SCS ENGINEERS

2016 Annual Monitoring Report

Remedial Action at the Hansville Landfill

Kitsap County, WA

Presented to:

KITSAP COUNTY/
WASTE MANAGEMEMENT OF WASHINGTON, INC

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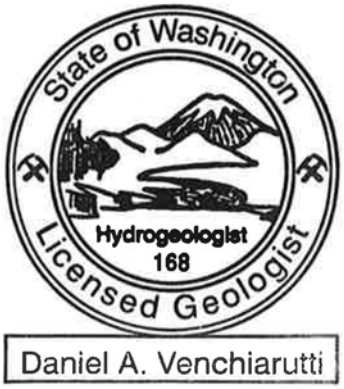

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ACRONYMS

bgs	below ground surface
CAP	Cleanup Action Plan
CDL	construction, demolition, and land clearing wastes
CH4	methane
CMP	Compliance Monitoring Plan
CO2	carbon dioxide
COCs	contaminants of concern
COD	chemical oxygen demand
County	Kitsap County
Ecology	Washington State Department of Ecology
Eh	oxidation-reduction potential/redox
ft	feet
ft-msl	feet above mean sea level
GP	gas probe
HDPE	high density polyethylene
KCSL	Kitsap County Sanitary Landfill
KPHD	Kitsap Public Health District
Landfill	Hansville Landfill solid waste disposal area, the demolition waste disposal area, and the septage disposal area located on the Landfill Property
LEL	lower explosive limit
LFG	landfill gas
Landfill Property	Total area and facilities encompassed by the Hansville Landfill property boundary
LCL	lower confidence limit
mg/L	milligrams per liter
µg/L	micrograms per liter
msl	mean sea level
MCL	maximum contaminant level
MDL	method detection limit
MRL	method reporting limit
MTCA	Model Toxics Control Act
MW	groundwater monitoring well
NA	not applicable
ND	non-detect
NM	not measured
O&M	operation and maintenance
O2	oxygen
PCL	preliminary cleanup level
PVC	polyvinyl chloride

QAP	Quality Assurance Plan
QA/QC	Quality Assurance/Quality Control
RASR	Remedial Action Status Report
RCW	Revised Code of Washington
RFQ	Request for Qualifications
RI/FS	Remedial Investigation/Feasibility Study
SAP	Sampling and Analysis Plan
scfm	standard cubic feet per minute
SCL	Site Cleanup Level
SCS	SCS Engineers
SEPA	State Environmental Policy Act
SHA	Site Hazard Assessment
Site	Landfill Property boundary plus the extent of groundwater and surface water contamination impacts from the Landfill on Port Gamble S'Klallam Tribal property
SW	surface water monitoring stations
TOC	total organic carbon
TSS	total suspended solids
UCL	upper confidence limit
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WMW	Waste Management of Washington, Inc.

1.0 INTRODUCTION

This annual summary report presents the results of quarterly environmental monitoring (groundwater, surface water, and landfill gas) conducted at the Hansville Landfill Site during 2016. The landfill monitoring was conducted on behalf of Kitsap County (the County) and Waste Management of Washington, Inc. (WMW). Groundwater and surface water were sampled quarterly during January, April, July, and October. Landfill gas (LFG) measurements were also recorded on a quarterly basis.

Site monitoring activities completed during the 2016 reporting period were performed in accordance with the final Cleanup Action Plan (CAP) for the Hansville Landfill. The CAP, which was approved in August 2011, is the central component of the Amended Consent Decree (No. 95-2-03005-1) that was formally executed on August 5, 2011. The environmental sampling, data management, and reporting required under the final CAP is documented in *Compliance Monitoring Plan, with Sampling & Analysis Plan (SAP) and Quality Assurance Plan (QAP), Remedial Action at the Hansville Landfill, Kitsap County, WA (*SCS Engineers, dated September 2011).

1.1 REGULATORY FRAMEWORK

The Hansville Landfill is a former municipal landfill that stopped accepting waste and officially closed in 1989. The closure met the requirements of Chapter 173-304 Washington Administrative Code (WAC). The closure consisted of final site grading, surface capping (including the installation of a high-density polyethylene [HDPE] liner over three distinct disposal areas), and the installation of surface water controls. A passive LFG collection system, including horizontal piping installed beneath the HDPE liner and a flaring station, was also constructed at this time. In 1991, an active LFG extraction and flaring system was installed within the municipal solid waste and demolition landfill units to better control methane migration and to enhance the removal of volatile organic compounds (VOCs) from subsurface soil and groundwater.

Also, in 1991, the Washington Department of Ecology (Ecology) performed a Site Hazard Assessment (SHA) under the Model Toxics Control Act (MTCA) Regulations which resulted in an initial ranking of 3. This ranking was subsequently changed to a 1 (the highest rank on a scale of 1 to 5) in 1992, based on changes in the state ranking model. Throughout this period, Kitsap County Sanitary Landfill (KCSL, which merged into WMW) conducted additional investigations, continued environmental monitoring, and implemented additional improvements at the Site as part of a corrective action program.

In October 1995, Ecology signed a consent decree with the County and KCSL to conduct a Remedial Investigation/Feasibility Study (RI/FS) for the Site. The RI was completed in 2007 and the FS was completed in 2009. The RI/FS identified arsenic and vinyl chloride in groundwater (and in seepage to surface water) as the primary contaminants of concern (COCs) related to the landfill. The highest concentrations of these COCs generally occur adjacent to the waste disposal areas with decreasing concentrations at increasing distances from the landfill.

Based on these findings, site-specific cleanup levels were developed for arsenic, vinyl chloride and manganese in groundwater, and arsenic and vinyl chloride in surface water.

A preferred remedial alternative of Natural Attenuation of Groundwater with Enhanced Monitoring and Institutional Controls was selected for implementation at the Hansville Landfill Site. The CAP was specifically developed to implement the selected remedy. Along with a restrictive covenant for the Landfill Property, the CAP was incorporated into the Amended Consent Decree executed on August 5, 2011. A Compliance Monitoring Plan (CMP), including a MTCA compliant SAP and QAP, was prepared by SCS in September 2011 to document the revised monitoring program to be executed under the CAP. Compliance monitoring under the CAP was initiated during the fourth quarter of 2011 and continues through the present time.

1.2 REPORT CONTENTS

This report includes:

- Site description and background sections. Figure 1 shows the Landfill Property location (Appendix A).
- A summary of the 2016 groundwater and surface water monitoring activities, including water level measurements and sample collection and analysis techniques. Figure 2 illustrates the locations of the groundwater monitoring wells and surface water sampling stations on the Site (Appendix A).
- Summary data tables of the fourth quarter 2016 water quality monitoring results including water table elevations, analytical data, and a contour map depicting groundwater elevations and flow directions for the quarter (Appendix B).
- Summary data tables and groundwater contour maps, previously reported, for the preceding three quarters of 2016 (Appendix C).
- An evaluation of water quality results, including comparisons to regulatory standards, tracking natural attenuation parameters, and statistical analysis (Appendix D), as defined under the CAP.
- A presentation of the fourth quarter 2016 LFG monitoring results, including a summary table for the reporting period (Appendix B). Figure 3 illustrates the layout of the LFG system and monitoring probe locations (Appendix A).
- Summary LFG data tables, previously reported, for the preceding three quarters of 2016 (Appendix C).
- Field report forms and laboratory analytical reports (including data validation summaries) for the fourth quarter 2016 (Appendices E and F, respectively).
- Copies of landfill inspection reports prepared by the Kitsap Public Health District (KPHD) (Appendix G).

All terms used in this report are consistent with those defined in the Amended Consent Decree as well as in Revised Code of Washington (RCW) 70.1050.020 and WAC 173-340-200.

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The Site subject to the CAP and subject to the monitoring described in this report contains the Landfill, the Landfill Property, and a portion of land owned by the Port Gamble S'Klallam Tribe. The closed Hansville Landfill is located on an approximately 73-acre parcel within the northeast quarter of Section 9, Township 27 North, Range 2 East of the Willamette Meridian, in Kitsap County, Washington. It consists of three separate, inactive, disposal areas. These include the following:

- 13-acre municipal solid waste disposal cell situated within the central portion of the property;
- 4-acre demolition disposal cell situated on the northeast corner of the property, which accepted construction, demolition, and land clearing wastes (CDL); and
- 1/3-acre septage lagoon located immediately southwest of the demolition disposal area, which accepted residential septic tank waste until 1982. A second septage disposal area was also reportedly located near the northeast corner of the demolition disposal area.

The Site lies approximately five miles south of the unincorporated community of Hansville on the northernmost reach of the Kitsap Peninsula and is situated on the upper portions of several west sloping drainages with perennial creeks that ultimately discharge into Port Gamble Bay. The topography ranges between 310 and 390 feet above mean sea level (msl). A Landfill Property location map is provided as Figure 1 (Appendix A).

The County owns the Landfill Property and currently operates a drop box, known as a recycling and garbage facility in Kitsap County, on the eastern end. This portion of the property has been used for solid waste transfer and/or recycling operations since the landfill ceased accepting refuse in 1989. The remaining portions of the Landfill Property are largely comprised of a soil borrow area and wooded land. As previously mentioned, the landfill was active between approximately 1962 and 1989. Prior to development of the landfill, the property was undeveloped forested land.

