MW-13B	09/23/2010		0.1620	mS/cm
Specific conductivity	MW-13B	12/08/2010		0.0730	mS/cm
Specific conductivity	MW-13B	03/30/2011		0.1440	mS/cm

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Specific conductivity	MW-13B	06/06/2011		0.1350	mS/cm
Specific conductivity	MW-13B	09/27/2011		0.1510	mS/cm
Specific conductivity	MW-13B	12/14/2011		0.1690	mS/cm
Specific conductivity	MW-13B	03/21/2012		0.1650	mS/cm
Specific conductivity	MW-13B	06/08/2012		0.1750	mS/cm
Specific conductivity	MW-13B	09/26/2012		0.1480	mS/cm
Specific conductivity	MW-13B	12/03/2012		0.1400	mS/cm
Specific conductivity	MW-13B	03/11/2013		0.1440	mS/cm
Specific conductivity	MW-13B	06/05/2013		0.1440	mS/cm
Specific conductivity	MW-13B	12/03/2013		0.1540	mS/cm
Specific conductivity	MW-13B	03/04/2014		0.1390	mS/cm
Specific conductivity	MW-13B	06/02/2014		0.1540	mS/cm
Specific conductivity	MW-13B	09/22/2014		0.1670	mS/cm
Specific conductivity	MW-13B	11/17/2014		0.1720	mS/cm
Specific conductivity	MW-13B	02/23/2015		0.1640	mS/cm
Specific conductivity	MW-13B	05/19/2015		0.1650	mS/cm
Specific conductivity	MW-13B	08/26/2015		0.1640	mS/cm
Specific conductivity	MW-13B	11/10/2015		0.1690	mS/cm
Specific conductivity	MW-13B	02/22/2016		0.1760	mS/cm
Specific conductivity	MW-13B	05/16/2016		0.1680	mS/cm
Specific conductivity	MW-13B	08/31/2016		0.1710	mS/cm
Specific conductivity	MW-13B	11/14/2016		0.1710	mS/cm
Specific conductivity	MW-13B	02/22/2017		0.1710	mS/cm
Specific conductivity	MW-13B	05/24/2017		0.1750	mS/cm
Specific conductivity	MW-13B	08/30/2017		0.1780	mS/cm
Specific conductivity	MW-13B	11/13/2017		0.1700	mS/cm
Specific conductivity	MW-13B	02/20/2018		0.1700	mS/cm
Specific conductivity	MW-13B	05/15/2018		0.1710	mS/cm
Specific conductivity	MW-13B	08/21/2018		0.1750	mS/cm
Specific conductivity	MW-13B	11/12/2018		0.1740	mS/cm
Specific conductivity	MW-13B	05/28/2019		0.1760	mS/cm
Specific conductivity	MW-13B	11/11/2019		0.1750	mS/cm
Specific conductivity	MW-16	03/24/2009		0.1350	mS/cm
Specific conductivity	MW-16	06/16/2009		0.1230	mS/cm
Specific conductivity	MW-16	12/03/2009		0.1600	mS/cm
Specific conductivity	MW-16	03/25/2010		0.1180	mS/cm
Specific conductivity	MW-16	06/24/2010		0.1550	mS/cm
Specific conductivity	MW-16	09/24/2010		0.1480	mS/cm
Specific conductivity	MW-16	12/09/2010		0.1500	mS/cm
Specific conductivity	MW-16	03/30/2011		0.1020	mS/cm
Specific conductivity	MW-16	06/07/2011		0.0960	mS/cm
Specific conductivity	MW-16	09/27/2011		0.0680	mS/cm
Specific conductivity	MW-16	12/13/2011		0.1200	mS/cm
Specific conductivity	MW-16	03/21/2012		0.0790	mS/cm
Specific conductivity	MW-16	06/08/2012		0.1180	mS/cm
Specific conductivity	MW-16	09/27/2012		0.1060	mS/cm
Specific conductivity	MW-16	12/04/2012		0.0850	mS/cm
Specific conductivity	MW-16	03/12/2013		0.1180	mS/cm
Specific conductivity	MW-16	06/04/2013		0.1030	mS/cm
Specific conductivity	MW-16	09/05/2013		0.1100	mS/cm
Specific conductivity	MW-16	12/16/2013		0.0960	mS/cm
Specific conductivity	MW-16	03/05/2014		0.0990	mS/cm
Specific conductivity	MW-16	06/02/2014		0.0940	mS/cm
Specific conductivity	MW-16	09/22/2014		0.1220	mS/cm
Specific conductivity	MW-16	11/18/2014		0.1260	mS/cm
Specific conductivity	MW-16	02/23/2015		0.0800	mS/cm
Specific conductivity	MW-16	05/20/2015		0.1010	mS/cm
Specific conductivity	MW-16	08/26/2015		0.0970	mS/cm
Specific conductivity	MW-16	11/11/2015		0.1360	mS/cm
Specific conductivity	MW-16	02/24/2016		0.0910	mS/cm
Specific conductivity	MW-16	05/16/2016		0.1020	mS/cm
Specific conductivity	MW-16	08/31/2016		0.1230	mS/cm
Specific conductivity	MW-16	11/14/2016		0.1100	mS/cm
Specific conductivity	MW-16	02/22/2017		0.0970	mS/cm
Specific conductivity	MW-16	05/24/2017		0.0470	mS/cm
Specific conductivity	MW-16	08/30/2017		0.1140	mS/cm
Specific conductivity	MW-16	11/13/2017		0.1040	mS/cm
Specific conductivity	MW-16	02/20/2018		0.0950	mS/cm
Specific conductivity	MW-16	05/17/2018		0.0970	mS/cm
Specific conductivity	MW-16	08/22/2018		0.1060	mS/cm

* = outlier for that constituent/well
 ND = not detected; result = detection limit

**TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits**

Specific conductivity	MW-16	11/12/2018		0.1120	mS/cm
Specific conductivity	MW-16	05/29/2019		0.1080	mS/cm
Specific conductivity	MW-16	11/12/2019		0.1360	mS/cm
Specific conductivity	MW-35	03/22/2005		0.1430	mS/cm
Specific conductivity	MW-35	06/14/2005		0.1530	mS/cm
Specific conductivity	MW-35	09/27/2005		0.1480	mS/cm
Specific conductivity	MW-35	12/15/2005		0.1450	mS/cm
Specific conductivity	MW-35	03/28/2006		0.1360	mS/cm
Specific conductivity	MW-35	06/21/2006		0.1520	mS/cm
Specific conductivity	MW-35	09/26/2006		0.1550	mS/cm
Specific conductivity	MW-35	12/12/2006		0.1510	mS/cm
Specific conductivity	MW-35	03/27/2007		0.1480	mS/cm
Specific conductivity	MW-35	09/18/2007		0.1520	mS/cm
Specific conductivity	MW-35	12/20/2007		0.1520	mS/cm
Specific conductivity	MW-35	03/25/2008		0.1470	mS/cm
Specific conductivity	MW-35	06/18/2008		0.1510	mS/cm
Specific conductivity	MW-35	09/18/2008		0.1420	mS/cm
Specific conductivity	MW-35	12/19/2008		0.1440	mS/cm
Specific conductivity	MW-35	03/24/2009		0.1500	mS/cm
Specific conductivity	MW-35	06/16/2009		0.1550	mS/cm
Specific conductivity	MW-35	12/03/2009		0.1520	mS/cm
Specific conductivity	MW-35	03/25/2010		0.0840	mS/cm
Specific conductivity	MW-35	06/23/2010		0.1280	mS/cm
Specific conductivity	MW-35	09/23/2010		0.1510	mS/cm
Specific conductivity	MW-35	12/09/2010		0.1500	mS/cm
Specific conductivity	MW-35	03/30/2011		0.1320	mS/cm
Specific conductivity	MW-35	06/06/2011		0.1230	mS/cm
Specific conductivity	MW-35	09/26/2011		0.1310	mS/cm
Specific conductivity	MW-35	12/13/2011		0.1480	mS/cm
Specific conductivity	MW-35	03/21/2012		0.1520	mS/cm
Specific conductivity	MW-35	06/06/2012		0.1380	mS/cm
Specific conductivity	MW-35	09/26/2012		0.1350	mS/cm
Specific conductivity	MW-35	12/04/2012		0.1480	mS/cm
Specific conductivity	MW-35	03/13/2013		0.1320	mS/cm
Specific conductivity	MW-35	06/06/2013		0.1330	mS/cm
Specific conductivity	MW-35	09/05/2013		0.1320	mS/cm
Specific conductivity	MW-35	12/16/2013		0.1210	mS/cm
Specific conductivity	MW-35	03/04/2014		0.1290	mS/cm
Specific conductivity	MW-35	06/02/2014		0.1400	mS/cm
Specific conductivity	MW-35	09/22/2014		0.1610	mS/cm
Specific conductivity	MW-35	11/17/2014		0.1600	mS/cm
Specific conductivity	MW-35	02/25/2015		0.1520	mS/cm
Specific conductivity	MW-35	05/19/2015		0.1350	mS/cm
Specific conductivity	MW-35	08/26/2015		0.1530	mS/cm
Specific conductivity	MW-35	11/10/2015		0.1560	mS/cm
Specific conductivity	MW-35	02/22/2016		0.1640	mS/cm
Specific conductivity	MW-35	05/16/2016		0.1560	mS/cm
Specific conductivity	MW-35	08/31/2016		0.1590	mS/cm
Specific conductivity	MW-35	11/15/2016		0.1580	mS/cm
Specific conductivity	MW-35	02/22/2017		0.1610	mS/cm
Specific conductivity	MW-35	05/24/2017		0.1660	mS/cm
Specific conductivity	MW-35	08/30/2017		0.1670	mS/cm
Specific conductivity	MW-35	11/15/2017		0.1610	mS/cm
Specific conductivity	MW-35	02/20/2018		0.1610	mS/cm
Specific conductivity	MW-35	05/17/2018		0.1640	mS/cm
Specific conductivity	MW-35	08/22/2018		0.1600	mS/cm
Specific conductivity	MW-35	11/12/2018		0.1640	mS/cm
Specific conductivity	MW-35	05/29/2019		0.1690	mS/cm
Specific conductivity	MW-35	11/12/2019		0.1660	mS/cm
Sulfate	MW-13A	03/22/2005		2.8000	mg/L
Sulfate	MW-13A	06/15/2005		2.9000	mg/L
Sulfate	MW-13A	09/27/2005		3.2000	mg/L
Sulfate	MW-13A	12/15/2005		2.1000	mg/L
Sulfate	MW-13A	03/28/2006		3.2000	mg/L
Sulfate	MW-13A	06/21/2006		3.1000	mg/L
Sulfate	MW-13A	09/26/2006		2.5000	mg/L
Sulfate	MW-13A	12/13/2006		2.3000	mg/L
Sulfate	MW-13A	03/27/2007		2.5000	mg/L
Sulfate	MW-13A	06/19/2007		2.5000	mg/L
Sulfate	MW-13A	09/19/2007		2.5000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Sulfate	MW-13A	12/19/2007		2.5000	mg/L
Sulfate	MW-13A	03/25/2008		2.4000	mg/L
Sulfate	MW-13A	06/18/2008		2.6000	mg/L
Sulfate	MW-13A	09/17/2008		2.4000	mg/L
Sulfate	MW-13A	12/17/2008		2.4000	mg/L
Sulfate	MW-13A	03/24/2009		2.5000	mg/L
Sulfate	MW-13A	06/17/2009		2.1000	mg/L
Sulfate	MW-13A	09/10/2009		2.2000	mg/L
Sulfate	MW-13A	12/03/2009		2.3000	mg/L
Sulfate	MW-13A	03/25/2010		2.3000	mg/L
Sulfate	MW-13A	06/23/2010		2.1000	mg/L
Sulfate	MW-13A	09/23/2010		2.3000	mg/L
Sulfate	MW-13A	12/08/2010		3.7000	mg/L
Sulfate	MW-13A	03/30/2011		2.2000	mg/L
Sulfate	MW-13A	06/06/2011		2.2000	mg/L
Sulfate	MW-13A	09/27/2011		2.3000	mg/L
Sulfate	MW-13A	12/14/2011		2.5000	mg/L
Sulfate	MW-13A	03/21/2012		1.9000	mg/L
Sulfate	MW-13A	06/08/2012		2.1000	mg/L
Sulfate	MW-13A	09/26/2012		2.1000	mg/L
Sulfate	MW-13A	12/03/2012		2.2000	mg/L
Sulfate	MW-13A	03/11/2013		1.9000	mg/L
Sulfate	MW-13A	06/05/2013		1.7000	mg/L
Sulfate	MW-13A	12/03/2013		1.6000	mg/L
Sulfate	MW-13A	03/04/2014		2.1000	mg/L
Sulfate	MW-13A	06/02/2014		2.2000	mg/L
Sulfate	MW-13A	09/22/2014		2.2000	mg/L
Sulfate	MW-13A	11/17/2014		2.1000	mg/L
Sulfate	MW-13A	02/23/2015		2.1000	mg/L
Sulfate	MW-13A	05/19/2015		2.1000	mg/L
Sulfate	MW-13A	08/26/2015		2.3000	mg/L
Sulfate	MW-13A	11/10/2015		2.1000	mg/L
Sulfate	MW-13A	02/22/2016		2.1000	mg/L
Sulfate	MW-13A	05/16/2016		2.2000	mg/L
Sulfate	MW-13A	08/31/2016		2.3000	mg/L
Sulfate	MW-13A	11/14/2016		2.0000	mg/L
Sulfate	MW-13A	02/22/2017		2.0000	mg/L
Sulfate	MW-13A	05/24/2017		2.1000	mg/L
Sulfate	MW-13A	08/30/2017		1.8000	mg/L
Sulfate	MW-13A	11/13/2017		1.8000	mg/L
Sulfate	MW-13A	02/20/2018		2.1000	mg/L
Sulfate	MW-13A	05/15/2018		2.0000	mg/L
Sulfate	MW-13A	08/21/2018		1.8000	mg/L
Sulfate	MW-13A	11/12/2018		2.1000	mg/L
Sulfate	MW-13A	11/11/2019	ND	5.0000	mg/L
Sulfate	MW-13B	03/22/2005		4.6000	mg/L
Sulfate	MW-13B	06/15/2005		4.7000	mg/L
Sulfate	MW-13B	09/27/2005		4.5000	mg/L
Sulfate	MW-13B	12/15/2005		3.6000	mg/L
Sulfate	MW-13B	03/29/2006		4.5000	mg/L
Sulfate	MW-13B	06/21/2006		4.4000	mg/L
Sulfate	MW-13B	09/26/2006		4.1000	mg/L
Sulfate	MW-13B	12/13/2006		3.9000	mg/L
Sulfate	MW-13B	03/27/2007		4.1000	mg/L
Sulfate	MW-13B	06/19/2007		4.1000	mg/L
Sulfate	MW-13B	09/18/2007		4.2000	mg/L
Sulfate	MW-13B	12/19/2007		4.1000	mg/L
Sulfate	MW-13B	03/25/2008		4.0000	mg/L
Sulfate	MW-13B	06/18/2008		4.1000	mg/L
Sulfate	MW-13B	09/17/2008		4.2000	mg/L
Sulfate	MW-13B	12/16/2008		4.2000	mg/L
Sulfate	MW-13B	03/24/2009		4.2000	mg/L
Sulfate	MW-13B	06/17/2009		3.7000	mg/L
Sulfate	MW-13B	09/10/2009		3.7000	mg/L
Sulfate	MW-13B	12/03/2009		4.1000	mg/L
Sulfate	MW-13B	03/25/2010		3.9000	mg/L
Sulfate	MW-13B	06/23/2010		3.6000	mg/L
Sulfate	MW-13B	09/23/2010		3.8000	mg/L
Sulfate	MW-13B	12/08/2010		2.4000	mg/L
Sulfate	MW-13B	03/30/2011		4.4000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Sulfate	MW-13B	06/06/2011		3.7000	mg/L
Sulfate	MW-13B	09/27/2011		3.7000	mg/L
Sulfate	MW-13B	12/14/2011		3.5000	mg/L
Sulfate	MW-13B	03/21/2012		3.2000	mg/L
Sulfate	MW-13B	06/08/2012		3.5000	mg/L
Sulfate	MW-13B	09/26/2012		3.6000	mg/L
Sulfate	MW-13B	12/03/2012		3.5000	mg/L
Sulfate	MW-13B	03/11/2013		3.0000	mg/L
Sulfate	MW-13B	06/05/2013		3.5000	mg/L
Sulfate	MW-13B	12/03/2013		3.1000	mg/L
Sulfate	MW-13B	03/04/2014		3.7000	mg/L
Sulfate	MW-13B	06/02/2014		3.6000	mg/L
Sulfate	MW-13B	09/22/2014		4.1000	mg/L
Sulfate	MW-13B	11/17/2014		3.7000	mg/L
Sulfate	MW-13B	02/23/2015		3.4000	mg/L
Sulfate	MW-13B	05/19/2015		3.1000	mg/L
Sulfate	MW-13B	08/26/2015		3.7000	mg/L
Sulfate	MW-13B	11/10/2015		3.2000	mg/L
Sulfate	MW-13B	02/22/2016		3.4000	mg/L
Sulfate	MW-13B	05/16/2016		3.5000	mg/L
Sulfate	MW-13B	08/31/2016		3.7000	mg/L
Sulfate	MW-13B	11/14/2016		3.0000	mg/L
Sulfate	MW-13B	02/22/2017		3.5000	mg/L
Sulfate	MW-13B	05/24/2017		3.4000	mg/L
Sulfate	MW-13B	08/30/2017		3.8000	mg/L
Sulfate	MW-13B	11/13/2017		2.9000	mg/L
Sulfate	MW-13B	02/20/2018		3.0000	mg/L
Sulfate	MW-13B	05/15/2018		3.1000	mg/L
Sulfate	MW-13B	08/21/2018		2.9000	mg/L
Sulfate	MW-13B	11/12/2018		3.0000	mg/L
Sulfate	MW-13B	11/11/2019	ND	5.0000	mg/L
Sulfate	MW-16	03/24/2009		3.0000	mg/L
Sulfate	MW-16	06/16/2009		2.2000	mg/L
Sulfate	MW-16	09/09/2009		4.3000	mg/L
Sulfate	MW-16	12/03/2009		3.6000	mg/L
Sulfate	MW-16	03/25/2010		9.9000	mg/L
Sulfate	MW-16	06/24/2010		2.5000	mg/L
Sulfate	MW-16	09/24/2010		2.3000	mg/L
Sulfate	MW-16	12/09/2010		2.7000	mg/L
Sulfate	MW-16	03/30/2011		7.1000	mg/L
Sulfate	MW-16	06/07/2011		2.4000	mg/L
Sulfate	MW-16	09/27/2011		4.1000	mg/L
Sulfate	MW-16	12/13/2011		2.3000	mg/L
Sulfate	MW-16	03/21/2012		1.6000	mg/L
Sulfate	MW-16	06/08/2012		3.0000	mg/L
Sulfate	MW-16	09/27/2012		3.1000	mg/L
Sulfate	MW-16	12/04/2012		3.0000	mg/L
Sulfate	MW-16	03/12/2013		1.9000	mg/L
Sulfate	MW-16	06/04/2013		2.7000	mg/L
Sulfate	MW-16	09/05/2013		1.7000	mg/L
Sulfate	MW-16	12/16/2013		2.3000	mg/L
Sulfate	MW-16	03/05/2014		2.8000	mg/L
Sulfate	MW-16	06/02/2014		3.8000	mg/L
Sulfate	MW-16	09/22/2014		2.9000	mg/L
Sulfate	MW-16	11/18/2014		3.3000	mg/L
Sulfate	MW-16	02/23/2015		2.9000	mg/L
Sulfate	MW-16	05/20/2015		2.1000	mg/L
Sulfate	MW-16	08/26/2015		3.4000	mg/L
Sulfate	MW-16	11/11/2015		2.8000	mg/L
Sulfate	MW-16	02/24/2016		2.9000	mg/L
Sulfate	MW-16	05/16/2016		2.6000	mg/L
Sulfate	MW-16	08/31/2016		1.7000	mg/L
Sulfate	MW-16	11/14/2016		1.6000	mg/L
Sulfate	MW-16	02/22/2017		2.5000	mg/L
Sulfate	MW-16	05/24/2017		2.7000	mg/L
Sulfate	MW-16	08/30/2017		1.6000	mg/L
Sulfate	MW-16	11/13/2017		1.0000	mg/L
Sulfate	MW-16	02/20/2018		2.2000	mg/L
Sulfate	MW-16	05/17/2018		2.3000	mg/L
Sulfate	MW-16	08/22/2018		2.1000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Sulfate	MW-16	11/12/2018		1.6000	mg/L
Sulfate	MW-16	11/12/2019	ND	5.0000	mg/L
Sulfate	MW-35	03/22/2005		2.5000	mg/L
Sulfate	MW-35	06/14/2005		1.6000	mg/L
Sulfate	MW-35	09/27/2005		1.3000	mg/L
Sulfate	MW-35	12/15/2005	ND	1.0000	mg/L
Sulfate	MW-35	03/28/2006		3.0000	mg/L
Sulfate	MW-35	06/21/2006		3.0000	mg/L
Sulfate	MW-35	09/26/2006		2.4000	mg/L
Sulfate	MW-35	12/12/2006		2.2000	mg/L
Sulfate	MW-35	03/27/2007		2.5000	mg/L
Sulfate	MW-35	06/20/2007		2.4000	mg/L
Sulfate	MW-35	09/18/2007		2.6000	mg/L
Sulfate	MW-35	12/20/2007		2.4000	mg/L
Sulfate	MW-35	03/25/2008		2.4000	mg/L
Sulfate	MW-35	06/18/2008		2.6000	mg/L
Sulfate	MW-35	09/18/2008		2.3000	mg/L
Sulfate	MW-35	12/19/2008		2.6000	mg/L
Sulfate	MW-35	03/24/2009		2.7000	mg/L
Sulfate	MW-35	06/16/2009		2.2000	mg/L
Sulfate	MW-35	09/10/2009		2.4000	mg/L
Sulfate	MW-35	12/03/2009		2.5000	mg/L
Sulfate	MW-35	03/25/2010		2.6000	mg/L
Sulfate	MW-35	06/23/2010		2.3000	mg/L
Sulfate	MW-35	09/23/2010		2.5000	mg/L
Sulfate	MW-35	12/09/2010		2.2000	mg/L
Sulfate	MW-35	03/30/2011		2.6000	mg/L
Sulfate	MW-35	06/06/2011		2.5000	mg/L
Sulfate	MW-35	09/26/2011		2.6000	mg/L
Sulfate	MW-35	12/13/2011		2.5000	mg/L
Sulfate	MW-35	03/21/2012		2.1000	mg/L
Sulfate	MW-35	06/06/2012		2.4000	mg/L
Sulfate	MW-35	09/26/2012		2.4000	mg/L
Sulfate	MW-35	12/04/2012		2.5000	mg/L
Sulfate	MW-35	03/13/2013		2.3000	mg/L
Sulfate	MW-35	06/06/2013		2.0000	mg/L
Sulfate	MW-35	09/05/2013		2.1000	mg/L
Sulfate	MW-35	12/16/2013		2.6000	mg/L
Sulfate	MW-35	03/04/2014		2.7000	mg/L
Sulfate	MW-35	06/02/2014		2.5000	mg/L
Sulfate	MW-35	09/22/2014		3.2000	mg/L
Sulfate	MW-35	11/17/2014		2.5000	mg/L
Sulfate	MW-35	02/25/2015		2.4000	mg/L
Sulfate	MW-35	05/19/2015		2.3000	mg/L
Sulfate	MW-35	08/26/2015		2.4000	mg/L
Sulfate	MW-35	11/10/2015		2.5000	mg/L
Sulfate	MW-35	02/22/2016		2.6000	mg/L
Sulfate	MW-35	05/16/2016		2.5000	mg/L
Sulfate	MW-35	08/31/2016		2.8000	mg/L
Sulfate	MW-35	11/15/2016		2.2000	mg/L
Sulfate	MW-35	02/22/2017		2.5000	mg/L
Sulfate	MW-35	05/24/2017		2.3000	mg/L
Sulfate	MW-35	08/30/2017		2.2000	mg/L
Sulfate	MW-35	11/15/2017		2.8000	mg/L
Sulfate	MW-35	02/20/2018		2.3000	mg/L
Sulfate	MW-35	05/17/2018		2.2000	mg/L
Sulfate	MW-35	08/22/2018		2.6000	mg/L
Sulfate	MW-35	11/12/2018		2.3000	mg/L
Sulfate	MW-35	11/12/2019	ND	5.0000	mg/L
Temperature	MW-13A	03/22/2005		9.0800	deg C
Temperature	MW-13A	06/15/2005		9.3700	deg C
Temperature	MW-13A	09/27/2005		9.6500	deg C
Temperature	MW-13A	12/15/2005		8.6000	deg C
Temperature	MW-13A	03/28/2006		9.4400	deg C
Temperature	MW-13A	06/21/2006		9.4100	deg C
Temperature	MW-13A	09/26/2006		9.7100	deg C
Temperature	MW-13A	12/13/2006		8.7900	deg C
Temperature	MW-13A	03/27/2007		9.1400	deg C
Temperature	MW-13A	09/19/2007		9.2600	deg C
Temperature	MW-13A	12/19/2007		8.1700	deg C

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Temperature	MW-13A	03/25/2008	8.4700	deg C
Temperature	MW-13A	06/18/2008	9.3000	deg C
Temperature	MW-13A	09/17/2008	8.8000	deg C
Temperature	MW-13A	12/17/2008	8.7500	deg C
Temperature	MW-13A	03/24/2009	8.3200	deg C
Temperature	MW-13A	06/17/2009	9.8500	deg C
Temperature	MW-13A	12/03/2009	8.9200	deg C
Temperature	MW-13A	03/25/2010	9.2200	deg C
Temperature	MW-13A	06/23/2010	9.5800	deg C
Temperature	MW-13A	09/23/2010	9.4200	deg C
Temperature	MW-13A	12/08/2010	9.4500	deg C
Temperature	MW-13A	03/30/2011	9.3700	deg C
Temperature	MW-13A	06/06/2011	10.4000	deg C
Temperature	MW-13A	09/27/2011	9.5800	deg C
Temperature	MW-13A	12/14/2011	8.9200	deg C
Temperature	MW-13A	03/21/2012	8.7400	deg C
Temperature	MW-13A	06/08/2012	9.3000	deg C
Temperature	MW-13A	09/26/2012	10.0400	deg C
Temperature	MW-13A	12/03/2012	9.2000	deg C
Temperature	MW-13A	03/11/2013	9.2200	deg C
Temperature	MW-13A	06/05/2013	11.9600	deg C
Temperature	MW-13A	12/03/2013	8.9300	deg C
Temperature	MW-13A	03/04/2014	8.9800	deg C
Temperature	MW-13A	06/02/2014	11.1500	deg C
Temperature	MW-13A	09/22/2014	10.5800	deg C
Temperature	MW-13A	11/17/2014	9.4000	deg C
Temperature	MW-13A	02/23/2015	9.4100	deg C
Temperature	MW-13A	05/19/2015	9.8900	deg C
Temperature	MW-13A	08/26/2015	10.6900	deg C
Temperature	MW-13A	11/10/2015	9.4900	deg C
Temperature	MW-13A	02/22/2016	9.5900	deg C
Temperature	MW-13A	05/16/2016	9.7700	deg C
Temperature	MW-13A	08/31/2016	9.9800	deg C
Temperature	MW-13A	11/14/2016	9.5700	deg C
Temperature	MW-13A	02/22/2017	9.1100	deg C
Temperature	MW-13A	05/24/2017	4.5900	deg C
Temperature	MW-13A	08/30/2017	9.8500	deg C
Temperature	MW-13A	11/13/2017	9.4100	deg C
Temperature	MW-13A	02/20/2018	9.0700	deg C
Temperature	MW-13A	05/15/2018	9.6300	deg C
Temperature	MW-13A	08/21/2018	9.5800	deg C
Temperature	MW-13A	11/12/2018	9.5000	deg C
Temperature	MW-13A	05/28/2019	9.5000	deg C
Temperature	MW-13A	11/11/2019	9.2400	deg C
Temperature	MW-13B	03/22/2005	9.5500	deg C
Temperature	MW-13B	06/15/2005	9.9200	deg C
Temperature	MW-13B	09/27/2005	10.7900	deg C
Temperature	MW-13B	12/15/2005	8.1100	deg C
Temperature	MW-13B	03/29/2006	8.8000	deg C
Temperature	MW-13B	06/21/2006	9.7600	deg C
Temperature	MW-13B	09/26/2006	10.3200	deg C
Temperature	MW-13B	12/13/2006	8.8500	deg C
Temperature	MW-13B	03/27/2007	9.0400	deg C
Temperature	MW-13B	09/18/2007	10.0100	deg C
Temperature	MW-13B	12/19/2007	8.0800	deg C
Temperature	MW-13B	03/25/2008	8.0900	deg C
Temperature	MW-13B	06/18/2008	9.2300	deg C
Temperature	MW-13B	09/17/2008	9.0100	deg C
Temperature	MW-13B	12/16/2008	8.4300	deg C
Temperature	MW-13B	03/24/2009	8.3700	deg C
Temperature	MW-13B	06/17/2009	10.8100	deg C
Temperature	MW-13B	12/03/2009	8.7900	deg C
Temperature	MW-13B	03/25/2010	9.2300	deg C
Temperature	MW-13B	06/23/2010	9.9700	deg C
Temperature	MW-13B	09/23/2010	9.6000	deg C
Temperature	MW-13B	12/08/2010	9.2500	deg C
Temperature	MW-13B	03/30/2011	9.3200	deg C
Temperature	MW-13B	06/06/2011	11.3000	deg C
Temperature	MW-13B	09/27/2011	10.5700	deg C
Temperature	MW-13B	12/14/2011	8.7600	deg C