The property is bordered to the south and west by lands owned by the Port Gamble S'Klallam Tribe. Tribal lands in the immediate vicinity of the Landfill Property principally consist of woodland and recreational land, with scattered commercial (a tribal casino) and rural residential development further to the south and southwest. Surrounding areas to the north and east of the Landfill Property are zoned low-density residential, rural woodland, or light industrial, and are sparsely developed. The area directly east of the Landfill Property has been recently cleared and is reportedly under development for light industrial use. The nearest permanent residence is located approximately 1,500 feet (ft) east of the solid waste disposal area.

As part of the landfill closure activities, the three disposal areas were capped, a LFG extraction/flaring system was installed, and surface water drainage controls were implemented. The passive LFG extraction system was upgraded in 1991 to an active system that includes

interior LFG extraction wells and trenches (installed in refuse), perimeter gas extraction wells located in native soil adjacent to the solid waste disposal area, a condensate collection system, and a fenced blower/flare facility. A series of seven LFG monitoring probes are also located in the vicinity of the property borders to monitor for potential offsite methane migration. The surface water drainage control system controls stormwater flow and minimizes erosion and offsite migration of sediment-bearing water. Drainage and erosion protection improvements include hydroseeding, culverts, and drainage ditches.

2.2 LOCAL AND REGIONAL HYDROGEOLOGY

The regional near-surface geology in the vicinity of the Hansville Landfill is dominated by glacio-fluvial and glacio-lacustrine deposits associated with the Vashon glaciation. The RI (Parametrix, 2007) identifies the following main stratigraphic units at the site (from ground surface downward):

- Sand - This unit was reported in all the investigative borings from the ground surface to depths ranging from 62 to 142 feet below ground surface (bgs). The sand deposit consists primarily of poorly graded, fine- and medium-grained sand with trace amounts of silt and gravel. The material is dark yellowish brown to dark gray in color, dense to very dense, and dry to saturated. The RI references the sand unit as the upper aquifer. This unit has been interpreted as outwash associated within the Vashon Drift.

- Transition Zone - This zone was reported at three boring locations (MW-8, MW-9, and MW-14) and is approximately 15 feet thick. It consists of interbedded layers of sand, silty sand, and silt and does not appear to be areally extensive.

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

Groundwater in the immediate vicinity of the landfill has been reported to occur within the upper aquifer at depths ranging between 41 feet bgs (at MW-1) to 104 feet bgs (at MW-5). The water table beneath the landfill was reported to range between 251 and 271 feet above msl. To the west (downgradient) of the landfill, groundwater within the upper aquifer reportedly occurred between 7 feet bgs (at MW-12I) and 45 feet bgs (at MW-8). The corresponding water table elevations recorded in these wells has historically ranged from approximately 238 to 260 feet above msl.

Groundwater flow in the upper aquifer in the vicinity of the Hansville Landfill has been consistently reported to be towards the west-southwest. The 2007 RI noted that groundwater from the upper aquifer discharges into the headwaters of several perennial creeks west (downgradient) of the landfill. These creeks reportedly include Little Boston Creek, Creek A, Creek B, Creek C, and Middle Creek. Within the deeper hydrologic unit, the dense silts reported for the Kitsap Formation have a relatively low hydraulic conductivity, restricting vertical movement of groundwater through the formation.

2.3 HISTORY OF LANDFILL COMPLIANCE MONITORING

2.3.1 Water Quality

Groundwater monitoring was initiated at the site in 1982 with the installation of three groundwater monitoring wells (MW-1 through MW-3). Three additional groundwater monitoring wells (MW-4 though MW-6) were added to the monitoring program in 1988. Beginning in 1996, more groundwater wells were installed as part of a phased RI including wells MW-7 through MW-12 during Phase I, and five additional wells (MW-8D, MW-12I, MW-13S, MW-13D, and MW-14) during Phase II.

Monitoring of surface water commenced in 1991 at two locations on Middle Creek (SW-1 and SW-2). Two additional locations (SW-SB and SW-3) were added in 1992 and 1994, respectively. Seven new surface water sampling locations (SW-4, SW-5, SW-6, SW-7, SW-8, SW-9, and SW-10) were subsequently established during the 1996 RI.

Four comprehensive quarterly RI sampling events for groundwater and surface water were conducted between August 1996 and June 1997. Ecology-directed quarterly monitoring was initiated in March 1998 using a subset of the groundwater and surface water locations established during the RI. In the first quarter of 2000, Ecology approved further streamlining of the monitoring program, which remained largely unchanged through the third quarter of 2011. The streamlined monitoring program included:

- Quarterly sampling of six (6) groundwater monitoring wells (MW-5, MW-6, MW-7, MW-12I, MW-13D and MW-14). The groundwater parameter suite included: alkalinity, ammonia, bicarbonate, carbonate, chloride, chemical oxygen demand (COD), hydroxide (alkalinity), nitrate, nitrite, sulfate, total organic carbon (TOC), total coliform, dissolved metals (calcium, copper, iron, lead, magnesium, manganese, potassium, sodium and low-level arsenic), and vinyl chloride by selected ion monitoring (SIM). Annual sampling and analysis is also conducted for the complete EPA 8260 VOCs suite.
- Quarterly sampling of five (5) surface water monitoring stations (SW-1, SW-4, SW-6, SW-7 and SW-10). The surface water parameter suite included all the groundwater parameters (except that fecal coliform replaced total coliform analysis), as well as total suspended solids (TSS), turbidity and hardness.

Beginning with the fourth quarter 2011 sampling event, the water quality monitoring program was further modified to comply with the final CAP developed for the site. As detailed in Section 2.4, the CAP-defined water quality monitoring program includes quarterly monitoring of six (6) groundwater compliance wells and four (4) surface water sampling stations.

2.3.2 Landfill Gas

Closure construction was completed at the landfill in 1990, including the installation of a passive LFG collection system. The passive LFG collection system in the solid waste disposal areas was subsequently converted to an active extraction and flaring system in 1991. Additional modifications to the LFG system were completed in 1994 to separate the perimeter LFG

extraction well flow from the in-refuse LFG extraction well and trench flow. The perimeter LFG extraction system ceased operation in 1995 (Parametrix, 2011).

The LFG control system layout is shown on Figure 3 (Appendix A). Four perimeter probes (GP-1 through GP-4) were initially installed on the property in 1990 to monitor LFG migration. An additional LFG migration probe (GP-5) was subsequently installed in 1994. The probes were placed in the native soils around the perimeter of the property to a depth approximately equal to the depth of refuse. All probes are single-completion except GP-2, which is a triple-completion probe screened within a shallow, middle, and deeper zone. Monitoring frequency for LFG was increased to quarterly in 1987 and monthly in 1991.

Two additional LFG probes (GP-6 and GP-7) were installed for the RI in 1996. Probe GP-6 was installed on the northeastern corner of the landfill near the demolition disposal area. Probe GP-7 was installed adjacent to groundwater monitoring well MW-9 southwest of the solid waste disposal area on Tribal land. These probes were constructed as single-completions and are screened in the soil column above the saturated zone of the upper aquifer (Parametrix 2007).

A downsized flare was installed in 2003 to handle the decreased volume of LFG generated at the landfill. In November 2006, system piping was upgraded from aboveground polyvinyl chloride (PVC) to below ground high density polyethylene (HDPE) pipe within the solid waste disposal area and demolition footprint areas. During November 2013, the primary and backup blowers were replaced with a pair of new, 1.0 horsepower, high-efficiency blowers to improve the performance of the LFG system. Additional upgrades were completed during December 2014 at five LFG extraction wellheads (R-3, R-6, R11, R-12 and T-7) which included the installation of improved orifice plates and sampling ports.

Routine LFG monitoring includes field measurements for methane gas, oxygen gas, carbon dioxide gas, and pressure at 21 extraction well/trench ports, 2 blower/flare ports, and the 7 perimeter gas probes. The final CAP, which was implemented during the final quarter of 2011, requires that quarterly LFG monitoring be performed at these locations.

2.4 CURRENT MONITORING PROGRAM UNDER THE SITE REMEDY

Beginning with the fourth quarter of 2011, the compliance monitoring program for the Hansville Landfill Site transitioned to that outlined in the final CAP. As previously noted, the CAP identified arsenic and vinyl chloride in groundwater and surface water as the primary COCs. Manganese was also identified as an additional COC. The table below summarizes the final site-specific cleanup levels that have been established for the site.

FINAL SITE CLEANUP LEVELS – HANSVILLE LANDFILL REMEDY [1]			
Chemical	**Media**	**Site Cleanup Level (µg/L)**	**Origin of Cleanup Level**
Vinyl chloride	Groundwater	0.025	EPA Human Health, 2004
Arsenic		5	Background
Manganese		2,240	Method B Formula Value
Vinyl chloride	Surface Water	0.025	EPA Human Health, 2004
Arsenic		5	Background

[1] As referenced in Section 5.3 in the June 2011 Cleanup Action Plan.

The groundwater, surface water and LFG monitoring networks present at the closed Hansville Landfill are as follows:

- Groundwater: One (1) upgradient monitoring well (MW-5) and five (5) downgradient monitoring wells (MW-6, MW-7, MW-12I, MW-13D and MW-14).
- Surface Water: Four (4) monitoring stations (SW-1, SW-4, SW-6 and SW-7).
- Landfill Gas: Twenty-one (21) LFG extraction well/trench ports, two (2) blower/flare ports, and seven (7) perimeter LFG probes (GP-1 through GP-7, with GP-2 being a triple completion).