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Temperature	MW-13B	03/21/2012	8.5000	deg C
Temperature	MW-13B	06/08/2012	9.4000	deg C
Temperature	MW-13B	09/26/2012	10.5900	deg C
Temperature	MW-13B	12/03/2012	9.2000	deg C
Temperature	MW-13B	03/11/2013	9.1500	deg C
Temperature	MW-13B	06/05/2013	11.4100	deg C
Temperature	MW-13B	12/03/2013	9.4400	deg C
Temperature	MW-13B	03/04/2014	9.0000	deg C
Temperature	MW-13B	06/02/2014	14.3200	deg C
Temperature	MW-13B	09/22/2014	11.0200	deg C
Temperature	MW-13B	11/17/2014	9.4000	deg C
Temperature	MW-13B	02/23/2015	9.7600	deg C
Temperature	MW-13B	05/19/2015	10.2300	deg C
Temperature	MW-13B	08/26/2015	10.5300	deg C
Temperature	MW-13B	11/10/2015	9.5900	deg C
Temperature	MW-13B	02/22/2016	9.3000	deg C
Temperature	MW-13B	05/16/2016	9.9300	deg C
Temperature	MW-13B	08/31/2016	10.4300	deg C
Temperature	MW-13B	11/14/2016	10.4100	deg C
Temperature	MW-13B	02/22/2017	9.0600	deg C
Temperature	MW-13B	05/24/2017	9.7600	deg C
Temperature	MW-13B	08/30/2017	10.2700	deg C
Temperature	MW-13B	11/13/2017	9.5400	deg C
Temperature	MW-13B	02/20/2018	8.8200	deg C
Temperature	MW-13B	05/15/2018	9.9800	deg C
Temperature	MW-13B	08/21/2018	10.1400	deg C
Temperature	MW-13B	11/12/2018	10.0000	deg C
Temperature	MW-13B	05/28/2019	10.1300	deg C
Temperature	MW-13B	11/11/2019	9.6600	deg C
Temperature	MW-16	03/24/2009	9.0800	deg C
Temperature	MW-16	06/16/2009	9.9800	deg C
Temperature	MW-16	12/03/2009	9.0800	deg C
Temperature	MW-16	03/25/2010	9.1100	deg C
Temperature	MW-16	06/24/2010	9.3900	deg C
Temperature	MW-16	09/24/2010	9.4400	deg C
Temperature	MW-16	12/09/2010	9.1300	deg C
Temperature	MW-16	03/30/2011	9.1400	deg C
Temperature	MW-16	06/07/2011	9.4600	deg C
Temperature	MW-16	09/27/2011	9.4300	deg C
Temperature	MW-16	12/13/2011	8.8400	deg C
Temperature	MW-16	03/21/2012	8.8200	deg C
Temperature	MW-16	06/08/2012	9.2000	deg C
Temperature	MW-16	09/27/2012	9.0600	deg C
Temperature	MW-16	12/04/2012	9.1000	deg C
Temperature	MW-16	03/12/2013	9.0200	deg C
Temperature	MW-16	06/04/2013	9.4700	deg C
Temperature	MW-16	09/05/2013	9.3600	deg C
Temperature	MW-16	12/16/2013	9.0400	deg C
Temperature	MW-16	03/05/2014	9.4000	deg C
Temperature	MW-16	06/02/2014	9.5600	deg C
Temperature	MW-16	09/22/2014	10.7300	deg C
Temperature	MW-16	11/18/2014	8.9000	deg C
Temperature	MW-16	02/23/2015	9.0200	deg C
Temperature	MW-16	05/20/2015	9.3000	deg C
Temperature	MW-16	08/26/2015	9.4800	deg C
Temperature	MW-16	11/11/2015	9.0100	deg C
Temperature	MW-16	02/24/2016	9.0200	deg C
Temperature	MW-16	05/16/2016	9.3800	deg C
Temperature	MW-16	08/31/2016	9.6600	deg C
Temperature	MW-16	11/14/2016	9.8100	deg C
Temperature	MW-16	02/22/2017	9.0100	deg C
Temperature	MW-16	05/24/2017	9.3500	deg C
Temperature	MW-16	08/30/2017	9.7000	deg C
Temperature	MW-16	11/13/2017	9.3000	deg C
Temperature	MW-16	02/20/2018	8.8600	deg C
Temperature	MW-16	05/17/2018	9.3600	deg C
Temperature	MW-16	08/22/2018	9.8600	deg C
Temperature	MW-16	11/12/2018	9.6000	deg C
Temperature	MW-16	05/29/2019	9.6500	deg C
Temperature	MW-16	11/12/2019	8.9500	deg C

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Temperature	MW-35	03/22/2005		9.8000	deg C
Temperature	MW-35	06/14/2005		10.2800	deg C
Temperature	MW-35	09/27/2005		10.4900	deg C
Temperature	MW-35	12/15/2005		8.8600	deg C
Temperature	MW-35	03/28/2006		9.5300	deg C
Temperature	MW-35	06/21/2006		10.3100	deg C
Temperature	MW-35	09/26/2006		10.6200	deg C
Temperature	MW-35	12/12/2006		9.2600	deg C
Temperature	MW-35	03/27/2007		9.4000	deg C
Temperature	MW-35	09/18/2007		10.2400	deg C
Temperature	MW-35	12/20/2007		8.6900	deg C
Temperature	MW-35	03/25/2008		8.7500	deg C
Temperature	MW-35	06/18/2008		9.7300	deg C
Temperature	MW-35	09/18/2008		9.9800	deg C
Temperature	MW-35	12/19/2008		8.5000	deg C
Temperature	MW-35	03/24/2009		9.3200	deg C
Temperature	MW-35	06/16/2009		11.7600	deg C
Temperature	MW-35	12/03/2009		9.5700	deg C
Temperature	MW-35	03/25/2010		9.8200	deg C
Temperature	MW-35	06/23/2010		10.0700	deg C
Temperature	MW-35	09/23/2010		10.0900	deg C
Temperature	MW-35	12/09/2010		9.8500	deg C
Temperature	MW-35	03/30/2011		9.7200	deg C
Temperature	MW-35	06/06/2011		10.2000	deg C
Temperature	MW-35	09/26/2011		10.1400	deg C
Temperature	MW-35	12/13/2011		9.4100	deg C
Temperature	MW-35	03/21/2012		9.7800	deg C
Temperature	MW-35	06/06/2012		10.3000	deg C
Temperature	MW-35	09/26/2012		10.2000	deg C
Temperature	MW-35	12/04/2012		9.8000	deg C
Temperature	MW-35	03/13/2013		9.7500	deg C
Temperature	MW-35	06/06/2013		10.8300	deg C
Temperature	MW-35	09/05/2013		10.0900	deg C
Temperature	MW-35	12/16/2013		9.8400	deg C
Temperature	MW-35	03/04/2014		9.7600	deg C
Temperature	MW-35	06/02/2014		11.7900	deg C
Temperature	MW-35	09/22/2014		13.7000	deg C
Temperature	MW-35	11/17/2014		10.4000	deg C
Temperature	MW-35	02/25/2015		9.9000	deg C
Temperature	MW-35	05/19/2015		10.3000	deg C
Temperature	MW-35	08/26/2015		13.0900	deg C
Temperature	MW-35	11/10/2015		10.3400	deg C
Temperature	MW-35	02/22/2016		10.3100	deg C
Temperature	MW-35	05/16/2016		10.1200	deg C
Temperature	MW-35	08/31/2016		10.7800	deg C
Temperature	MW-35	11/15/2016		10.4100	deg C
Temperature	MW-35	02/22/2017		9.9500	deg C
Temperature	MW-35	05/24/2017		9.9900	deg C
Temperature	MW-35	08/30/2017		11.6300	deg C
Temperature	MW-35	11/15/2017		9.8300	deg C
Temperature	MW-35	02/20/2018		9.5200	deg C
Temperature	MW-35	05/17/2018		10.0700	deg C
Temperature	MW-35	08/22/2018		10.4800	deg C
Temperature	MW-35	11/12/2018		10.3000	deg C
Temperature	MW-35	05/29/2019		10.4200	deg C
Temperature	MW-35	11/12/2019		9.7300	deg C
Thallium, total	MW-13A	12/03/2013	ND	0.0010	mg/L
Thallium, total	MW-13A	03/04/2014	ND	0.0010	mg/L
Thallium, total	MW-13A	06/02/2014	ND	0.0010	mg/L
Thallium, total	MW-13A	09/22/2014	ND	0.0010	mg/L
Thallium, total	MW-13A	11/17/2014	ND	0.0010	mg/L
Thallium, total	MW-13A	02/23/2015	ND	0.0010	mg/L
Thallium, total	MW-13A	05/19/2015	ND	0.0010	mg/L
Thallium, total	MW-13A	08/26/2015	ND	0.0010	mg/L
Thallium, total	MW-13A	11/10/2015	ND	0.0010	mg/L
Thallium, total	MW-13A	02/22/2016	ND	0.0010	mg/L
Thallium, total	MW-13A	05/16/2016	ND	0.0010	mg/L
Thallium, total	MW-13A	08/31/2016	ND	0.0010	mg/L
Thallium, total	MW-13A	11/14/2016	ND	0.0010	mg/L
Thallium, total	MW-13A	02/22/2017	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Thallium, total	MW-13A	05/24/2017	ND	0.0010	mg/L
Thallium, total	MW-13A	08/30/2017	ND	0.0010	mg/L
Thallium, total	MW-13A	11/13/2017	ND	0.0010	mg/L
Thallium, total	MW-13A	02/20/2018	ND	0.0010	mg/L
Thallium, total	MW-13A	05/15/2018	ND	0.0010	mg/L
Thallium, total	MW-13A	08/21/2018	ND	0.0010	mg/L
Thallium, total	MW-13A	11/12/2018	ND	0.0010	mg/L
Thallium, total	MW-13A	11/11/2019	ND	0.0010	mg/L
Thallium, total	MW-13B	12/03/2013	ND	0.0010	mg/L
Thallium, total	MW-13B	03/04/2014	ND	0.0010	mg/L
Thallium, total	MW-13B	06/02/2014	ND	0.0010	mg/L
Thallium, total	MW-13B	09/22/2014	ND	0.0010	mg/L
Thallium, total	MW-13B	11/17/2014	ND	0.0010	mg/L
Thallium, total	MW-13B	02/23/2015	ND	0.0010	mg/L
Thallium, total	MW-13B	05/19/2015	ND	0.0010	mg/L
Thallium, total	MW-13B	08/26/2015	ND	0.0010	mg/L
Thallium, total	MW-13B	11/10/2015	ND	0.0010	mg/L
Thallium, total	MW-13B	02/22/2016	ND	0.0010	mg/L
Thallium, total	MW-13B	05/16/2016	ND	0.0010	mg/L
Thallium, total	MW-13B	08/31/2016	ND	0.0010	mg/L
Thallium, total	MW-13B	11/14/2016	ND	0.0010	mg/L
Thallium, total	MW-13B	02/22/2017	ND	0.0010	mg/L
Thallium, total	MW-13B	05/24/2017	ND	0.0010	mg/L
Thallium, total	MW-13B	08/30/2017	ND	0.0010	mg/L
Thallium, total	MW-13B	11/13/2017	ND	0.0010	mg/L
Thallium, total	MW-13B	02/20/2018	ND	0.0010	mg/L
Thallium, total	MW-13B	05/15/2018	ND	0.0010	mg/L
Thallium, total	MW-13B	08/21/2018	ND	0.0010	mg/L
Thallium, total	MW-13B	11/12/2018	ND	0.0010	mg/L
Thallium, total	MW-13B	11/11/2019	ND	0.0010	mg/L
Thallium, total	MW-16	09/05/2013	ND	0.0010	mg/L
Thallium, total	MW-16	12/16/2013	ND	0.0010	mg/L
Thallium, total	MW-16	03/05/2014	ND	0.0010	mg/L
Thallium, total	MW-16	06/02/2014	ND	0.0010	mg/L
Thallium, total	MW-16	09/22/2014	ND	0.0010	mg/L
Thallium, total	MW-16	11/18/2014	ND	0.0010	mg/L
Thallium, total	MW-16	02/23/2015	ND	0.0010	mg/L
Thallium, total	MW-16	05/20/2015	ND	0.0010	mg/L
Thallium, total	MW-16	08/26/2015	ND	0.0010	mg/L
Thallium, total	MW-16	11/11/2015	ND	0.0010	mg/L
Thallium, total	MW-16	02/24/2016	ND	0.0010	mg/L
Thallium, total	MW-16	05/16/2016	ND	0.0010	mg/L
Thallium, total	MW-16	08/31/2016	ND	0.0010	mg/L
Thallium, total	MW-16	11/14/2016	ND	0.0010	mg/L
Thallium, total	MW-16	02/22/2017	ND	0.0010	mg/L
Thallium, total	MW-16	05/24/2017	ND	0.0010	mg/L
Thallium, total	MW-16	08/30/2017	ND	0.0010	mg/L
Thallium, total	MW-16	11/13/2017	ND	0.0010	mg/L
Thallium, total	MW-16	02/20/2018	ND	0.0010	mg/L
Thallium, total	MW-16	05/17/2018	ND	0.0010	mg/L
Thallium, total	MW-16	08/22/2018	ND	0.0010	mg/L
Thallium, total	MW-16	11/12/2018	ND	0.0010	mg/L
Thallium, total	MW-16	11/12/2019	ND	0.0010	mg/L
Thallium, total	MW-35	09/05/2013	ND	0.0010	mg/L
Thallium, total	MW-35	12/16/2013	ND	0.0010	mg/L
Thallium, total	MW-35	03/04/2014	ND	0.0010	mg/L
Thallium, total	MW-35	06/02/2014	ND	0.0010	mg/L
Thallium, total	MW-35	09/22/2014	ND	0.0010	mg/L
Thallium, total	MW-35	11/17/2014	ND	0.0010	mg/L
Thallium, total	MW-35	02/25/2015	ND	0.0010	mg/L
Thallium, total	MW-35	05/19/2015	ND	0.0010	mg/L
Thallium, total	MW-35	08/26/2015	ND	0.0010	mg/L
Thallium, total	MW-35	11/10/2015	ND	0.0010	mg/L
Thallium, total	MW-35	02/22/2016	ND	0.0010	mg/L
Thallium, total	MW-35	05/16/2016	ND	0.0010	mg/L
Thallium, total	MW-35	08/31/2016	ND	0.0010	mg/L
Thallium, total	MW-35	11/15/2016	ND	0.0010	mg/L
Thallium, total	MW-35	02/22/2017	ND	0.0010	mg/L
Thallium, total	MW-35	05/24/2017	ND	0.0010	mg/L
Thallium, total	MW-35	08/30/2017	ND	0.0010	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Thallium, total	MW-35	11/15/2017	ND	0.0010	mg/L
Thallium, total	MW-35	02/20/2018	ND	0.0010	mg/L
Thallium, total	MW-35	05/17/2018	ND	0.0010	mg/L
Thallium, total	MW-35	08/22/2018	ND	0.0010	mg/L
Thallium, total	MW-35	11/12/2018	ND	0.0010	mg/L
Thallium, total	MW-35	11/12/2019	ND	0.0010	mg/L
Total dissolved solids (tds)	MW-13A	03/22/2005		113.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/15/2005		111.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/27/2005		175.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/15/2005		166.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/28/2006		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/21/2006		120.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/26/2006		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/13/2006		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/27/2007		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/19/2007		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/19/2007		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/19/2007		84.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/25/2008		99.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/18/2008		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/17/2008		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/17/2008		90.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/24/2009		95.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/17/2009		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/10/2009		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/03/2009		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/25/2010		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/23/2010		120.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/23/2010		98.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/08/2010		90.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/30/2011		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/06/2011		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/27/2011		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/14/2011		97.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/21/2012		93.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/08/2012		120.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/26/2012		120.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/03/2012		88.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/11/2013		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/05/2013		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	12/03/2013		98.0000	mg/L
Total dissolved solids (tds)	MW-13A	03/04/2014		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	06/02/2014		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	09/22/2014		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	11/17/2014		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	02/23/2015		99.0000	mg/L
Total dissolved solids (tds)	MW-13A	05/19/2015		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	08/26/2015		97.0000	mg/L
Total dissolved solids (tds)	MW-13A	11/10/2015		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	02/22/2016		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	05/16/2016		99.0000	mg/L
Total dissolved solids (tds)	MW-13A	08/31/2016		130.0000	mg/L
Total dissolved solids (tds)	MW-13A	11/14/2016		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	02/22/2017		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	05/24/2017		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	08/30/2017		100.0000	mg/L
Total dissolved solids (tds)	MW-13A	11/13/2017		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	02/20/2018		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	05/15/2018		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	08/21/2018		110.0000	mg/L
Total dissolved solids (tds)	MW-13A	11/12/2018		98.0000	mg/L
Total dissolved solids (tds)	MW-13A	11/11/2019		100.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/22/2005		108.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/15/2005		114.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/27/2005		111.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/15/2005		130.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/29/2006		89.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/21/2006		110.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/26/2006		100.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/13/2006		98.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Total dissolved solids (tds)	MW-13B	03/27/2007	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/19/2007	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/18/2007	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/19/2007	91.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/25/2008	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/18/2008	120.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/17/2008	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/16/2008	93.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/24/2009	94.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/17/2009	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/10/2009	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/03/2009	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/25/2010	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/23/2010	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/23/2010	94.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/08/2010	94.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/30/2011	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/06/2011	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/27/2011	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/14/2011	91.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/21/2012	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/08/2012	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/26/2012	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/03/2012	93.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/11/2013	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/05/2013	98.0000	mg/L
Total dissolved solids (tds)	MW-13B	12/03/2013	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	03/04/2014	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	06/02/2014	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	09/22/2014	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	11/17/2014	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	02/23/2015	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	05/19/2015	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	08/26/2015	98.0000	mg/L
Total dissolved solids (tds)	MW-13B	11/10/2015	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	02/22/2016	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	05/16/2016	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	08/31/2016	120.0000	mg/L
Total dissolved solids (tds)	MW-13B	11/14/2016	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	02/22/2017	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	05/24/2017	97.0000	mg/L
Total dissolved solids (tds)	MW-13B	08/30/2017	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	11/13/2017	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	02/20/2018	99.0000	mg/L
Total dissolved solids (tds)	MW-13B	05/15/2018	100.0000	mg/L
Total dissolved solids (tds)	MW-13B	08/21/2018	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	11/12/2018	110.0000	mg/L
Total dissolved solids (tds)	MW-13B	11/11/2019	100.0000	mg/L
Total dissolved solids (tds)	MW-16	03/24/2009	87.0000	mg/L
Total dissolved solids (tds)	MW-16	06/16/2009	85.0000	mg/L
Total dissolved solids (tds)	MW-16	09/09/2009	89.0000	mg/L
Total dissolved solids (tds)	MW-16	12/03/2009	97.0000	mg/L
Total dissolved solids (tds)	MW-16	03/25/2010	83.0000	mg/L
Total dissolved solids (tds)	MW-16	06/24/2010	95.0000	mg/L
Total dissolved solids (tds)	MW-16	09/24/2010	120.0000	mg/L
Total dissolved solids (tds)	MW-16	12/09/2010	100.0000	mg/L
Total dissolved solids (tds)	MW-16	03/30/2011	91.0000	mg/L
Total dissolved solids (tds)	MW-16	06/07/2011	94.0000	mg/L
Total dissolved solids (tds)	MW-16	09/27/2011	100.0000	mg/L
Total dissolved solids (tds)	MW-16	12/13/2011	93.0000	mg/L
Total dissolved solids (tds)	MW-16	03/21/2012	71.0000	mg/L
Total dissolved solids (tds)	MW-16	06/08/2012	95.0000	mg/L
Total dissolved solids (tds)	MW-16	09/27/2012	87.0000	mg/L
Total dissolved solids (tds)	MW-16	12/04/2012	100.0000	mg/L
Total dissolved solids (tds)	MW-16	03/12/2013	100.0000	mg/L
Total dissolved solids (tds)	MW-16	06/04/2013	68.0000	mg/L
Total dissolved solids (tds)	MW-16	09/05/2013	100.0000	mg/L
Total dissolved solids (tds)	MW-16	12/16/2013	92.0000	mg/L
Total dissolved solids (tds)	MW-16	03/05/2014	82.0000	mg/L
Total dissolved solids (tds)	MW-16	06/02/2014	79.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

**TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits**

Total dissolved solids (tds)	MW-16	09/22/2014	93.0000	mg/L
Total dissolved solids (tds)	MW-16	11/18/2014	100.0000	mg/L
Total dissolved solids (tds)	MW-16	02/23/2015	80.0000	mg/L
Total dissolved solids (tds)	MW-16	05/20/2015	99.0000	mg/L
Total dissolved solids (tds)	MW-16	08/26/2015	93.0000	mg/L
Total dissolved solids (tds)	MW-16	11/11/2015	99.0000	mg/L
Total dissolved solids (tds)	MW-16	02/24/2016	79.0000	mg/L
Total dissolved solids (tds)	MW-16	05/16/2016	83.0000	mg/L
Total dissolved solids (tds)	MW-16	08/31/2016	93.0000	mg/L
Total dissolved solids (tds)	MW-16	11/14/2016	86.0000	mg/L
Total dissolved solids (tds)	MW-16	02/22/2017	80.0000	mg/L
Total dissolved solids (tds)	MW-16	05/24/2017	93.0000	mg/L
Total dissolved solids (tds)	MW-16	08/30/2017	85.0000	mg/L
Total dissolved solids (tds)	MW-16	11/13/2017	80.0000	mg/L
Total dissolved solids (tds)	MW-16	02/20/2018	80.0000	mg/L
Total dissolved solids (tds)	MW-16	05/17/2018	65.0000	mg/L
Total dissolved solids (tds)	MW-16	08/22/2018	100.0000	mg/L
Total dissolved solids (tds)	MW-16	11/12/2018	81.0000	mg/L
Total dissolved solids (tds)	MW-16	11/12/2019	82.0000	mg/L
Total dissolved solids (tds)	MW-35	03/22/2005	100.0000	mg/L
Total dissolved solids (tds)	MW-35	06/14/2005	88.0000	mg/L
Total dissolved solids (tds)	MW-35	09/27/2005	123.0000	mg/L
Total dissolved solids (tds)	MW-35	12/15/2005	87.0000	mg/L
Total dissolved solids (tds)	MW-35	03/28/2006	91.0000	mg/L
Total dissolved solids (tds)	MW-35	06/21/2006	110.0000	mg/L
Total dissolved solids (tds)	MW-35	09/26/2006	110.0000	mg/L
Total dissolved solids (tds)	MW-35	12/12/2006	90.0000	mg/L
Total dissolved solids (tds)	MW-35	03/27/2007	93.0000	mg/L
Total dissolved solids (tds)	MW-35	06/20/2007	110.0000	mg/L
Total dissolved solids (tds)	MW-35	09/18/2007	90.0000	mg/L
Total dissolved solids (tds)	MW-35	12/20/2007	120.0000	mg/L
Total dissolved solids (tds)	MW-35	03/25/2008	76.0000	mg/L
Total dissolved solids (tds)	MW-35	06/18/2008	93.0000	mg/L
Total dissolved solids (tds)	MW-35	09/18/2008	92.0000	mg/L
Total dissolved solids (tds)	MW-35	12/19/2008	93.0000	mg/L
Total dissolved solids (tds)	MW-35	03/24/2009	84.0000	mg/L
Total dissolved solids (tds)	MW-35	06/16/2009	95.0000	mg/L
Total dissolved solids (tds)	MW-35	09/10/2009	83.0000	mg/L
Total dissolved solids (tds)	MW-35	12/03/2009	85.0000	mg/L
Total dissolved solids (tds)	MW-35	03/25/2010	96.0000	mg/L
Total dissolved solids (tds)	MW-35	06/23/2010	100.0000	mg/L
Total dissolved solids (tds)	MW-35	09/23/2010	86.0000	mg/L
Total dissolved solids (tds)	MW-35	12/09/2010	97.0000	mg/L
Total dissolved solids (tds)	MW-35	03/30/2011	91.0000	mg/L
Total dissolved solids (tds)	MW-35	06/06/2011	96.0000	mg/L
Total dissolved solids (tds)	MW-35	09/26/2011	100.0000	mg/L
Total dissolved solids (tds)	MW-35	12/13/2011	95.0000	mg/L
Total dissolved solids (tds)	MW-35	03/21/2012	85.0000	mg/L
Total dissolved solids (tds)	MW-35	06/06/2012	120.0000	mg/L
Total dissolved solids (tds)	MW-35	09/26/2012	110.0000	mg/L
Total dissolved solids (tds)	MW-35	12/04/2012	100.0000	mg/L
Total dissolved solids (tds)	MW-35	03/13/2013	96.0000	mg/L
Total dissolved solids (tds)	MW-35	06/06/2013	90.0000	mg/L
Total dissolved solids (tds)	MW-35	09/05/2013	100.0000	mg/L
Total dissolved solids (tds)	MW-35	12/16/2013	95.0000	mg/L
Total dissolved solids (tds)	MW-35	03/04/2014	94.0000	mg/L
Total dissolved solids (tds)	MW-35	06/02/2014	92.0000	mg/L
Total dissolved solids (tds)	MW-35	09/22/2014	99.0000	mg/L
Total dissolved solids (tds)	MW-35	11/17/2014	100.0000	mg/L
Total dissolved solids (tds)	MW-35	02/25/2015	93.0000	mg/L
Total dissolved solids (tds)	MW-35	05/19/2015	110.0000	mg/L
Total dissolved solids (tds)	MW-35	08/26/2015	99.0000	mg/L
Total dissolved solids (tds)	MW-35	11/10/2015	98.0000	mg/L
Total dissolved solids (tds)	MW-35	02/22/2016	93.0000	mg/L
Total dissolved solids (tds)	MW-35	05/16/2016	100.0000	mg/L
Total dissolved solids (tds)	MW-35	08/31/2016	95.0000	mg/L
Total dissolved solids (tds)	MW-35	11/15/2016	120.0000	mg/L
Total dissolved solids (tds)	MW-35	02/22/2017	100.0000	mg/L
Total dissolved solids (tds)	MW-35	05/24/2017	110.0000	mg/L
Total dissolved solids (tds)	MW-35	08/30/2017	99.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Total dissolved solids (tds)	MW-35	11/15/2017		100.0000	mg/L
Total dissolved solids (tds)	MW-35	02/20/2018		98.0000	mg/L
Total dissolved solids (tds)	MW-35	05/17/2018		92.0000	mg/L
Total dissolved solids (tds)	MW-35	08/22/2018		110.0000	mg/L
Total dissolved solids (tds)	MW-35	11/12/2018		100.0000	mg/L
Total dissolved solids (tds)	MW-35	11/12/2019		89.0000	mg/L
Total organic carbon (toc)	MW-13A	03/22/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/15/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/27/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/15/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/28/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/21/2006		2.2000	mg/L
Total organic carbon (toc)	MW-13A	09/26/2006		6.0000	mg/L
Total organic carbon (toc)	MW-13A	12/13/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/27/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/19/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/19/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/19/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/25/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/18/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/17/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/17/2008		1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/24/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/17/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/10/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/03/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/25/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/23/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/23/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/08/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/30/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/06/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/27/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/14/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/21/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/08/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/26/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/03/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/11/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/05/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	12/03/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	03/04/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	06/02/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	09/22/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	11/17/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	05/19/2015	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	02/22/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	05/16/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	08/31/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	11/14/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	02/22/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	05/24/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	08/30/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	11/13/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	02/20/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	05/15/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	08/21/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	11/12/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13A	11/11/2019	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/22/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/15/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/27/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/15/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/29/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/21/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/26/2006		4.8000	mg/L
Total organic carbon (toc)	MW-13B	12/13/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/27/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/19/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/18/2007	ND	1.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Total organic carbon (toc)	MW-13B	12/19/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/25/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/18/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/17/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/16/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/24/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/17/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/10/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/03/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/25/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/23/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/23/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/08/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/30/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/06/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/27/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/14/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/21/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/08/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/26/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/03/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/11/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/05/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	12/03/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	03/04/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	06/02/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	09/22/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	11/17/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	05/19/2015	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	02/22/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	05/16/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	08/31/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	11/14/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	02/22/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	05/24/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	08/30/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	11/13/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	02/20/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	05/15/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	08/21/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	11/12/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-13B	11/11/2019	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	03/24/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	06/16/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	09/09/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	12/03/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	03/25/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	06/24/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	09/24/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	12/09/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	03/30/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	06/07/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	09/27/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	12/13/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	03/21/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	06/08/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	09/27/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	12/04/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	03/12/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	06/04/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	09/05/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	12/16/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	03/05/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	06/02/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	09/22/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	11/18/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	05/20/2015	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	02/24/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	05/16/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	08/31/2016	ND	1.0000	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Total organic carbon (toc)	MW-16	11/14/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	02/22/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	05/24/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	08/30/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	11/13/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	02/20/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	05/17/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	08/22/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	11/12/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-16	11/12/2019	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/22/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/14/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/27/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/15/2005	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/28/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/21/2006		2.1000	mg/L
Total organic carbon (toc)	MW-35	09/26/2006		4.3000	mg/L
Total organic carbon (toc)	MW-35	12/12/2006	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/27/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/20/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/18/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/20/2007	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/25/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/18/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/18/2008	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/19/2008		1.0000	mg/L
Total organic carbon (toc)	MW-35	03/24/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/16/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/10/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/03/2009	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/25/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/23/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/23/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/09/2010	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/30/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/06/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/26/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/13/2011	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/21/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/06/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/26/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/04/2012	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/13/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/06/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/05/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	12/16/2013	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	03/04/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	06/02/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	09/22/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	11/17/2014	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	05/19/2015	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	02/22/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	05/16/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	08/31/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	11/15/2016	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	02/22/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	05/24/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	08/30/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	11/15/2017	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	02/20/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	05/17/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	08/22/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	11/12/2018	ND	1.0000	mg/L
Total organic carbon (toc)	MW-35	11/12/2019	ND	1.0000	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

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

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		0.0040	mg/L
Vanadium, total	MW-13A	02/22/2016		0.0040	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	0.0020	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-13A	11/11/2019		0.0022	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		0.0050	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-13B	11/11/2019		0.0034	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		0.0040	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		0.0030	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
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-16	11/12/2019		0.0036	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

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

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		0.0050	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		0.0040	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
Vanadium, total	MW-35	11/12/2019		0.0041	mg/L
Zinc, total	MW-13A	12/03/2013	ND	0.0050	mg/L
Zinc, total	MW-13A	03/04/2014	ND	0.0050	mg/L
Zinc, total	MW-13A	06/02/2014	ND	0.0050	mg/L
Zinc, total	MW-13A	09/22/2014	ND	0.0050	mg/L
Zinc, total	MW-13A	11/17/2014	ND	0.0050	mg/L
Zinc, total	MW-13A	02/23/2015	ND	0.0050	mg/L
Zinc, total	MW-13A	05/19/2015	ND	0.0050	mg/L
Zinc, total	MW-13A	08/26/2015	ND	0.0050	mg/L
Zinc, total	MW-13A	11/10/2015	ND	0.0050	mg/L
Zinc, total	MW-13A	02/22/2016	ND	0.0050	mg/L
Zinc, total	MW-13A	05/16/2016	ND	0.0050	mg/L
Zinc, total	MW-13A	08/31/2016	ND	0.0050	mg/L
Zinc, total	MW-13A	11/14/2016	ND	0.0050	mg/L
Zinc, total	MW-13A	02/22/2017	ND	0.0050	mg/L
Zinc, total	MW-13A	05/24/2017	ND	0.0050	mg/L
Zinc, total	MW-13A	08/30/2017	ND	0.0050	mg/L
Zinc, total	MW-13A	11/13/2017	ND	0.0050	mg/L
Zinc, total	MW-13A	02/20/2018	ND	0.0050	mg/L
Zinc, total	MW-13A	05/15/2018	ND	0.0050	mg/L
Zinc, total	MW-13A	08/21/2018	ND	0.0050	mg/L
Zinc, total	MW-13A	11/12/2018	ND	0.0050	mg/L
Zinc, total	MW-13A	11/11/2019	ND	0.0050	mg/L
Zinc, total	MW-13B	12/03/2013	ND	0.0050	mg/L
Zinc, total	MW-13B	03/04/2014	ND	0.0050	mg/L
Zinc, total	MW-13B	06/02/2014	ND	0.0050	mg/L
Zinc, total	MW-13B	09/22/2014	ND	0.0050	mg/L
Zinc, total	MW-13B	11/17/2014	ND	0.0050	mg/L
Zinc, total	MW-13B	02/23/2015	ND	0.0050	mg/L
Zinc, total	MW-13B	05/19/2015	ND	0.0050	mg/L
Zinc, total	MW-13B	08/26/2015	ND	0.0050	mg/L
Zinc, total	MW-13B	11/10/2015	ND	0.0050	mg/L
Zinc, total	MW-13B	02/22/2016	ND	0.0050	mg/L
Zinc, total	MW-13B	05/16/2016	ND	0.0050	mg/L
Zinc, total	MW-13B	08/31/2016	ND	0.0050	mg/L
Zinc, total	MW-13B	11/14/2016	ND	0.0050	mg/L
Zinc, total	MW-13B	02/22/2017	ND	0.0050	mg/L
Zinc, total	MW-13B	05/24/2017	ND	0.0050	mg/L
Zinc, total	MW-13B	08/30/2017	ND	0.0050	mg/L
Zinc, total	MW-13B	11/13/2017	ND	0.0050	mg/L
Zinc, total	MW-13B	02/20/2018	ND	0.0050	mg/L
Zinc, total	MW-13B	05/15/2018	ND	0.0050	mg/L
Zinc, total	MW-13B	08/21/2018	ND	0.0050	mg/L
Zinc, total	MW-13B	11/12/2018	ND	0.0050	mg/L
Zinc, total	MW-13B	11/11/2019	ND	0.0050	mg/L
Zinc, total	MW-16	09/05/2013	ND	0.0050	mg/L
Zinc, total	MW-16	12/16/2013	ND	0.0050	mg/L
Zinc, total	MW-16	03/05/2014	ND	0.0050	mg/L
Zinc, total	MW-16	06/02/2014	ND	0.0050	mg/L
Zinc, total	MW-16	09/22/2014	ND	0.0050	mg/L
Zinc, total	MW-16	11/18/2014	ND	0.0050	mg/L
Zinc, total	MW-16	02/23/2015	ND	0.0050	mg/L
Zinc, total	MW-16	05/20/2015	ND	0.0050	mg/L
Zinc, total	MW-16	08/26/2015	ND	0.0050	mg/L
Zinc, total	MW-16	11/11/2015	ND	0.0050	mg/L
Zinc, total	MW-16	02/24/2016	ND	0.0050	mg/L
Zinc, total	MW-16	05/16/2016	ND	0.0050	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-3
Upgradient Data Used to Calculate 2020 Prediction Limits

Zinc, total	MW-16	08/31/2016	ND	0.0050	mg/L
Zinc, total	MW-16	11/14/2016		0.0056	mg/L
Zinc, total	MW-16	02/22/2017	ND	0.0050	mg/L
Zinc, total	MW-16	05/24/2017	ND	0.0050	mg/L
Zinc, total	MW-16	08/30/2017	ND	0.0050	mg/L
Zinc, total	MW-16	11/13/2017	ND	0.0050	mg/L
Zinc, total	MW-16	02/20/2018	ND	0.0050	mg/L
Zinc, total	MW-16	05/17/2018	ND	0.0050	mg/L
Zinc, total	MW-16	08/22/2018	ND	0.0050	mg/L
Zinc, total	MW-16	11/12/2018	ND	0.0050	mg/L
Zinc, total	MW-16	11/12/2019	ND	0.0050	mg/L
Zinc, total	MW-35	09/05/2013	ND	0.0050	mg/L
Zinc, total	MW-35	12/16/2013	ND	0.0050	mg/L
Zinc, total	MW-35	03/04/2014	ND	0.0050	mg/L
Zinc, total	MW-35	06/02/2014	ND	0.0050	mg/L
Zinc, total	MW-35	09/22/2014	ND	0.0050	mg/L
Zinc, total	MW-35	11/17/2014	ND	0.0050	mg/L
Zinc, total	MW-35	02/25/2015	ND	0.0050	mg/L
Zinc, total	MW-35	05/19/2015	ND	0.0050	mg/L
Zinc, total	MW-35	08/26/2015	ND	0.0050	mg/L
Zinc, total	MW-35	11/10/2015	ND	0.0050	mg/L
Zinc, total	MW-35	02/22/2016	ND	0.0050	mg/L
Zinc, total	MW-35	05/16/2016	ND	0.0050	mg/L
Zinc, total	MW-35	08/31/2016	ND	0.0050	mg/L
Zinc, total	MW-35	11/15/2016	ND	0.0050	mg/L
Zinc, total	MW-35	02/22/2017	ND	0.0050	mg/L
Zinc, total	MW-35	05/24/2017	ND	0.0050	mg/L
Zinc, total	MW-35	08/30/2017	ND	0.0050	mg/L
Zinc, total	MW-35	11/15/2017	ND	0.0050	mg/L
Zinc, total	MW-35	02/20/2018	ND	0.0050	mg/L
Zinc, total	MW-35	05/17/2018	ND	0.0050	mg/L
Zinc, total	MW-35	08/22/2018	ND	0.0050	mg/L
Zinc, total	MW-35	11/12/2018	ND	0.0050	mg/L
Zinc, total	MW-35	11/12/2019	ND	0.0050	mg/L

* = outlier for that constituent/well
 ND = not detected; result = detection limit

TABLE 2-4
Shapiro-Wilk Multiple Group Test of Normality

Constituent	N (Detects)	N (Total)	Detection Frequency	G (raw)	G (log)	Critical Value	Distributional Form	Model Type
Alkalinity, bicarbonate (as caco3)	206	206	1.000	3.989	4.271	2.326	non-norm	nonpar
Alkalinity, total (as caco3)	210	210	1.000	3.773	3.886	2.326	non-norm	nonpar
Ammonia (as n)	72	205	0.351	6.107	0.736	2.326	lognor	nonpar
Antimony, total	3	90	0.033					nonpar
Arsenic, total	97	97	1.000	1.722	2.002	2.326	normal	normal
Barium, total	90	90	1.000	1.101	1.096	2.326	normal	normal
Beryllium, total	0	90	0.000					nonpar
Cadmium, total	0	90	0.000					nonpar
Calcium, dissolved	210	210	1.000	7.261	7.066	2.326	non-norm	nonpar
Chloride	202	210	0.962	6.876	5.156	2.326	non-norm	nonpar
Chromium, total	40	90	0.444	1.344	1.090	2.326	normal	nonpar
Cobalt, total	0	90	0.000					nonpar
Copper, total	1	90	0.011					nonpar
Iron, total	12	90	0.133	0.954	0.468	2.326	normal	nonpar
Lead, total	1	90	0.011					nonpar
Magnesium, dissolved	210	210	1.000	1.963	1.419	2.326	normal	normal
Manganese, total	25	90	0.278	4.080	0.955	2.326	lognor	nonpar
Nickel, total	1	90	0.011					nonpar
Nitrate (as n)	197	197	1.000	9.409	5.565	2.326	non-norm	nonpar
pH	205	205	1.000	0.771	0.983	2.326	normal	normal
Potassium, dissolved	14	210	0.067	2.153	1.799	2.326	normal	nonpar
Selenium, total	0	90	0.000					nonpar
Silver, total	0	90	0.000					nonpar
Sodium, dissolved	210	210	1.000	5.586	4.413	2.326	non-norm	nonpar
Specific conductivity	207	207	1.000	8.296	10.987	2.326	non-norm	nonpar
Sulfate	205	210	0.976	6.308	3.428	2.326	non-norm	nonpar
Temperature	207	207	1.000	7.980	7.391	2.326	non-norm	nonpar
Thallium, total	0	90	0.000					nonpar
Total dissolved solids (tds)	210	210	1.000	5.190	4.659	2.326	non-norm	nonpar
Total organic carbon (toc)	7	198	0.035	0.146	2.225	2.326	normal	nonpar
Vanadium, total	89	90	0.989	4.884	5.860	2.326	non-norm	nonpar
Zinc, total	1	90	0.011					nonpar

Fit to distribution is confirmed if $G \leq$ critical value.
 Model type may not match distributional form when detection frequency < 50%.
 Data in this table are based on pooled data shown in Table 2-3, outliers excluded

TABLE 2-5
COMPARISON OF UPDATED (2020) PREDICTION LIMITS†
TO PREVIOUS YEAR (2019) PREDICTION LIMITS
Olympic View Sanitary Landfill

Constituent	2019 Pred. Limit	unit	Distributional Assumption	Constituent	2020 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)	0.28	mg/L	nonparametric
Antimony, total	0.0013	mg/L	nonparametric	Antimony, total	0.0013	mg/L	nonparametric
Arsenic, total	0.478	ug/L	normal	Arsenic, total	0.481	ug/L	normal
Barium, total	0.0043	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	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	0.062	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)	1.6	mg/L	nonparametric
pH	5.83 - 8.19	units	normal	pH	5.81 - 8.18	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	0.0061	mg/L	nonparametric	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

- 2019 Annual Preliminary Groundwater Cleanup Goals Statistical Evaluation Summary (Table 3-1)

TABLE 3-1: 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-15R	Compliance	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-15R	Compliance	Arsenic, total	10	100%	0.269	0.24	ug/L	LN	0.462	ug/L	No	No
MW-15R	Compliance	Iron, total	10	0%	0.06 (ND)	0.06	mg/L	B	0.30	mg/L	No	No
MW-15R	Compliance	Manganese, total	10	100%	0.0032	0.002	mg/L	LN	0.05	mg/L	No	Yes (▼)
MW-15R	Compliance	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-15R	Compliance	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-15R	Compliance	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-15R	Compliance	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-15R	Compliance	Ammonia as N	10	0%	0.03 (ND)	0.03	mg/L	B	0.19	mg/L	No	No
MW-34A	Compliance	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34A	Compliance	Arsenic, total	10	100%	0.488	0.47	ug/L	N	0.462	ug/L	Yes	No
MW-34A	Compliance	Iron, total	10	30%	0.18	0.18	mg/L	A	0.30	mg/L	No	No
MW-34A	Compliance	Manganese, total	10	90%	0.0047	0.002	mg/L	Z	0.05	mg/L	No	No
MW-34A	Compliance	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-34A	Compliance	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-34A	Compliance	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34A	Compliance	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-34A	Compliance	Ammonia as N	10	20%	0.035	0.035	mg/L	A	0.19	mg/L	No	No

TABLE 3-1: 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-34C	Compliance	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-34C	Compliance	Arsenic, total	10	100%	30.7	32.7	ug/L	LN	0.462	ug/L	Yes	No
MW-34C	Compliance	Iron, total	10	100%	39	78	mg/L	LN	0.30	mg/L	Yes	No
MW-34C	Compliance	Manganese, total	10	100%	5.3	3.0	mg/L	LN	0.05	mg/L	Yes	No
MW-34C	Compliance	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-34C	Compliance	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-34C	Compliance	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-34C	Compliance	Vinyl Chloride	10	100%	0.064	0.05	ug/L	LN	0.20	ug/L	No	Yes (▼)
MW-34C	Compliance	Ammonia as N	10	20%	0.034	0.034	mg/L	A	0.19	mg/L	No	No
MW-39	Compliance	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-39	Compliance	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-39	Compliance	Arsenic, total	10	100%	2.98	2.09	ug/L	Z	0.462	ug/L	Yes	No
MW-39	Compliance	Iron, total	10	100%	44	38	mg/L	Z	0.30	mg/L	Yes	No
MW-39	Compliance	Manganese, total	10	100%	0.66	0.50	mg/L	Z	0.05	mg/L	Yes	No
MW-39	Compliance	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-39	Compliance	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-39	Compliance	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-39	Compliance	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-39	Compliance	Ammonia as N	10	100%	0.65	0.53	mg/L	Z	0.19	mg/L	Yes	No

TABLE 3-1: 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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-42	Compliance	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-42	Compliance	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-42	Compliance	Arsenic, total	10	100%	1.84	1.79	ug/L	Z	0.462	ug/L	Yes	Yes (▲)
MW-42	Compliance	Iron, total	10	100%	26	24.4	mg/L	LN	0.30	mg/L	Yes	No
MW-42	Compliance	Manganese, total	10	100%	4.4	4.1	mg/L	LN	0.05	mg/L	Yes	Yes (▼)
MW-42	Compliance	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-42	Compliance	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-42	Compliance	Trichloroethene	10	20%	0.58	0.58	ug/L	A	1.0	ug/L	No	No
MW-42	Compliance	Vinyl Chloride	10	80%	0.094	0.08	ug/L	LN	0.20	ug/L	No	No
MW-42	Compliance	Ammonia as N	10	100%	8.4	5.5	mg/L	Z	0.19	mg/L	Yes	No
MW-43	Compliance	1,1-Dichloroethane	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-43	Compliance	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-43	Compliance	Arsenic, total	10	70%	0.108	0.073	ug/L	LN	0.462	ug/L	No	No
MW-43	Compliance	Iron, total	10	100%	3.5	2.23	mg/L	N	0.30	mg/L	Yes	No
MW-43	Compliance	Manganese, total	10	100%	0.11	0.08	mg/L	LN	0.05	mg/L	Yes	No
MW-43	Compliance	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-43	Compliance	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-43	Compliance	Trichloroethene	10	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-43	Compliance	Vinyl Chloride	10	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-43	Compliance	Ammonia as N	10	40%	0.052	0.052	mg/L	A	0.19	mg/L	No	Yes (▼)

TABLE 3-1: 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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-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	2.12	ug/L	LN	0.462	ug/L	Yes	No
MW-29A	Downgradient	Iron, total	6	100%	4.2	4.12	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	10	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-32	Downgradient	1,4-Dichlorobenzene	10	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-32	Downgradient	Arsenic, total	10	100%	11.2	10.6	ug/L	LN	0.462	ug/L	Yes	No
MW-32	Downgradient	Iron, total	10	100%	0.94	0.79	mg/L	LN	0.30	mg/L	Yes	No
MW-32	Downgradient	Manganese, total	10	100%	3.3	2.4	mg/L	Z	0.05	mg/L	Yes	No
MW-32	Downgradient	cis-1,2-dichloroethene	10	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-32	Downgradient	Ethyl ether	10	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-32	Downgradient	Trichloroethene	10	60%	0.71	0.58	ug/L	LN	1.0	ug/L	No	No
MW-32	Downgradient	Vinyl Chloride	10	100%	0.37	0.33	ug/L	LN	0.20	ug/L	Yes	Yes (▼)
MW-32	Downgradient	Ammonia as N	10	60%	0.12	0.12	mg/L	A	0.19	mg/L	No	No