Under the final CAP, the following water quality parameters are included in the quarterly analysis for both groundwater and surface water: arsenic, manganese, chloride, ammonia, nitrate, nitrite, bicarbonate, carbonate, alkalinity, sulfate, TOC, orthophosphate, and vinyl chloride (by SIM). A full EPA method 8260 scan for VOCs is also conducted annually. Quarterly LFG field measurements continue to include methane gas, oxygen gas, and carbon dioxide gas (by percent volume), as well as gas flow, pressure and temperature.

During the summer of 2016, Ecology initiated the five year review of the Hansville Landfill MTCA remedy as defined under the 2011 Amended Consent Decree. Consistent with Section XXVI of the Amended Consent Decree, a Remedial Action Status Report (RASR, SCS Engineers, May 2016) was prepared and submitted to Ecology 60 days prior to the agency's review. In August 2006, Ecology prepared a draft memorandum that included an evaluation of past five years of groundwater monitoring data and comments to the RASR. Based on Ecology's review, the current monitoring program will continue to be implemented through the next five year MTCA review cycle.

3.0 2016 GROUNDWATER AND SURFACE WATER MONITORING

Water quality monitoring for groundwater and surface water was conducted at the Hansville Landfill Site by SCS on January 6th, April 4th, July 12th, and October 20th, 2016. Dual sampling crews were utilized during each event, which permitted the water quality monitoring activities to be completed during the course of a single field day.

Consistent with the procedures detailed in the Compliance Monitoring Plan (SCS 2011), six groundwater monitoring wells (MW-5, MW-6, MW-7, MW-12I, MW-13D, and MW-14) were purged and sampled utilizing low-flow/low-volume collection techniques using dedicated Grundfos submersible electric pumps. Prior to initiating purging activities, an electronic water level meter was deployed to record depth to water measurements at each well location. Stabilization during purging and sampling was documented through field measurement of pH, specific conductivity, dissolved oxygen, oxidation-reduction potential/redox (Eh) and temperature. Samples tested for dissolved metals were field-filtered through a 0.45-micron filter. A field duplicate was collected during each monitoring event.

Surface water samples (SW-1, SW-4, SW-6 and SW-7) were collected directly from the surface flow into laboratory-provided containers. Samples to be tested for dissolved metals were field-filtered through a 0.45-micron filter. Surface water samples were tested in the field for pH, specific conductivity, dissolved oxygen, oxidation-reduction potential/redox (Eh) and temperature.

All water quality samples were submitted to TestAmerica, Inc. (Denver, Colorado) for chemical analysis, except for low-level dissolved arsenic, which were sent to Analytical Resources, Inc. in Tukwila, Washington. Groundwater and surface water samples collected during the 2016 quarterly monitoring events were analyzed for the CAP-defined parameter suite previously detailed in Section 2.4. The full suite of VOCs was analyzed as part of the January 2016 quarterly event. Analytical results for the fourth quarter 2016 event are tabulated in Appendix B. Summary data tables for the three preceding 2016 monitoring quarters, which have been previously reported, are attached in Appendix C.

A quality assurance/quality control (QA/QC) evaluation of the laboratory data was conducted for each quarterly event. The QA/QC evaluation included evaluating data for completeness, and reviewing the data package for holding times, method blanks, trip blanks, laboratory control samples, laboratory duplicates, and matrix spike/matrix spike duplicates. Excepting a holding time delay associated with the second quarter nitrite and orthophosphate results from three well locations (MW-6, MW-7 and MW-14), no significant data quality issues were identified for the 2016 analytical data set. The these analyses were performed slightly outside their 48 hour holding times due to an express shipping delay for a portion of the second quarter sample shipment to the analytical laboratory. Where appropriate, data qualifiers have been appended to the reported results, as noted on each summary data table.

Standard analytical protocols were followed in the analysis of the samples, and laboratory quality control samples analyzed in conjunction with the samples in this project remained within established control limits. Limitations are stated and clearly identified in the report where applicable. Based on this review, all the 2016 analytical data were found to be acceptable as reported by the laboratory for the intended use in this project.

3.1 WATER QUALITY RESULTS

3.1.1 Groundwater Elevations

Depth to groundwater measurements and calculated water table elevations for the fourth quarter 2016 monitoring event are presented in Table 1 (Appendix B). A potentiometric surface map illustrating groundwater flow across the Site on October 20th, 2016 is presented as Figure 4 (Appendix B). Tabulated groundwater data and groundwater contour maps previously reported for the first three quarters of the 2016 monitoring year are attached in Appendix C.

Water table elevations measured over the current reporting period remained generally stable, ranging between 237.63 feet msl (MW-12I in January) to 266.65 feet msl (MW-5 in October). Due to an unseasonably dry winter, the lowest water table elevations were mostly observed during the first quarter (January 2016) monitoring event. However, the annual range of water table elevations recorded during 2016 remained generally consistent with the previously reported monitoring years' results (SCS 2011 through 2015 and Parametrix 2010). Groundwater in the shallow aquifer continues to flow to the west-southwest and discharges to the headwaters of creeks downgradient of the landfill.

3.1.2 Groundwater Quality

Chemicals of Concerns

Downgradient well MW-14 was the only location where arsenic concentrations were reported above this parameter's 0.005 mg/L site-specific groundwater cleanup level during the 2016 compliance period. The reported concentrations in this well ranged between 0.0144 mg/L (in October) and 0.0158 mg/L (in January). Low, but detectable, levels of arsenic (ranging from 0.00088 mg/L at MW-7 in October to 0.0040 mg/L at MW-13D in October) were consistently reported during all four quarters in the remaining groundwater wells. Time-series diagrams for arsenic in groundwater are provided in Appendix D.

During 2016, MW-14 was the only monitoring well where manganese routinely exceeded its 2.24 mg/L site-specific groundwater cleanup level. The reported exceedances ranged between 2.3 mg/L (in October) to 3.0 mg/L (in April). As noted for previous monitoring years, the highest manganese concentrations were generally observed in the groundwater wells (MW-6 and MW-14) situated immediately downgradient of the solid waste landfill.

Vinyl chloride exceeded its 0.025 µg/L site-specific groundwater cleanup level in three wells during the 2016 reporting period. These exceedances were detected in MW-6 (ranging from 0.10 µg/L in April to 0.17 µg/L in January), MW-12I (ranging from 0.011 µg/L in April and July to 0.13 µg/L in January and October, and MW-14 (ranging from 0.14 µg/L in April to 0.16 µg/L in

January and July). A full EPA 8260 analysis conducted during the January 2016 event reported sporadic, low-level detections of three additional VOCs, including 1,2-dichloroethane, cis-1,2-dichloroethene and ethyl ether in the groundwater samples. However, none of the latter VOC detections approached their respective groundwater protection standards. Similar low level VOC detections have been sporadically reported for full EPA 8260 scans conducted during previous monitoring years. Time-series diagrams for vinyl chloride in groundwater are also provided in Appendix D.

The largest number of parameter exceedances (arsenic, manganese and vinyl chloride) reported at the Hansville Landfill during 2016 continue to be associated with groundwater well MW-14, which is situated on the downgradient (southwest) edge of the solid waste landfill. As noted in past monitoring years, concentrations of site COCs generally decrease with increasing distance from the landfill.

Geochemical Parameters Indicative of Natural Attenuation

The final CAP identified two field (dissolved oxygen and redox) and three laboratory (sulfate, orthophosphate, and TOC) groundwater analytes as geochemical indicator parameters to be tracked under the site remedy to monitor natural attenuation processes at the Hansville Landfill Site. Low dissolved oxygen levels, low or negative redox, and low sulfate concentrations are typically associated with the reducing/anoxic groundwater conditions that are commonly encountered immediately beneath and downgradient of solid waste landfills. Elevated orthophosphate levels are often associated with septic wastes leakage, and may result in excessive nutrient loading if discharged to surface waters. Decay of organic materials (such as decomposing refuse) can elevate TOC in groundwater beneath and downgradient of a landfill.

During 2016, generally reducing groundwater conditions continued to be observed in downgradient wells MW-6, MW-12I, MW-13D and MW-14. These wells generally reported the lowest dissolved oxygen (0.09 to 2.0 mg/L) and redox (-73 to 164.4 mV) levels. The most oxidized groundwater conditions continue to be measured in upgradient well MW-5, and to a lesser extent in well MW-7 (which is the most cross-gradient well in the monitoring network).

As noted during past monitoring years, sulfate and TOC levels remained generally low throughout 2016, with sulfate concentrations ranging from 3.6 mg/L (MW-7 in January and April) to 29 mg/L (MW-6 in July) and TOC concentrations ranging from < 1 mg/L (MW-6 and MW-14 in January, and MW-5 and MW-13D throughout the year) to 2.4 mg/L (MW-12I in January, April and July). Also, as reported for previous years, orthophosphate was not detected in any of the groundwater (or surface water) samples analyzed during the 2016 monitoring period (this parameter has never been detected at the Site).