TABLE 3-1: 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
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%	0.61	0.509	ug/L	Z	0.462	ug/L	Yes	No
MW-33A	Downgradient	Iron, total	6	100%	2.5	2.2	mg/L	N	0.30	mg/L	Yes	No
MW-33A	Downgradient	Manganese, total	6	100%	0.028	0.044	mg/L	LN	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	33%	0.13	0.13	mg/L	A	0.19	mg/L	No	No
MW-33C	Downgradient	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-33C	Downgradient	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-33C	Downgradient	Arsenic, total	6	100%	2.88	2.80	ug/L	LN	0.462	ug/L	Yes	Yes (▲)
MW-33C	Downgradient	Iron, total	6	100%	0.11	0.11	mg/L	LN	0.3	mg/L	No	No
MW-33C	Downgradient	Manganese, total	6	100%	0.18	0.17	mg/L	Z	0.05	mg/L	Yes	No
MW-33C	Downgradient	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-33C	Downgradient	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-33C	Downgradient	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-33C	Downgradient	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-33C	Downgradient	Ammonia as N	6	17%	0.04	0.04	mg/L	A	0.19	mg/L	No	No

TABLE 3-1: 2019 Annual Groundwater Cleanup Level Statistical Evaluation Summary

Olympic View Sanitary Landfill

Statistical Methodology: calculation of 95% UCL of mean per MTCASat

Data Input (general): 3-year "moving window", updated annually

Data Input (specific): January 1, 2017 through December 31, 2019

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	1,1-Dichloroethane	6	0%	0.38 (ND)	0.38	ug/L	B	50	ug/L	No	No
MW-36A	Downgradient	1,4-Dichlorobenzene	6	0%	0.84 (ND)	0.84	ug/L	B	2.0	ug/L	No	No
MW-36A	Downgradient	Arsenic, total	6	100%	0.616	0.596	ug/L	LN	0.462	ug/L	Yes	No
MW-36A	Downgradient	Iron, total	6	50%	0.17	0.17	mg/L	A	0.3	mg/L	No	No
MW-36A	Downgradient	Manganese, total	6	83%	0.0028	0.003	mg/L	LN	0.05	mg/L	No	No
MW-36A	Downgradient	cis-1,2-dichloroethene	6	0%	0.81 (ND)	0.81	ug/L	B	35	ug/L	No	No
MW-36A	Downgradient	Ethyl ether	6	0%	0.72 (ND)	0.72	ug/L	B	50	ug/L	No	No
MW-36A	Downgradient	Trichloroethene	6	0%	0.46 (ND)	0.46	ug/L	B	1.0	ug/L	No	No
MW-36A	Downgradient	Vinyl Chloride	6	0%	0.02 (ND)	0.02	ug/L	B	0.20	ug/L	No	No
MW-36A	Downgradient	Ammonia as N	6	17%	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 2019; 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** = MTCASat 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*** = MTCASat 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 MTCASat since neither normal nor lognormal distribution can be determined.

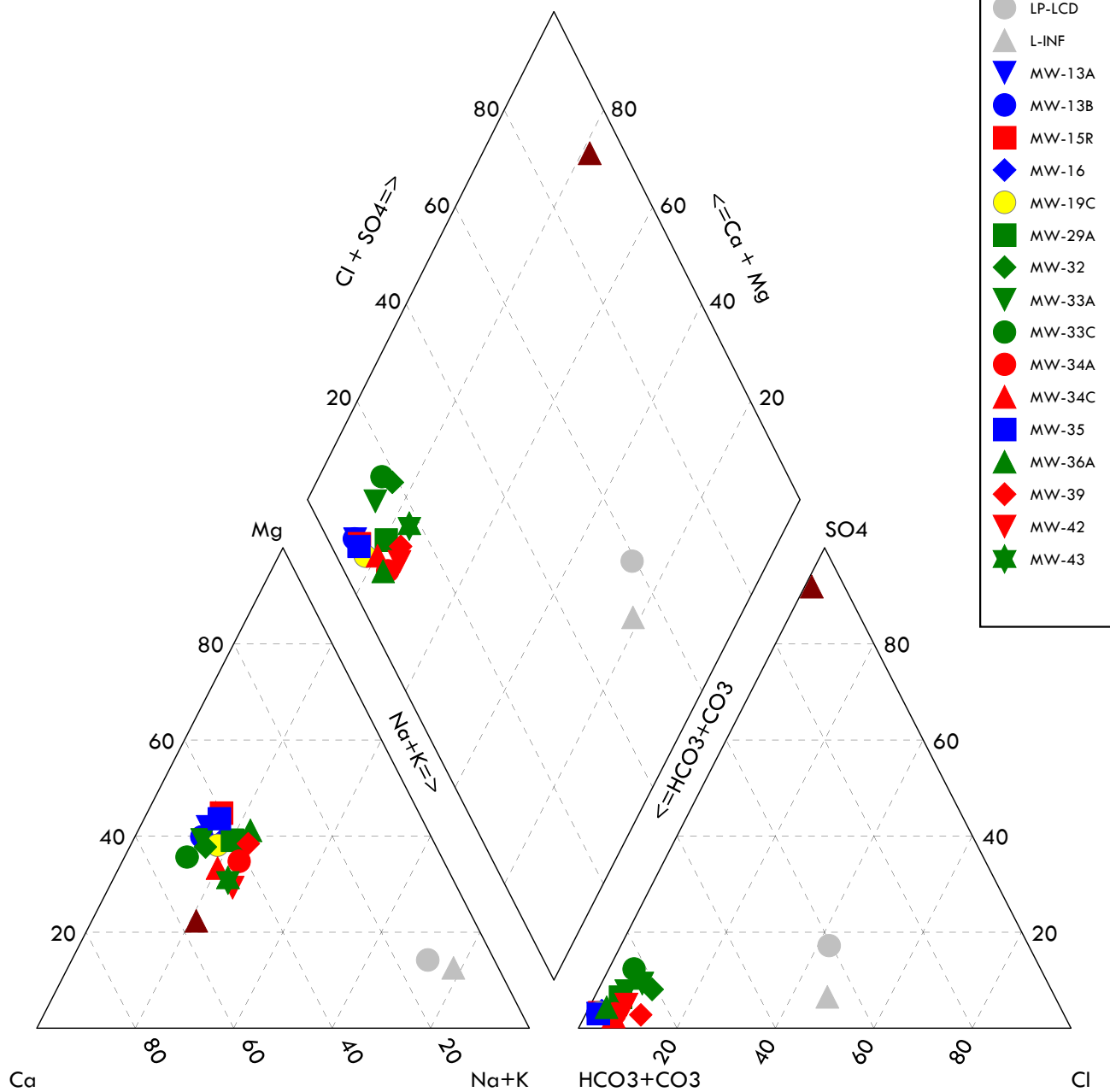


Appendix D

November 2019 Groundwater Geochemical Evaluation



2019 Semi-Annual #2 Piper Diagram



DESCRIPTION: Piper Diagram, 2019 Semi-Annual #2

	PROJECT: Olympic View Sanitary Landfill	PROJECT NO: 04204027.22
	CLIENT: Waste Management Closed Sites	DATE: January 2020

Cation/Anion Balance

Location MW-13A
Sample Date 11/11/2019

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	5.00	0.22
K	0.02258	0.59	0.015
Ca	0.04990	15.00	0.75
Mg	0.08229	8.60	0.71
		Sum of Cations	1.69 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.41	0.01
HCO3	0.01639	98.40	1.61
		Sum of Anions	1.808 meq/L
Balance (% difference) *			-3.41 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-13B
Sample Date 11/11/2019

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	5.00	0.22
K	0.02258	0.63	0.016
Ca	0.04990	16.00	0.80
Mg	0.08229	8.30	0.68
		Sum of Cations	1.715 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.42	0.01
HCO3	0.01639	99.60	1.63
		Sum of Anions	1.828 meq/L
Balance (% difference) *			-3.18 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-15R
Sample Date 11/11/2019

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	0.87	0.022
Ca	0.04990	13.00	0.65
Mg	0.08229	8.80	0.72
		Sum of Cations	1.617 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.23	0.00
HCO3	0.01639	91.20	1.49
		Sum of Anions	1.687 meq/L
Balance (% difference) *			-2.12 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-16
Sample Date 11/12/2019

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	5.50	0.24
K	0.02258	0.84	0.021
Ca	0.04990	12.00	0.60
Mg	0.08229	6.90	0.57
		Sum of Cations	1.427 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.10	0.00
HCO3	0.01639	81.60	1.34
		Sum of Anions	1.528 meq/L
Balance (% difference) *			-3.40 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-19C
Sample Date 11/13/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	1.20	0.044
Fe	0.03581	0.12	0.000
Na	0.04350	5.70	0.25
K	0.02258	1.20	0.031
Ca	0.04990	14.00	0.70
Mg	0.08229	7.30	0.60
		Sum of Cations	1.622 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	92.40	1.51
		Sum of Anions	1.704 meq/L
Balance (% difference) *			-2.47 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-29A
Sample Date 11/13/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	1.20	0.044
Fe	0.03581	3.40	0.000
Na	0.04350	3.20	0.14
K	0.02258	0.35	0.009
Ca	0.04990	6.00	0.30
Mg	0.08229	3.50	0.29
		Sum of Cations	0.78 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	43.20	0.71
		Sum of Anions	0.898 meq/L
Balance (% difference) *			-7.06 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-32
Sample Date 11/13/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	3.10	0.113
Fe	0.03581	0.86	0.000
Na	0.04350	14.00	0.61
K	0.02258	1.20	0.031
Ca	0.04990	39.00	1.95
Mg	0.08229	19.00	1.56
		Sum of Cations	4.26 meq/L
Cl	0.02821	16.00	0.45
SO4	0.02082	16.00	0.33
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	204.00	3.34
		Sum of Anions	4.13 meq/L
Balance (% difference) *			1.59 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-33A
Sample Date 11/12/2019

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	4.00	0.17
K	0.02258	0.76	0.019
Ca	0.04990	13.00	0.65
Mg	0.08229	6.60	0.54
		Sum of Cations	1.385 meq/L
Cl	0.02821	3.00	0.08
SO4	0.02082	5.30	0.11
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	75.60	1.24
		Sum of Anions	1.435 meq/L
Balance (% difference) *			-1.75 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-33C
Sample Date 11/12/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.15	0.005
Fe	0.03581	0.07	0.000
Na	0.04350	4.10	0.18
K	0.02258	1.20	0.031
Ca	0.04990	17.00	0.85
Mg	0.08229	7.10	0.58
		Sum of Cations	1.647 meq/L
Cl	0.02821	3.10	0.09
SO4	0.02082	10.00	0.21
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	85.20	1.40
		Sum of Anions	1.693 meq/L
Balance (% difference) *			-1.37 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-34A
Sample Date 11/11/2019

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	9.40	0.41
K	0.02258	0.75	0.019
Ca	0.04990	15.00	0.75
Mg	0.08229	7.60	0.63
		Sum of Cations	1.802 meq/L
Cl	0.02821	3.60	0.10
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.68	0.01
HCO3	0.01639	96.00	1.57
		Sum of Anions	1.79 meq/L
Balance (% difference) *			0.33 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-34C
Sample Date 11/11/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.45	0.016
Fe	0.03581	0.52	0.000
Na	0.04350	9.80	0.43
K	0.02258	0.97	0.025
Ca	0.04990	21.00	1.05
Mg	0.08229	9.10	0.75
		Sum of Cations	2.264 meq/L
Cl	0.02821	4.50	0.13
SO4	0.02082	<5.00	<0.10
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	120.00	1.97
		Sum of Anions	2.2 meq/L
Balance (% difference) *			1.47 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-35
Sample Date 11/12/2019

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	5.60	0.24
K	0.02258	0.59	0.015
Ca	0.04990	14.00	0.70
Mg	0.08229	9.00	0.74
		Sum of Cations	1.698 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.36	0.01
HCO3	0.01639	98.40	1.61
		Sum of Anions	1.807 meq/L
Balance (% difference) *			-3.12 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-36A
Sample Date 11/11/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.00	0.000
Fe	0.03581	0.03	0.000
Na	0.04350	6.10	0.27
K	0.02258	0.86	0.022
Ca	0.04990	9.10	0.45
Mg	0.08229	6.30	0.52
		Sum of Cations	1.26 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.79	0.01
HCO3	0.01639	67.20	1.10
		Sum of Anions	1.303 meq/L
Balance (% difference) *			-1.68 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-39
Sample Date 11/12/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.47	0.017
Fe	0.03581	37.00	0.000
Na	0.04350	9.20	0.40
K	0.02258	0.28	0.007
Ca	0.04990	13.00	0.65
Mg	0.08229	8.00	0.66
		Sum of Cations	1.73 meq/L
Cl	0.02821	7.50	0.21
SO4	0.02082	<5.00	<0.10
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	98.40	1.61
		Sum of Anions	1.93 meq/L
Balance (% difference) *			-5.40 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-42
Sample Date 11/12/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	4.10	0.149
Fe	0.03581	23.00	0.000
Na	0.04350	18.00	0.78
K	0.02258	8.10	0.207
Ca	0.04990	36.00	1.80
Mg	0.08229	14.00	1.15
		Sum of Cations	4.09 meq/L
Cl	0.02821	11.00	0.31
SO4	0.02082	10.00	0.21
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	228.00	3.74
		Sum of Anions	4.26 meq/L
Balance (% difference) *			-2.02 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location MW-43
Sample Date 11/13/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.01	0.000
Fe	0.03581	<0.06	<0.000
Na	0.04350	2.50	0.11
K	0.02258	0.64	0.016
Ca	0.04990	4.90	0.24
Mg	0.08229	2.00	0.16
		Sum of Cations	0.534 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	<5.00	<0.10
NO3	0.01613	0.71	0.01
HCO3	0.01639	26.40	0.43
		Sum of Anions	0.633 meq/L
Balance (% difference) *			-8.43 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location OBWL-TD
Sample Date 11/18/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.55	0.020
Fe	0.03581	4.00	0.000
Na	0.04350	5.60	0.24
K	0.02258	1.50	0.038
Ca	0.04990	15.00	0.75
Mg	0.08229	3.60	0.30
		Sum of Cations	1.347 meq/L
Cl	0.02821	<3.00	<0.08
SO4	0.02082	130.00	2.71
NO3	0.01613	0.18	0.00
HCO3	0.01639	<12.00	<0.20
		Sum of Anions	2.99 meq/L
Balance (% difference) *			-37.93 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$

Cation/Anion Balance

Location L-INF
 Sample Date 11/18/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	2.10	0.076
Fe	0.03581	1.20	0.000
Na	0.04350	1100.0 0	47.85
K	0.02258	140.00	3.581
Ca	0.04990	120.00	5.99
Mg	0.08229	100.00	8.23
		Sum of Cations	65.7 meq/L
Cl	0.02821	1500.0 0	42.31
SO4	0.02082	280.00	5.83
NO3	0.01613	<0.05	<0.00
HCO3	0.01639	2520.0 0	41.30
		Sum of Anions	89.4 meq/L
Balance (% difference) *			-15.29 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$


Cation/Anion Balance

Location LP-LCD
 Sample Date 11/13/2019

Major Ions	Conversion Factor +	mg/l	meq/l
Mn	0.0364	0.77	0.028
Fe	0.03581	0.04	0.000
Na	0.04350	630.00	27.40
K	0.02258	78.00	1.995
Ca	0.04990	110.00	5.49
Mg	0.08229	70.00	5.76
Sum of Cations			40.7 meq/L
Cl	0.02821	620.00	17.49
SO4	0.02082	340.00	7.08
NO3	0.01613	10.00	0.16
HCO3	0.01639	1020.0 0	16.72
Sum of Anions			41.45 meq/L
Balance (% difference) *			-0.94 %

+ mg/l to meq/l

* $[(\text{Total anions} - \text{Total cations}) / (\text{Total anions} + \text{Total cations})] * 100$



Appendix E
Landfill Gas Monitoring Results



Table E1. Historical Results of Methane (CH₄) Measurements
 2019 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
11/14/2019	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
8/5/2019	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	2.2	0.0
4/22/2019	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
3/28/2019	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
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

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 (CO₂) Measurements
 2019 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
11/14/2019	10.9	6.3	2.3	1.5	1.1	0.8	2.9	2.7	1.6	1.5	1.5	4.3	4.0	3.8	8.6	11.2	4.1
8/5/2019	10.8	4.4	1.6	1.1	0.6	0.5	2.7	1.3	1.1	1.1	0.8	3.7	3.4	3.0	7.5	9.0	3.0
4/22/2019	7.7	3.1	2.2	1.8	—	—	3.0	0.7	0.9	1.2	0.9	4.0	3.5	2.8	6.5	0.1	2.8
3/28/2019	6.5	2.9	2.1	1.7	0.7	0.8	2.5	0.7	0.9	0.9	0.9	3.6	3.6	1.9	4.2	0.2	2.1
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

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 (O₂) Measurements
 2019 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
11/14/2019	5.6	8.9	19.3	10.8	20.7	20.4	18.9	19.3	18.9	19.4	17.6	17.6	17.5	17.5	5.0	0.1	17.3
8/5/2019	7.7	11.1	21.7	21.7	22.5	21.8	20.6	21.7	19.7	20.6	19.7	18.6	18.0	19.7	7.1	0.0	19.5
4/22/2019	6.3	11.7	19.7	19.9	—	—	19.1	21.5	21.1	20.9	20.1	17.6	17.1	18.2	5.7	20.1	18.7
3/28/2019	5.5	12.1	19.3	19.2	20.6	19.1	18.9	21.0	20.6	20.6	19.1	17.5	17.4	19.6	8.3	21.6	19.2
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

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. 2019 Landfill Gas Collection (at Flare Inlet)
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Device Name	Date Time	CH4 (Methane %)	CO ₂ (Carbon Dioxide %)	O ₂ (Oxygen %)	Balance Gas (%)	Temperature (°F)	Flow (SCFM)
OV-FL-IN	1/4/2019 8:51	26.6	19.8	1.7	51.9	53.4	224.3
OV-FL-IN	1/8/2019 12:43	20.9	19.6	2.1	57.4	44.5	265.6
OV-FL-IN	1/8/2019 13:01	24.4	22.1	0.9	52.6	48.0	265.6
OV-FL-IN	1/15/2019 12:34	37.5	22.5	0.8	39.2	46.0	284.0
OV-FL-IN	1/15/2019 13:57	32.2	20.6	0.8	46.4	44.9	364.0
OV-FL-IN	1/16/2019 11:44	8.9	5.9	15.2	70.0	35.1	--
OV-FL-IN	1/16/2019 12:25	45.5	29.1	0.9	24.5	38.9	288.0
OV-FL-IN	1/16/2019 12:50	37.1	22.9	1.2	38.8	45.1	279.0
OV-FL-IN	1/16/2019 14:04	32.2	20.3	0.9	46.6	49.6	268.0
OV-FL-IN	1/16/2019 16:23	30.7	20.0	1.0	48.3	47.9	266.0
OV-FL-IN	1/17/2019 10:13	30.1	19.3	1.3	49.3	48.8	247.0
OV-FL-IN	1/17/2019 14:45	29.3	19.4	1.5	49.8	52.6	240.0
OV-FL-IN	1/22/2019 15:01	23.4	18.9	2.0	55.7	46.3	257.4
OV-FL-IN	1/25/2019 11:28	23.7	18.7	2.1	55.5	52.1	220.4
OV-FL-IN	1/25/2019 14:51	23.4	18.3	2.0	56.3	53.8	225.4
OV-FL-IN	1/28/2019 14:10	32.6	21.9	0.4	45.1	59.2	271.6
OV-FL-IN	1/31/2019 15:09	49.8	30.8	0.0	19.4	55.5	330.0
OV-FL-IN	2/19/2019 12:12	27.0	18.7	2.1	52.2	50.1	254.6
OV-FL-IN	2/25/2019 10:59	27.6	19.3	0.0	53.1	43.9	248.0
OV-FL-IN	2/25/2019 11:42	30.7	20.7	0.1	48.5	43.1	319.4
OV-FL-IN	2/25/2019 14:18	27.3	17.7	1.7	53.3	57.5	244.0
OV-FL-IN	3/1/2019 15:35	24.7	17.8	1.8	55.7	53.1	227.4
OV-FL-IN	3/4/2019 12:07	23.9	18.3	2.3	55.5	47.2	233.7
OV-FL-IN	3/4/2019 14:24	23.7	17.8	2.5	56.0	57.2	239.5
OV-FL-IN	3/11/2019 11:59	23.8	17.8	2.4	56.0	50.0	242.1
OV-FL-IN	3/18/2019 12:14	24.2	17.9	2.3	55.6	79.0	210.8
OV-FL-IN	3/25/2019 12:07	26.1	18.6	1.7	53.6	70.6	222.0
OV-FL-IN	4/1/2019 12:03	25.6	18.2	1.8	54.4	73.2	208.4
OV-FL-IN	4/9/2019 13:28	22.9	17.6	2.3	57.2	72.5	173.9
OV-FL-IN	4/15/2019 11:35	25.5	18.4	1.8	54.3	71.5	202.5
OV-FL-IN	4/22/2019 11:13	22.8	17.6	2.2	57.4	64.6	197.2
OV-FL-IN	4/29/2019 12:15	23.8	17.6	1.9	56.7	72.1	199.2
OV-FL-IN	4/29/2019 14:10	24.0	17.3	1.8	56.9	--	--
OV-FL-IN	5/6/2019 13:14	23.2	17.1	2.2	57.5	85.8	182.4
OV-FL-IN	5/9/2019 15:01	24.3	17.3	2.0	56.4	96.4	190.1
OV-FL-IN	5/13/2019 11:01	22.5	17.0	2.7	57.8	64.4	197.0
OV-FL-IN	5/28/2019 13:50	21.2	16.6	2.7	59.5	70.0	195.7
OV-FL-IN	6/3/2019 12:56	20.5	16.5	2.9	60.1	65.5	184.4
OV-FL-IN	6/10/2019 12:13	22.8	17.1	2.0	58.1	86.3	195.3
OV-FL-IN	6/11/2019 11:49	22.5	17.2	2.6	57.7	90.0	200.9
OV-FL-IN	6/17/2019 11:47	21.2	16.8	2.8	59.2	72.0	187.4
OV-FL-IN	6/24/2019 12:49	23.2	17.4	2.3	57.1	67.8	197.6
OV-FL-IN	7/1/2019 11:36	22.7	17.2	2.4	57.7	88.4	193.3
OV-FL-IN	7/11/2019 12:17	22.4	17.5	2.2	57.9	80.4	164.0
OV-FL-IN	7/15/2019 12:15	24.1	17.8	2.0	56.1	70.4	167.4
OV-FL-IN	7/22/2019 12:18	23.5	17.6	2.2	56.7	90.4	162.8
OV-FL-IN	8/5/2019 12:03	25.4	18.5	1.6	54.5	100.3	163.1
OV-FL-IN	8/6/2019 10:48	24.1	17.6	2.1	56.2	74.1	168.0
OV-FL-IN	8/6/2019 16:09	26.1	17.7	1.7	54.5	104.6	177.0
OV-FL-IN	8/7/2019 11:49	24.7	18.0	1.9	55.4	80.1	170.1
OV-FL-IN	8/8/2019 15:53	24.8	18.1	1.9	55.2	77.8	170.0
OV-FL-IN	8/13/2019 12:28	25.1	18.3	2.0	54.6	99.0	164.1
OV-FL-IN	8/20/2019 12:19	25.1	18.2	2.1	54.6	92.9	173.1
OV-FL-IN	8/27/2019 11:19	25.6	18.4	2.0	54.0	93.3	176.3
OV-FL-IN	9/4/2019 16:02	24.9	17.9	2.2	55.0	86.9	171.4
OV-FL-IN	9/9/2019 12:45	25.9	18.4	2.3	53.4	62.1	--

Table E-4. 2019 Landfill Gas Collection (at Flare Inlet)
 2019 Annual Monitoring Report
 Olympic View Sanitary Landfill, Kitsap County, Washington

Device Name	Date Time	CH ₄ (Methane %)	CO ₂ (Carbon Dioxide %)	O ₂ (Oxygen %)	Balance Gas (%)	Temperature (°F)	Flow (SCFM)
OV-FL-IN	9/9/2019 12:47	25.9	18.4	2.2	53.5	63.9	--
OV-FL-IN	9/18/2019 12:09	26.4	18.5	2.2	52.9	77.1	131.1
OV-FL-IN	9/18/2019 16:30	26.0	18.0	2.2	53.8	75.5	135.0
OV-FL-IN	9/23/2019 13:32	24.6	18.0	2.6	54.8	62.8	124.2
OV-FL-IN	9/23/2019 16:49	25.0	18.2	2.3	54.5	63.8	138.6
OV-FL-IN	10/1/2019 11:57	25.6	18.4	2.3	53.7	67.7	148.9
OV-FL-IN	10/1/2019 14:54	25.5	18.2	2.0	54.3	77.2	161.8
OV-FL-IN	10/7/2019 12:00	29.5	19.7	1.3	49.5	--	--
OV-FL-IN	10/7/2019 14:51	29.5	19.6	1.3	49.6	63.2	187.3
OV-FL-IN	10/14/2019 10:40	25.4	18.2	2.8	53.6	56.0	160.7
OV-FL-IN	10/21/2019 14:05	25.2	18.0	2.6	54.2	55.7	--
OV-FL-IN	10/28/2019 11:54	31.5	20.4	1.5	46.6	50.0	213.5
OV-FL-IN	11/4/2019 12:12	25.4	17.5	3.3	53.8	60.0	206.1
OV-FL-IN	11/11/2019 13:37	26.0	17.9	3.0	53.1	65.4	210.7
OV-FL-IN	11/18/2019 14:58	29.3	19.3	1.6	49.8	59.6	232.4
OV-FL-IN	11/25/2019 11:05	25.8	18.1	3.0	53.1	58.2	202.6
OV-FL-IN	12/2/2019 12:27	30.8	21.0	2.5	45.7	51.3	226.9
OV-FL-IN	12/9/2019 12:08	23.7	16.6	3.6	56.1	59.3	201.6
OV-FL-IN	12/16/2019 12:58	24.0	17.0	3.5	55.5	54.7	200.8
OV-FL-IN	12/23/2019 13:06	24.3	16.9	3.4	55.4	52.8	184.2
OV-FL-IN	12/30/2019 12:33	23.3	16.7	3.6	56.4	50.3	400.1
Annualized Average LFG Component (% , °F or scfm)		26.11	18.57	2.17	53.15	64.68	213.20
Estimated Volume of LFG Removed During 2019 (MMscf)							112.06