The geochemical indicator parameter results reported during 2016 continue to suggest that reductive groundwater conditions occur immediately beneath and downgradient of the Hansville landfill. It should also be noted that landfill leachate indicator parameter results showing relatively low, but higher than background, levels of ammonia, chloride and nitrate/nitrite, support the conclusion that the landfill continues to locally affect groundwater quality.

3.1.3 Surface Water Quality

Barring a single exception, none of the surface water samples analyzed during the 2016 monitoring period reported any of the Hansville Landfill COCs at levels in excess of their site-specific cleanup levels. VOCs, including vinyl chloride, were not detected in any of the surface water samples analyzed during the reporting year.

A low level arsenic exceedance (0.00713 mg/L at SW-6) which slightly exceeded the 0.005 mg/L site specific cleanup standard was reported during the July 2016 monitoring event. As noted in the third quarter 2016 report, this anomalous arsenic exceedance was likely related to the extreme low-flow conditions encountered during sample collection. It is suspected that suspended sediments disturbed during the excavation of a sampling depression within the streambed resulted in the collection of a non-representative grab sample. It was also noted that this anomalous arsenic exceedance was the first observed at the Site since the third quarter of 2011.

Low, but detectable concentrations of arsenic and manganese were consistently reported at the majority of the surface water monitoring stations during the monitoring year. Arsenic concentrations in surface water ranged between 0.0008 mg/L (SW-1 in April) to 0.00713 mg/L (SW-6 in July). Manganese concentrations ranged between < 0.001 mg/L (SW-1 during all four quarters) to 0.24 mg/L (SW-6 in July). The July manganese result was higher than typically observed at this location, and is likely related to the previously discussed non-representative grab sample.

As noted during previous monitoring years, surface water stations SW-4 and SW-6, which are situated immediately west (downgradient) of the landfill, typically report slightly higher levels of site COCs and related landfill indicator parameters. However, arsenic and vinyl chloride concentrations at these same locations are substantially reduced from those initially reported at the Site. The levels of chloride (ranging from 3.1 mg/L [SW-6 in April] to 16 mg/L [SW-4 in July]), sulfate (ranging from 2.0 mg/L [SW-6 in July] to 25 mg/L [SW-4 in July]), TOC (ranging from 1.7 mg/L [SW-1 in July] to 37 mg/L [SW-6 in October]), and ammonia (ranging from < 0.030 mg/L in most of the samples to 0.041 mg/L [SW-6 in July]) reported at these surface water monitoring stations have also declined over the same period. As previously noted, orthophosphate was not detected in any of the surface water monitoring locations during 2016.

3.2 STATISTICAL EVALUATION

Consistent with Appendix D of the final Hansville Landfill CAP, groundwater data reported for the 2016 monitoring period were statistically evaluated for selected site COCs. Vinyl chloride and arsenic groundwater results that exceeded their respective site-specific cleanup standards during 2016 were evaluated through a statistical trend analysis and a three-year projection of the calculated trendlines. Statistical mean and the upper and lower confidence limits (UCL and LCL) were also calculated for all of the vinyl chloride and arsenic data obtained over the reporting period. In addition, as requested by Ecology in its August 2016 draft memorandum, the CAP-defined statistical evaluation was modified to also include the following:

- The arsenic and vinyl chloride data set evaluated using Mann-Kendall and Sen's Slope statistics has been expanded to include analytical results dating back to 2007 (i.e., a sample size N = 40). This is the same data set for which routine time series charting and statistical curve fitting have been performed.

- Annualized mean, 95% UCL and 95% LCL trends for the 2011 through 2016 monitoring years are plotted for each of the wells that reported vinyl chloride or arsenic above their site specific cleanup goals.

The statistical analysis was performed using AquaChem (ver. 2014.1) software and curve-fitting modules of Microsoft Excel (ver. 2010). Summary statistics, including calculated means, Mann-Kendall/Sens Slope Test trends, and UCL/LCL results are provided in Table D-1 (Appendix D). The data set used to run the Mann-Kendall/Sens Slope tests is presented on Table D-2. Time-series charts for arsenic and vinyl chloride (including trend projections where appropriate, as well as the annualized 95% UCL and 95% LCL trends, are also provided in Appendix D.

3.2.1 Statistical Trend Analysis and Time-Series Plots

Three downgradient groundwater monitoring wells (MW-6, MW-12I, and MW-14) reported vinyl chloride concentrations during the 2016 reporting period that exceeded the 0.025 µg/L site-specific cleanup standard. Downgradient well MW-14 also continued to report arsenic concentrations in excess of the 0.005 mg/L site-specific arsenic cleanup standard.

As summarized on Table D-1, Mann-Kendall tests performed on the expanded data sets (N=40) for these wells generated negative values (indicative of a possible decreasing trend) for both arsenic and vinyl chloride in MW-14. Negative values were also calculated for vinyl chloride in MW-6 and MW-12I. Statistically significant negative Mann-Kendall trends were generated for arsenic in MW-14 and for vinyl chloride in all three wells. Follow-up Sens Slope tests for these same wells confirmed a statistically significant decreasing trend in arsenic in MW-14 and for vinyl chloride in all three wells.

These results are consistent with the continuing gradual improvement of groundwater quality at these wells over the past decade (2007 through 2016). Vinyl chloride and arsenic data reported since January 2007 are also plotted versus time (time series graphs) for all the remaining groundwater wells monitored during 2016 (Appendix D).

3.2.2 Trend Projections

Vinyl chloride concentration trends in downgradient wells MW-6, MW-12I, and MW-14, and arsenic concentration trends in downgradient well MW-14, were projected through 2019 (a three-year projection) to evaluate the convergence of these COCs towards their respective site-specific cleanup levels. An exponential decay/least-squares regression curve, also known as an attenuation curve, has been overlain on the time-series charts for these wells (Appendix D).

The vinyl chloride trendlines for MW-6, MW-12I, and MW-14 all continue to display a decreasing slope. Consistent with past observations, the current attenuation curve projections appear to predict a slightly more rapid reduction in vinyl chloride concentrations in wells MW-

12I and MW-14, than that forecast for well MW-6. The calculated attenuation curve for arsenic in MW-14 also continues to display a pronounced decreasing slope.

3.2.3 Calculation of Upper and Lower Confidence Limits

Employing the statistical procedures and assumptions documented in Appendix D of the final CAP, the AquaChem software was used to calculate the mean and the 95% normal confidence UCL and LCL for the 2016 vinyl chloride and arsenic concentrations in the groundwater monitoring wells in accordance with ASTM D7048-04. The calculated mean, UCL, and LCL for these COCs were then compared to the site specific cleanup levels (0.025 µg/L and 0.005 mg/L for vinyl chloride and arsenic, respectively) to determine the position of the UCL/LCL relative to the cleanup levels (above or below).

As summarized in Table D-1, the calculated means for the 2016 vinyl chloride results in downgradient wells MW-6, MW-12I, and MW-14 (which were 0.128 µg/L, 0.120 µg/L and 0.1525 µg/L, respectively) continue to exceed the 0.025 µg/L site specific cleanup level. The calculated UCLs for vinyl chloride in these same three groundwater monitoring wells also continued to exceed this parameter's site specific cleanup level. UCL/LCL values could not be calculated for vinyl chloride in MW-5, MW-7 or MW-13D for 2016 because insufficient detections (none) were reported in these wells during the current reporting period. However, it should be noted that the latter non-detections remain well below the 0.025 µg/L cleanup level.

The calculated mean and UCL for arsenic in MW-14 (0.01513 and 0.01580 mg/L, respectively) exceeded the parameter's 0.005 mg/L site specific cleanup level. None of the UCL/LCL values calculated for arsenic in the remaining groundwater monitoring wells (MW-5, MW-6, MW-7, MW-12I and MW-13D) exceeded the 0.005 mg/L cleanup level.

Annualized means, UCLs and LCLs plotted for vinyl chloride in MW-6, MW-12I and MW14 and for arsenic in MW-14 (Appendix D) show uneven, yet overall gradually declining trends between 2011 and 2016. Generally higher means and UCLs were reported for vinyl chloride in MW-6 (2012, 2013 and 2014) and MW-12I (2014 and 2015) which resulted in apparent increasing trends in these values over these specific years, which countered the overall six year declining trends. These years also showed wider spreads between the UCL and LCL. It should also be noted, that given the small sample size (N=4) a single anomalously high (or low) parameter detection can skew these annualized statistics in a given year and mask the overall long-term trend. The 2016 results suggest that these confidence limits are continuing a gradual decline (i.e., show an overall downward trend) in MW-6, MW-12I and MW-14.

4.0 2016 LANDFILL GAS MONITORING

During 2016, the LFG collection system, including the interior wells and trenches and the blower/flare facility, were monitored on a quarterly basis. Performance parameters include methane, oxygen, carbon dioxide, static pressure, and temperature. Operational checks of the LFG system, and system tuning as required, were also conducted on an approximately monthly schedule. The LFG collection system operated normally throughout the reporting year.

LFG probes were also monitored on a quarterly schedule for methane, oxygen, carbon dioxide, and static pressure. The monitoring instruments were calibrated prior to monitoring according to manufacturer recommendations. A zero check against ambient (atmospheric) conditions was performed on each instrument prior to use. Given the inherit sensitivity of the GEM-2000 portable multi-gas analyzer, the detection limit for field measurements of methane can range between 0.3 to 0.5 percent by volume.

4.1 GAS MONITORING RESULTS

Landfill gas monitoring data for the fourth quarter 2016 are presented in Table 4 (Appendix B). LFG monitoring data tables that were previously reported during the preceding 2016 quarters are also attached in Appendix C.

During the fourth quarter of 2016, methane concentrations measured within the active landfill extraction system ranged between 0.0 and 15.7 methane (percent by volume). Similar ranges of methane concentration were reported in the active extraction system during preceding 2016 quarters. The adjusted air flow measured through the LFG collection system during 2016 ranged between 70 and 90 standard cubic feet per minute (scfm). LFG temperatures measured within the extraction well field during the year ranged between 58 and 89 degrees ^{0}F. These temperatures are typical for LFG generated at older solid waste landfills.

The regulatory limit for LFG probes stated in WAC 173-304-460 is 5 percent methane by volume (the lower explosive limit [LEL]) at the site boundary. During 2016, detectable methane concentrations were not reported above the equipment detection limits in any of the perimeter gas probes. Over the 2016 reporting year, oxygen concentrations in the perimeter probes ranged between 14.1 and 21.5 percent by volume, with most measurements remaining slightly under ambient conditions. Carbon dioxide levels measured during the reporting period ranged between 0.0 and 4.6 percent by volume.

The 2016 LFG monitoring results continue to indicate that the site remains in compliance with the subsurface methane threshold limits at the property boundary. These data also suggest that degraded LFG remains present in the soils immediately beneath and surrounding the solid waste disposal areas. Overall, the LFG extraction and monitoring systems at the Hansville Landfill operated within design parameters during the 2016 reporting period.

5.0 REFERENCES

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Appendix A

Site Figures

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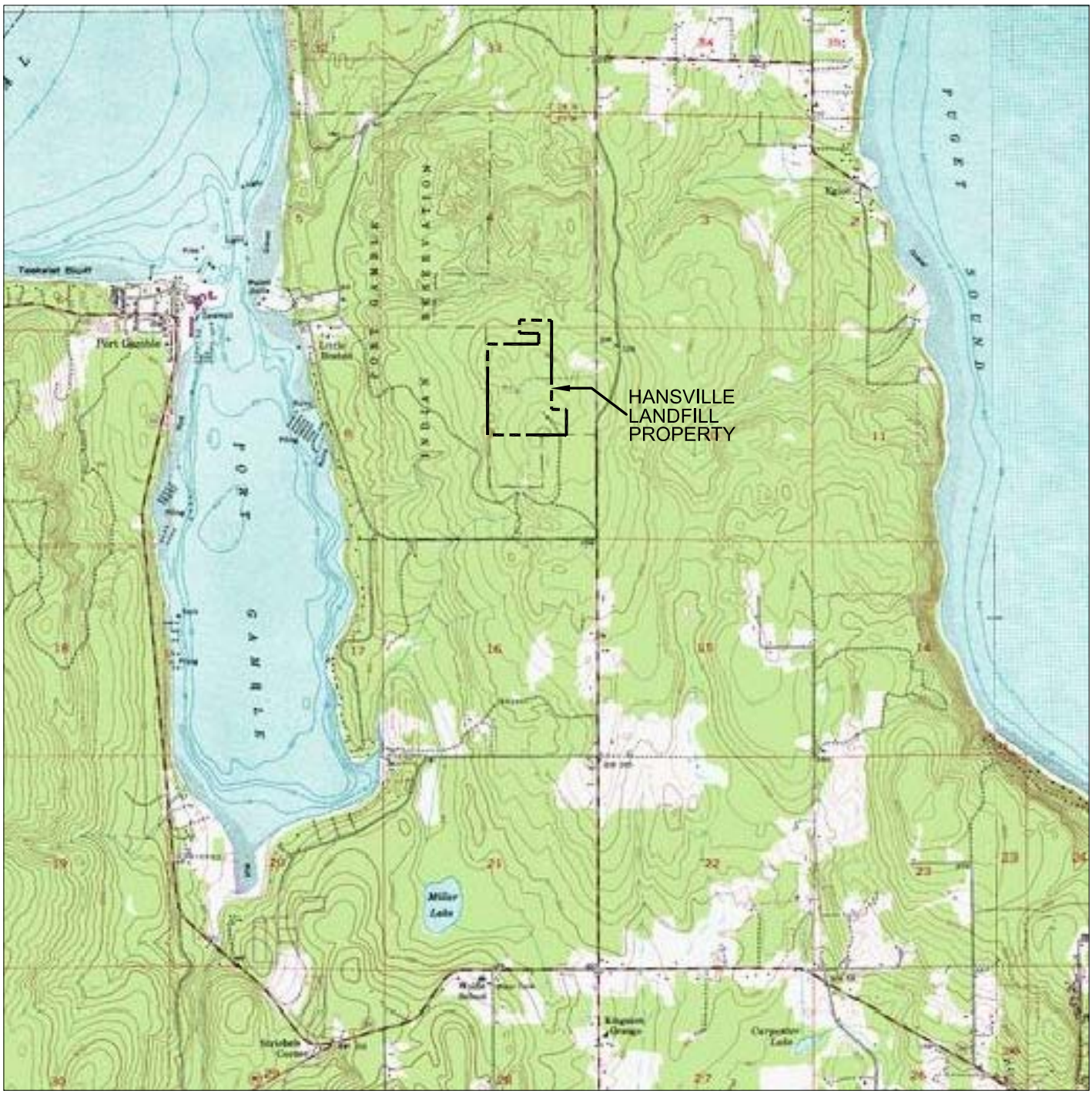

SOURCE: USGS

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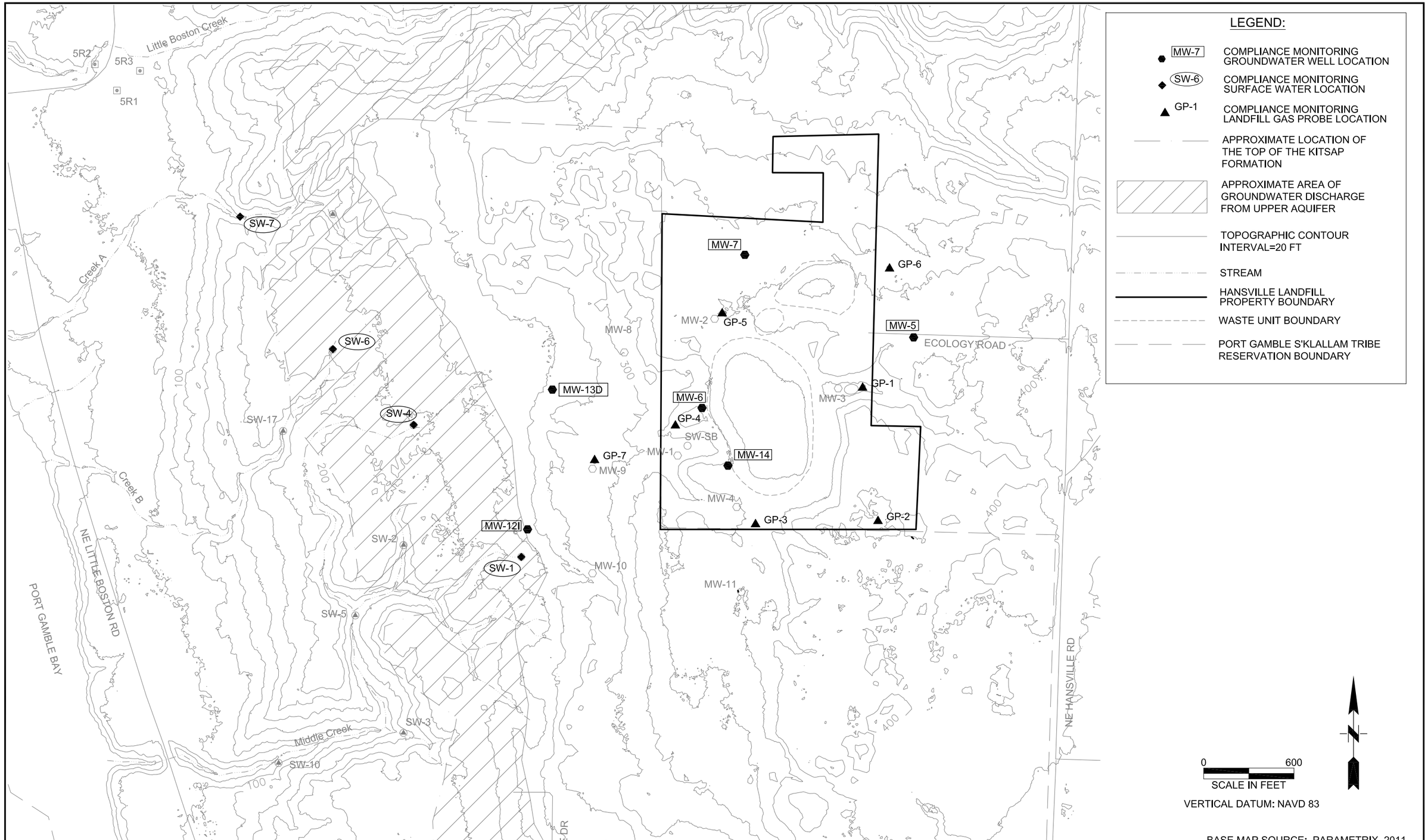
PROJECT NO. 04211017.05	DES BY L.L.
SCALE NA	CHK BY D.V.
CAD FILE FIGURE 1	APP BY G.H.