-- = 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

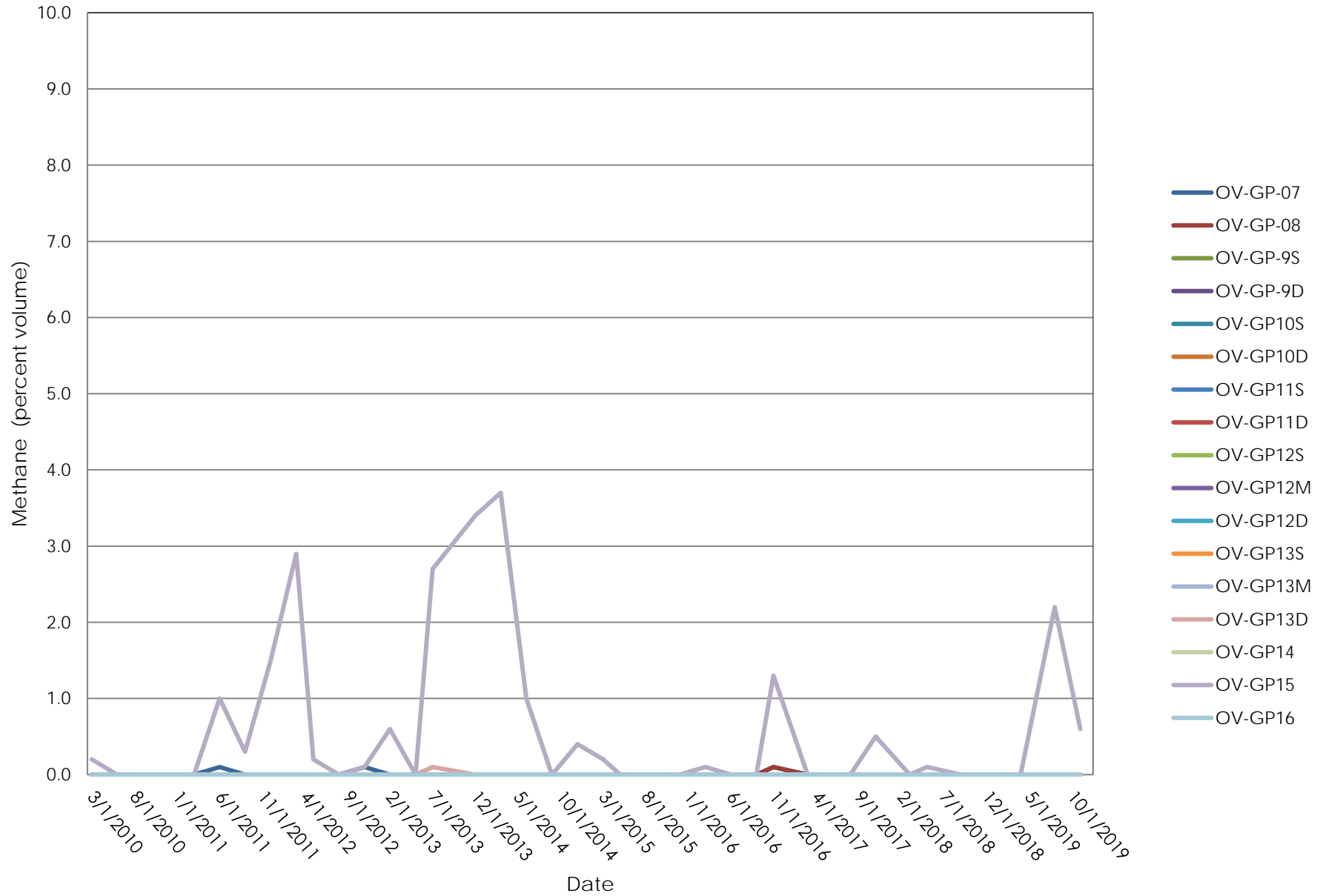


Figure E-2: LFG Probe Carbon Dioxide Timeseries

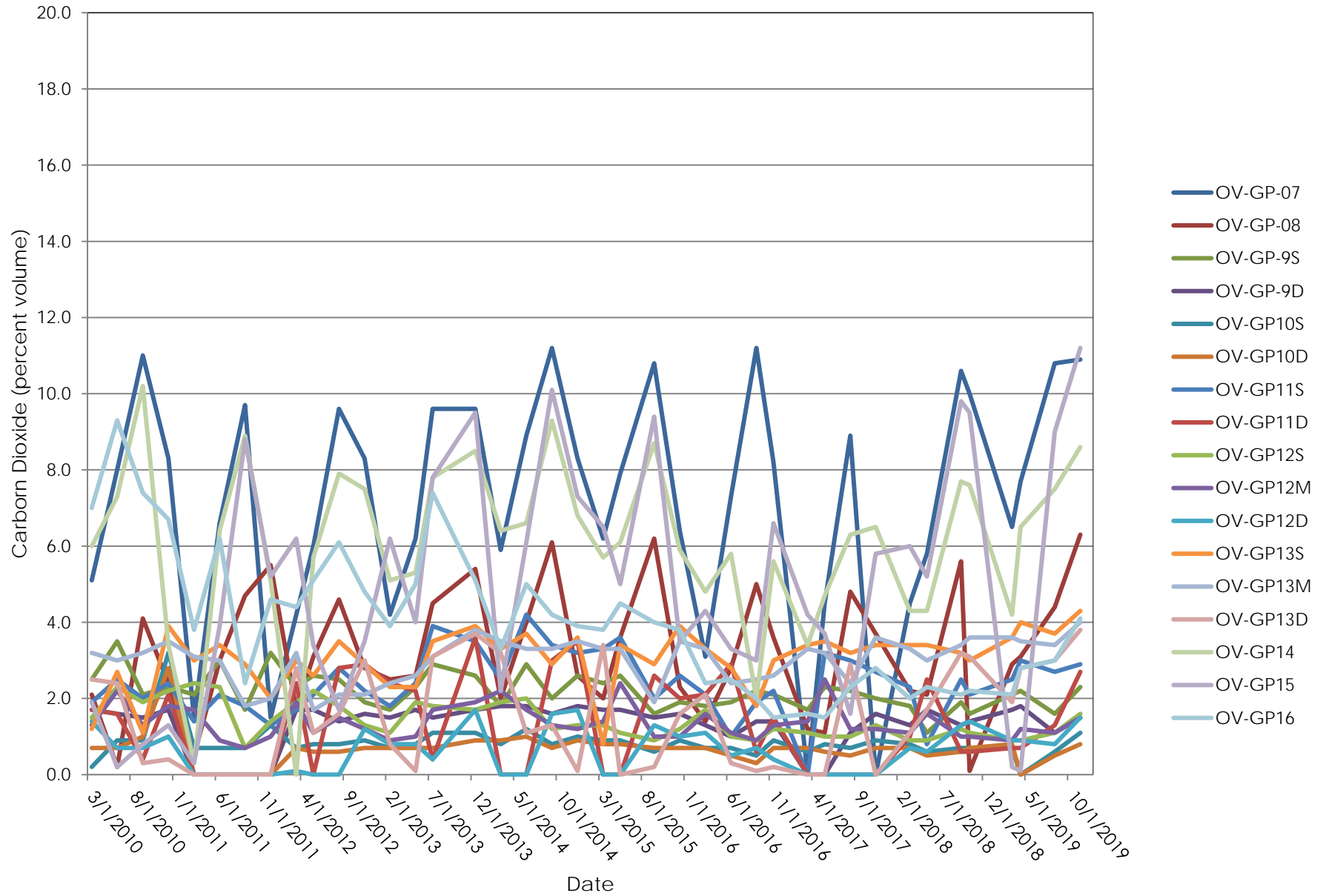
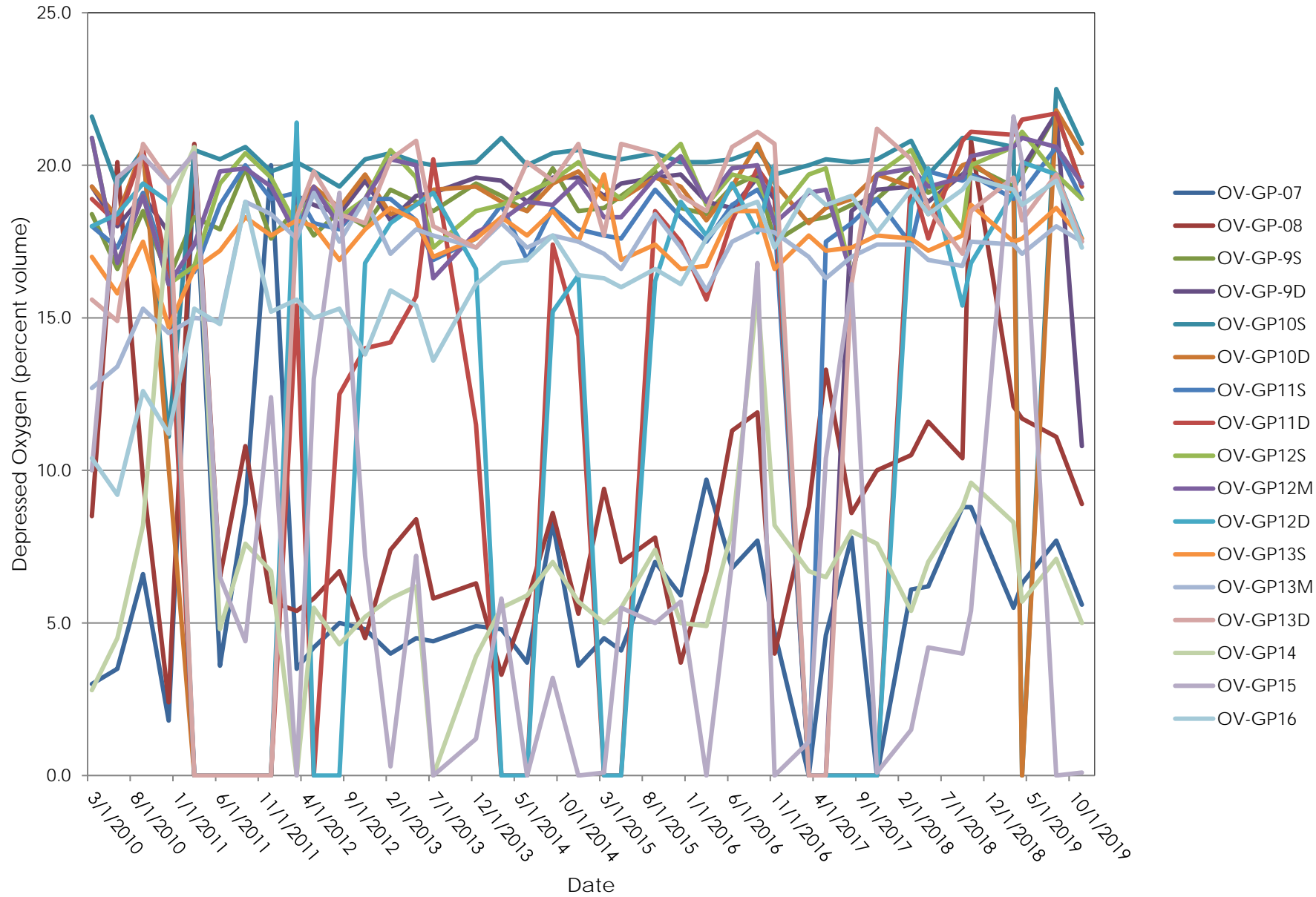



Figure E-3: LFG Probe Depressed Oxygen Timeseries





Appendix F
Leachate Forcemain Testing Results



PROJECT TASK ORDER # 7

February 26, 2020

Attention: Patrick Madej
District Manager
Waste Management
2615 Davis Street,
San Leandro, CA. 94577

Re: Leachate Forcemain Testing Results, Olympic View Sanitary Landfill (OVSL)

Dear Mr. Madej:

The purpose of this Letter is to describe and transmit the low air pressure leak testing results of the leachate forcemain at OVSL. Vikek Environmental Engineers, LLC (Vikek) observed and documented the testing performed by Vet Industrial on February 25, 2020 of the entire forcemain at OVSL.

Project Understanding

Washington Administrative Code (WAC) 173-350-330 was amended to require that leachate piping outside of the landfill's lined footprint be tested for leakage every 2 years. The first report of leachate forcemain pressure testing is to be completed before March 1, 2020 and reported to the Kitsap County Health Department by April 1, 2020.

The existing leachate forcemain is approximately 3,000 feet long. The forcemain is made from fused high density polyethylene (HDPE) pipe of 3 inch and 6 inch outside diameter. There are cleanouts and an air relief valve along the forcemain. There are 4 leachate pump stations that discharge into the forcemain.

Scope of Work

Vet Industrial was shown the force main on February 26, 2020 and provided a map of the force main from the Post-Closure Plan. The direction provided was to plug each of the inlets from the pump stations and insert a plug into the forcemain where it daylight into the leachate lagoon. The low pressure air test followed Washington State Department of Transportation's Standard Specification, Section 7-17.3(2)F- Low Pressure Air Test for Sanitary Sewers Constructed of Non Air Permeable Materials. The low pressure air test was to be at a pressure greater than 4 pound per square inch gauge (psig) and hold the test pressure for at least 30 minutes.

Project Objectives

- Document the low pressure air test
- Observe physical condition of the force main
- Prepare a test result letter and transmit to WM with the OVSL's Annual Report

Low Pressure Air Test

Vet Industrial arrived at OVSL at approximately 8 AM on February 26, 2020. Gary Vestman, foreman and Doug Allen, laborer, tested the forcemain. Vet Industrial plugged each pump station inlet to the forcemain, did not touch the air relief valve and inserted a sewer ball in the forcemain outlet in the leachate lagoon. The sewer ball had a pipe penetrating the middle of the ball that allows for air testing. A gauge and valve were attached to the sewer ball. A photograph of the testing apparatus is shown in Figure 1.

Figure 1 – Pressure Test Apparatus


Air was supplied to the forcemain slowly and held at 2 psig. At 11:40 AM air was supplied to the forcemain to 5 psig and allowed to settle. The pressure settled at approximately 4.75 psig at 11:50 AM and the test began. At 12:21 PM the gauge was read again and the pressure reading was 4.75 psig. There was no air leakage from the forcemain. A photograph of gauge is provided on the next page.

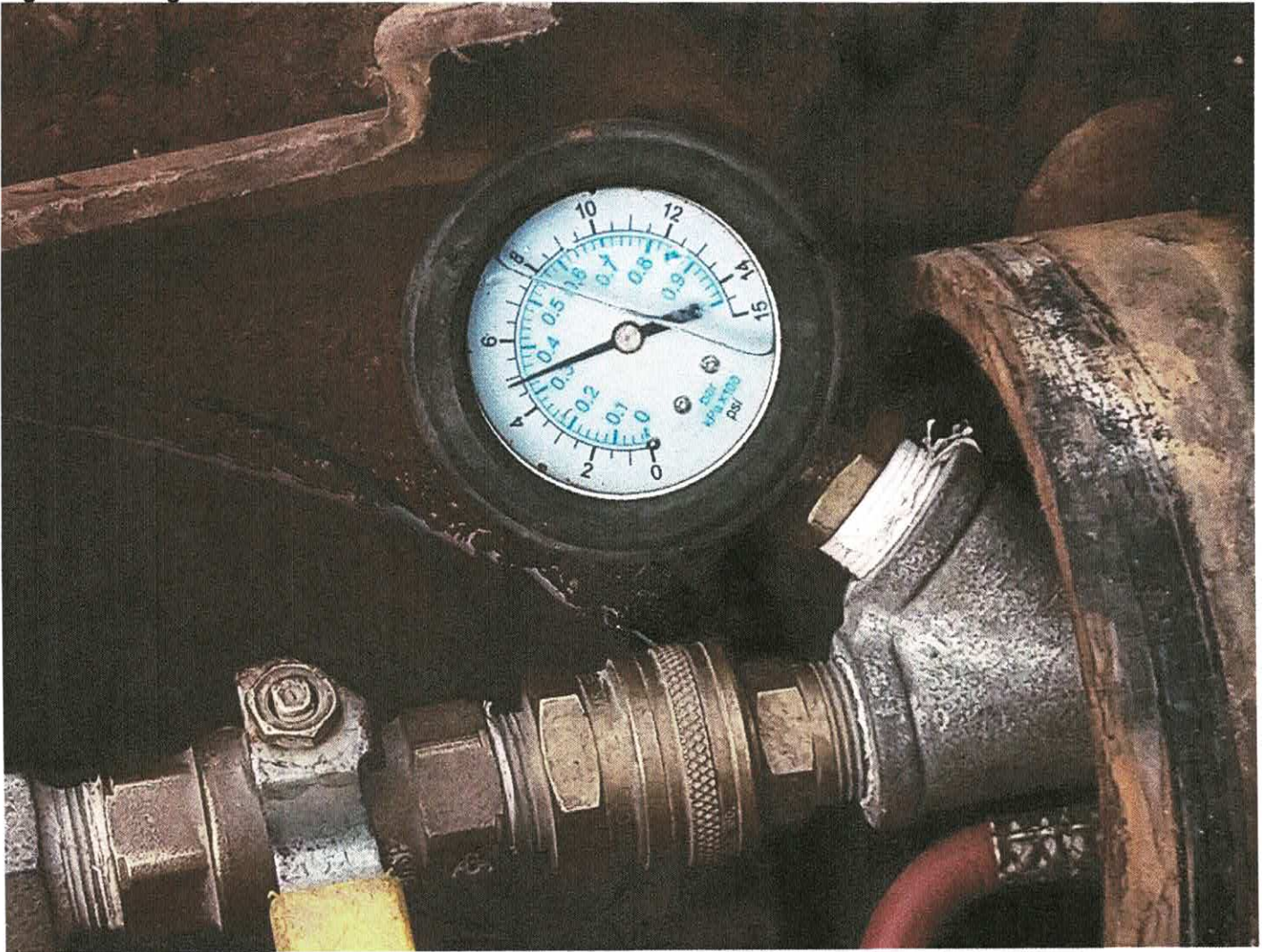
Observations

The low pressure air test documented that the forcemain held air and is not leaking.

The air relief valve was open during the test. The air relief valve did not let air escape which indicates the valve is damaged and needs to be replaced.

A drain should be added to the forcemain near leachate pump station number 1. This is the pump station at the terminus of the forcemain. This will allow for a vacor truck to suck leachate from the forcemain to allow future repairs and testing to be done with the forcemain dry. This will simplify operation and help to keep people from handling leachate.

Figure 2 – Gauge and Test Pressure



Conclusion

The forcemain retained air for more than 30 minutes. This indicates that the forcemain is in good condition with no leaks.

Sincerely,

Vikek Environmental Engineers, LLC
Gary Arndt, PE, PMP
Senior Consultant



cc: Victor O. Okereke, Vikek