LANDFILL PROPERTY LOCATION MAP

HANSVILLE LANDFILL SITE
KITSAP COUNTY, WASHINGTON

DATE JAN 2017

FIGURE 1



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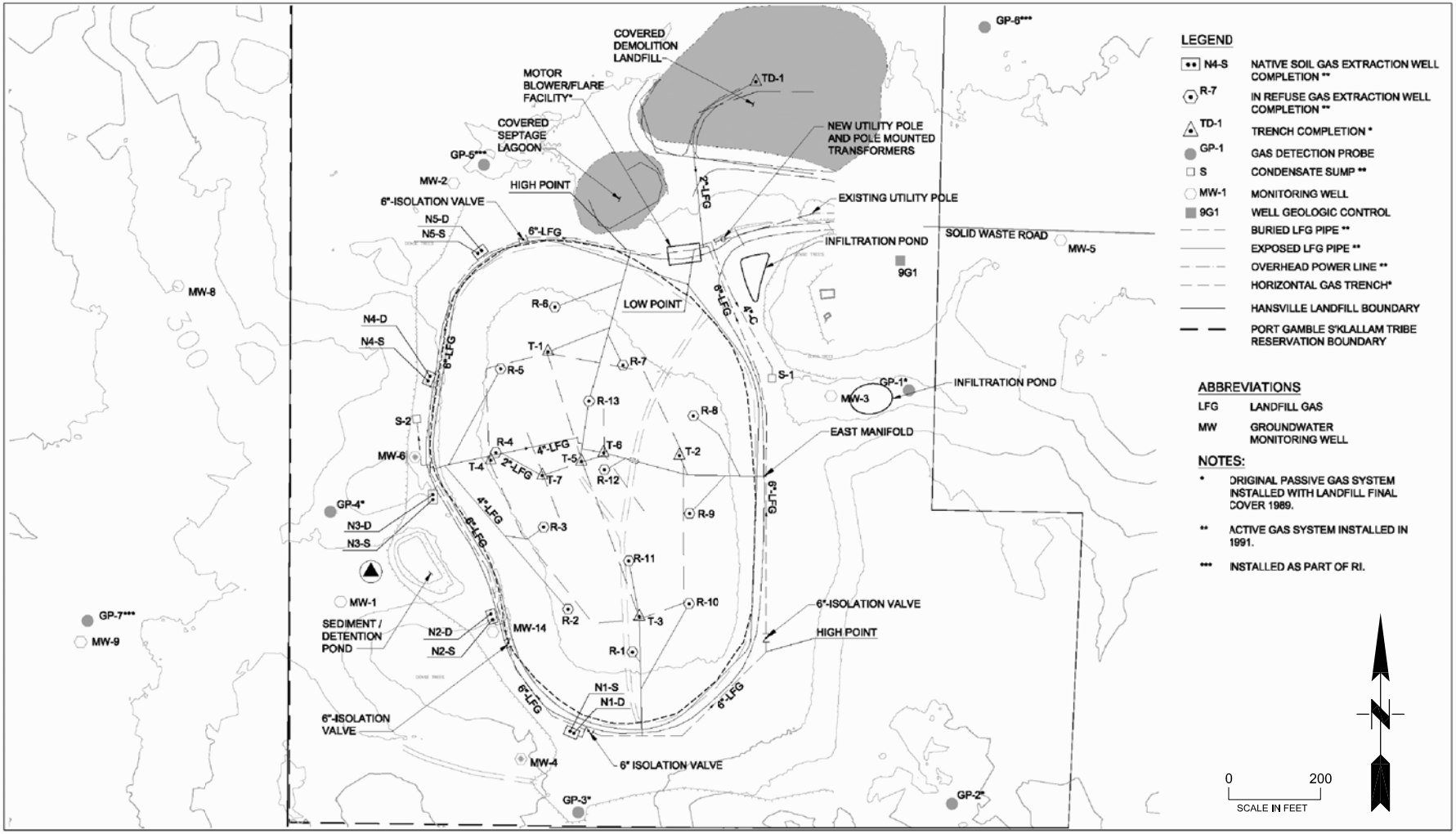
PROJECT NO. 042110017.05	DES BY L.L.	COMPLIANCE MONITORING LOCATIONS HANSVILLE LANDFILL KITSAP COUNTY, WASHINGTON	DATE JAN 2017
SCALE AS SHOWN	CHK BY D.V.		FIGURE 2
CAD FILE FIGURE 2	APP BY G.H.		



BASE MAP SOURCE: PARAMETRIX, 2004

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PROJECT NO.	DES BY
04211017.05	L.L
SCALE	CHK BY
AS SHOWN	D.V.
CAD FILE	APP BY
FIGURE 3	G.H.

LANDFILL GAS SYSTEM & PROBE LOCATIONS

HANSVILLE LANDFILL
KITSAP COUNTY, WASHINGTON

DATE JAN 2017

FIGURE 3

Appendix B

Fourth Quarter (October) 2016 Summary Data Tables For Groundwater, Surface Water and Landfill Gas & October 2016 Groundwater Contour Map

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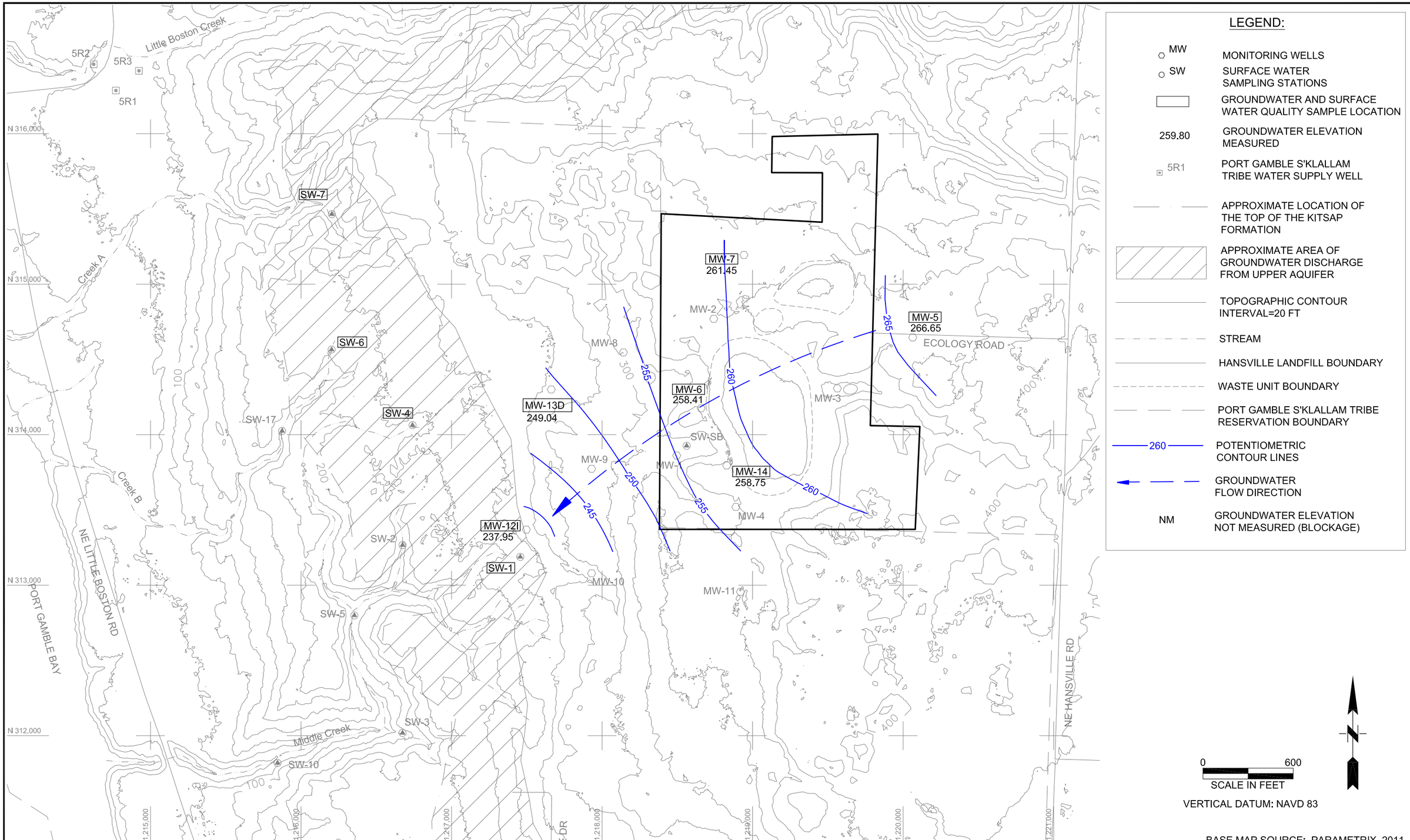
Table 1. Water Level Elevations, Fourth Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, October 20, 2016

Location ID	Elevations (ft-msl)		Screen Elevation (ft-msl)		Depth to Water (feet)	Water Level Elevation (ft-msl)
	Ground	PVC	Top	Bottom		
MW-5	363.7	366.9	244	234	100.25	266.65
MW-6	332.0	332.7	260	245	74.29	258.41
MW-7	344.3	346.0	259	244	84.55	261.45
MW-12I	245.6	248.1	217	207	10.15	237.95
MW-13D	258.1	260.4	205	195	11.36	249.04
MW-14	338.6	341.1	262	247	82.35	258.75

PVC: PVC wellhead casing measuring point elevation.
ft-msl: Elevation in feet above mean sea level.



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PROJECT NO. 042110017.05	DES BY L.L.	UPPER AQUIFER GROUNDWATER CONTOURS OCTOBER 20, 2016 HANSVILLE LANDFILL KITSAP COUNTY, WASHINGTON	DATE JAN 2017
SCALE AS SHOWN	CHK BY D.V.		FIGURE 4
CAD FILE FIGURE A-1	APP BY G.H.		

Table 2. Groundwater Quality Data, Fourth Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, October 20, 2016

Parameter	Site Cleanup Level (SCL) [1]	MW-05	MW-06	MW-07	MW-12I	MW-13D	MW-14	MW-14 DUP	Trip Blank
Field Parameters									
Dissolved Oxygen (mg/L)		7.46	0.35	1.27	0.09	0.09	0.17	--	--
pH (units)		6.89	6.63	6.43	6.88	7.22	6.65	--	--
Specific Conductivity (uS)		150	466	293	175	205	287	--	--
Temperature (degrees C)		12.2	14.9	11.3	10.3	10.9	13.5	--	--
Redox (Mv)		54	39	70	29	-61	-73	--	--
Conventional Parameters (mg/L, unless otherwise shown)									
Alkalinity		61	180	150	91	80	120	120	--
Ammonia (As N)		0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	--
Bicarbonate		61	180	150	91	80	120	120	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		2.6	21	1.6	2.7	5.6	8	7.7	--
Nitrate (As N)		0.98	2.6	0.51	0.5 U	0.5 U	0.5 U	0.5 U	--
Nitrite (As N)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		7.6	27	4.0	5.2	16	15	15	--
Total Organic Carbon (TOC)		1.0 U	1.2	1.6	2.3	1.0 U	1.1	1.1	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)									
Arsenic	0.005	0.00167	0.00156	0.00088	0.00226	0.0040	0.0144	0.0130	--
Manganese	2.24	0.001 U	0.480	0.001 U	0.045	0.027	2.3	2.2	--
Volatile Organics Compounds (ug/L) - only vinyl choride using EPA method 8260 SIM									
Vinyl chloride	0.025	0.020 U	0.12	0.020 U	0.13	0.020 U	0.15	0.14	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

U Compound not detected at reporting limit.

-- Not Tested.

Shaded results exceed site cleanup levels.

DUP The MW-14 DUP identifier is blind duplicate MW-20DD.

Table 3. Surface Water Quality Data, Fourth Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, October 20, 2016

Parameter	Site Cleanup Level (SCL) [1]	SW-1	SW-4	SW-6	SW-7	Trip Blank
Field Parameters						
Dissolved Oxygen (mg/L)		8.15	8.31	7.81	7.89	--
pH (units)		7.44	7.69	7.88	7.01	--
Specific Conductivity (uS)		195	231	119	185	--
Temperature (degrees C)		11.2	11.4	11.4	11.6	--
Redox (Mv)		116.9	113.3	103.4	129.7	--
Conventional Parameters (mg/L, unless otherwise shown)						
Alkalinity		78	87	59	42	--
Ammonia (As N)		0.030 U	0.030 U	0.031	0.030 U	--
Bicarbonate		78	87	59	42	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		4.5	11	4.5	4.1	--
Nitrate (As N)		2.0	0.59	1.1	3.2	--
Nitrite (As N)		0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		10	9.3	6	7	--
Total Organic Carbon (TOC)		8.6	34	37	23	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)						
Arsenic	0.005	0.00173	0.00254	0.00326	0.00145	--
Manganese	2.24	0.001 U	0.05	0.036	0.014	--
Volatile Organics Compounds (ug/L) - only vinyl chloride using EPA method 8260 SIM						
Vinyl chloride	0.025	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

Shaded results exceed site cleanup levels.

U Compound not detected at reporting limit.

-- Not Tested.

Table 4. Landfill Gas Data, Fourth Quarter 2016 Monitoring
Hansville Landfill, Kitsap County, Washington

Point Name	Record Date	CH4%	CO2%	O2%	Bal Gas%	Init Temp (F)	Adj Temp (F)	MaxInitAdj Temp	Init Static Pressure ("H2O)	Adj Static Pressure ("H20)	MaxStatic Pressure	Init Flow (scfm)	Comments
Blower Inlet	10/10/2016 13:45	4	12.5	4.6	78.9	66	66	66	-5.6	-5.7	-5.6	70	No Change
Blower Outlet	10/10/2016 13:49	4	12.8	4.5	78.7	86	89	89	0.8	0.6	0.8	70	No Change
Extraction Well 001	10/10/2016 14:27	9.4	10.9	0.1	79.6	71	72	72	-0.2	-0.2	-0.2	0	Header Vacuum loss,Insufficient
Extraction Well 002	10/10/2016 14:48	3.8	14.2	2	80	71	72	72	-1.5	-1.6	-1.5	0	No Change
Extraction Well 003	10/10/2016 14:59	15.7	11.2	0	73.1	68	69	69	-0.6	-0.4	-0.4	1	Opened valve > 1 turn
Extraction Well 004	10/10/2016 15:15	5.1	15.4	0.9	78.6	64	64	64	-1.3	-1.4	-1.3	0	No Change
Extraction Well 005	10/10/2016 15:35	6.9	15.4	1.9	75.8	70	71	71	-1.5	-1.4	-1.4	0	No Change
Extraction Well 006	10/10/2016 15:45	4.7	18.8	0	76.5	68	68	68	-0.7	-0.7	-0.7	0	No Change
Extraction Well 007	10/10/2016 15:50	4.9	14.6	0	80.5	61	63	63	-0.6	-0.6	-0.6	0	No Change
Extraction Well 008	10/10/2016 14:02	10.3	15.2	1.7	72.8	72	72	72	-0.3	-0.3	-0.3	0	No Change
Extraction Well 009	10/10/2016 14:13	2.1	14.1	1.1	82.7	69	71	71	-0.3	-0.3	-0.3	0	No Change
Extraction Well 010	10/10/2016 14:20	9.7	10.1	1.1	79.1	67	68	68	-0.2	-0.2	-0.2	0	Insufficient available vacuum
Extraction Well 011	10/10/2016 14:38	3	4.3	5.6	87.1	64	64	64	-0.2	-0.2	-0.2	0	Insufficient available vacuum
Extraction Well 012	10/10/2016 16:15	1.5	6.4	10.5	81.6	58	57	58	-0.4	-0.3	-0.3	0	No Change
Extraction Well 013	10/10/2016 15:58	7.4	10.2	1.4	81	62	63	63	-0.8	-0.8	-0.8	0	No Change
Native Soil Extraction Well 1	10/11/2016 11:19	0	3.1	16.6	80.3	76	77	77	-0.5	-0.4	-0.4	0	Closed valve > 1 turn
Native Soil Extraction Well 1	10/11/2016 11:16	0	2.3	17.7	80	59	59	59	-0.6	-0.6	-0.6	0	No Change
Native Soil Extraction Well 2	10/11/2016 11:11	0	1.6	19.3	79.1	64	64	64	-0.6	-0.6	-0.6	0	Closed valve > 1 turn
Native Soil Extraction Well 2	10/11/2016 11:08	0	2.6	17.7	79.7	67	67	67	-0.5	-0.5	-0.5	0	Closed valve > 1 turn
Native Soil Extraction Well 3	10/11/2016 11:04	0	3.1	17.8	79.1	78	77	78	-0.5	-0.5	-0.5	2	No Change
Native Soil Extraction Well 3	10/11/2016 11:01	0	3.2	17.3	79.5	67	67	67	-0.6	-0.6	-0.6	2	No Change
Native Soil Extraction Well 4	10/11/2016 10:57	0	1.5	19.8	78.7	65	65	65	-1.3	-1.3	-1.3	0	No Change
Native Soil Extraction Well 4	10/11/2016 10:55	0	2.7	18.3	79	66	65	66	-1	-1	-1	0	No Change
Native Soil Extraction Well 5	10/11/2016 10:50	0	1.6	19.8	78.6	60	61	61	-0.6	-0.6	-0.6	2	Well needs extend/lower
Native Soil Extraction Well 5	10/11/2016 10:48	0	2.8	17.8	79.4	59	59	59	-1.2	-1.2	-1.2	2	No Change
Probe 1	10/11/2016 9:51	0	0.5	20.9	78.6								No Change
Probe 2 Deep	10/11/2016 9:58	0	0.1	21.1	78.8								No Change
Probe 2 Middle	10/11/2016 10:00	0	0.1	20.9	79								No Change
Probe 2 Shallow	10/11/2016 10:02	0	0.1	21.2	78.7								No Change
Probe 3	10/11/2016 10:06	0	0.3	20.9	78.8								No Change
Probe 4	10/11/2016 10:24	0	0.9	20.9	78.2								No Change
Probe 5	10/11/2016 10:31	0	0.3	21.5	78.2								No Change
Probe 6	10/11/2016 10:37	0	0.2	21.5	78.3								No Change
Probe 7	10/11/2016 10:13	0	0.5	20.9	78.6								No Change
Trench Well TD-1	10/11/2016 10:43	1.7	20.7	0	77.6	66	66	66	-0.3	-0.3	-0.3	0	No Change
Trench Well TR-1	10/10/2016 15:40	2.9	15.5	1	80.6	68	68	68	-0.5	-0.5	-0.5	0	No Change
Trench Well TR-2	10/10/2016 14:08	1.7	7.1	11.7	79.5	68	67	68	-0.3	-0.3	-0.3	0	No Change
Trench Well TR-3	10/10/2016 14:33	3.6	5.5	10.9	80	66	66	66	-0.3	-0.3	-0.3	0	Insufficient available vacuum
Trench Well TR-4	10/10/2016 15:28	8.2	14.5	1.6	75.7	72	71	72	-0.5	-0.6	-0.5	0	No Change
Trench Well TR-5	10/10/2016 16:05	0	0.2	21.3	78.5	62	62	62	-0.4	-0.4	-0.4	0	No Change
Trench Well TR-6	10/10/2016 16:09	1.9	7.1	11.5	79.5	64	65	65	-0.4	-0.4	-0.4	0	No Change
Trench Well TR-7	10/10/2016 15:09	11	13.1	3	72.9	69	70	70	-0.3	-0.2	-0.2	1	Opened valve 1/2 to 1 turn

Appendix C

Summary of Previous Quarter Monitoring Results (Q3, Q2 and Q1 2016)

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Q3 - JULY 2016 SUMMARY TABLES
& GROUNDWATER FLOW MAP

Table A-1. Water Level Elevations, Third Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, July 12, 2016

Location ID	Elevations (ft-msl)		Screen Elevation (ft-msl)		Depth to Water (feet)	Water Level Elevation (ft-msl)
	Ground	PVC	Top	Bottom		
MW-5	363.7	366.9	244	234	100.64	266.26
MW-6	332.0	332.7	260	245	74.55	258.15
MW-7	344.3	346.0	259	244	84.85	261.15
MW-12I	245.6	248.1	217	207	10.24	237.86
MW-13D	258.1	260.4	205	195	11.34	249.06
MW-14	338.6	341.1	262	247	82.70	258.40

PVC: PVC wellhead casing measuring point elevation.
ft-msl: Elevation in feet above mean sea level.

Table A-2. Groundwater Quality Data, Third Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, July 12, 2016

Parameter	Site Cleanup Level (SCL) [1]	MW-05	MW-06	MW-07	MW-12I	MW-13D	MW-14	MW-14 DUP	Trip Blank
Field Parameters									
Dissolved Oxygen (mg/L)		8.4	0.45	1.85	0.22	0.26	0.37	--	--
pH (units)		7.37	7.07	6.92	6.88	7.24	7.15	--	--
Specific Conductivity (uS)		147	430	316	171	208	367	--	--
Temperature (degrees C)		13.3	15.8	13.0	11.2	11.6	14.9	--	--
Redox (Mv)		176.8	164.4	162.3	21	-42	49.8	--	--
Conventional Parameters (mg/L, unless otherwise shown)									
Alkalinity		59	180	160	84	80	140	150	--
Ammonia (As N)		0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	--
Bicarbonate		59	180	160	84	80	140	150	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		2.8	8.8	1.5	2.4	6.2	14	14	--
Nitrate (As N)		1.1	3.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Nitrite (As N)		0.5 U	0.58	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		9.0	29	5.1	5.0	18	23	23	--
Total Organic Carbon (TOC)		1.0 U	1.2	1.4	2.4	1.0 U	1.2	1.2	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)									
Arsenic	0.005	0.00168	0.00152	0.0009	0.00221	0.00361	0.0150	0.0156	--
Manganese	2.24	0.001 U	0.390	0.001 U	0.053	0.023	2.6	2.6	--
Volatile Organics Compounds (ug/L)									
Vinyl chloride	0.025	0.020 U	0.12	0.020 U	0.11	0.020 U	0.16	0.14	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

U Compound not detected at reporting limit.

-- Not Tested.

H Holding time was exceeded for analyte.

Shaded results exceed site cleanup levels.

DUP The MW-14 DUP identifier is blind duplicate MW-20DD.

Table A-3. Surface Water Quality Data, Third Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, July 12, 2016

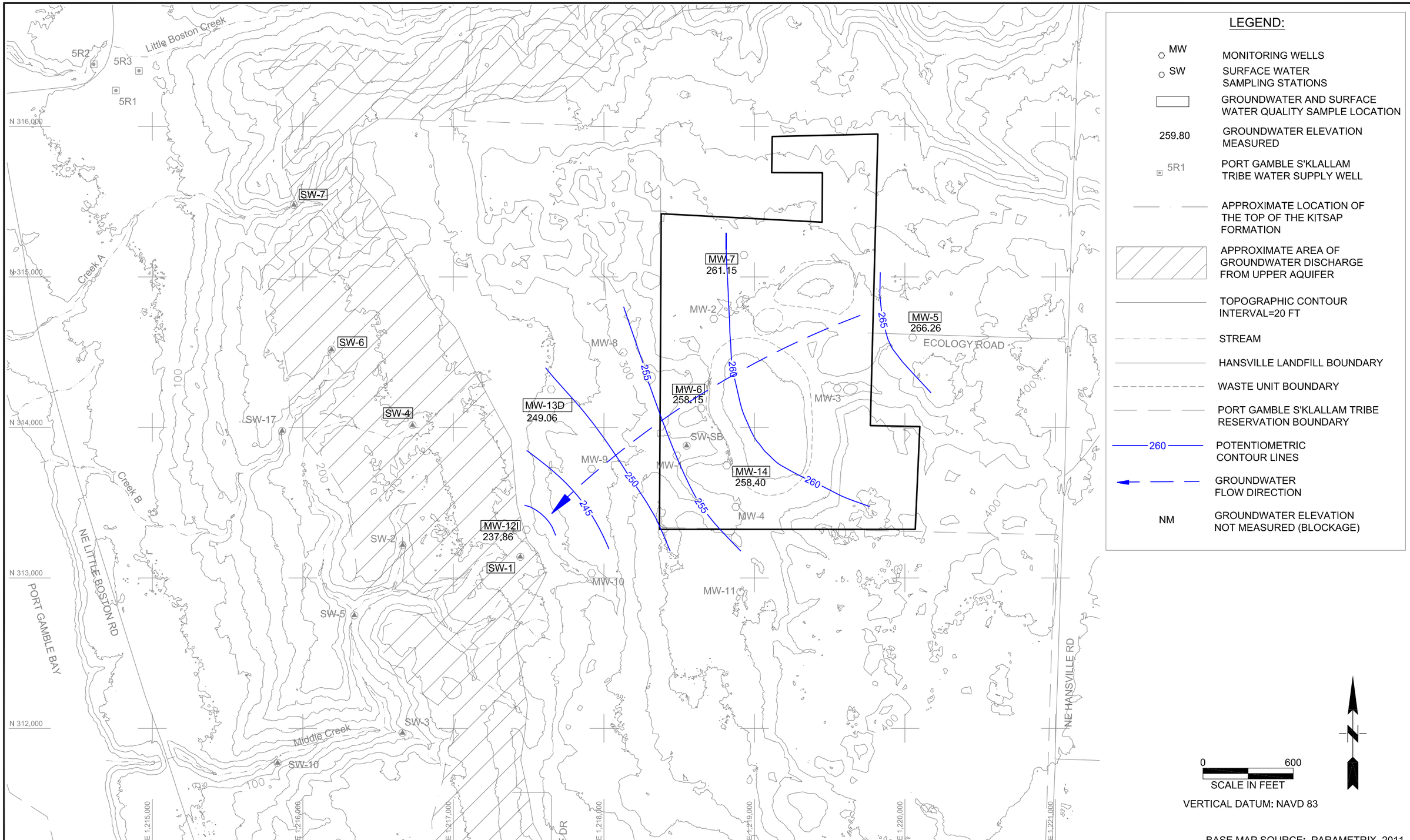
Parameter	Site Cleanup Level (SCL) [1]	SW-1	SW-4	SW-6	SW-7	Trip Blank
Field Parameters						
Dissolved Oxygen (mg/L)		6.67	5.32	5.29	6.51	--
pH (units)		6.32	7.35	7.33	7.40	--
Specific Conductivity (uS)		273	429	165	172	--
Temperature (degrees C)		12.8	13.7	14.5	14.7	--
Redox (Mv)		118	80	24	67	--
Conventional Parameters (mg/L, unless otherwise shown)						
Alkalinity		94	170	77	71	--
Ammonia (As N)		0.030 U	0.030 U	0.041	0.030 U	--
Bicarbonate		94	170	77	71	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		8.6	16	3.9	3.8	--
Nitrate (As N)		2.5	1.1	0.5 U	0.53	--
Nitrite (As N)		0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		18	25	2.0	8.7	--
Total Organic Carbon (TOC)		1.7	4.4	18	6.8	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)						
Arsenic	0.005	0.00079	0.00162	0.00713	0.0018	--
Manganese	2.24	0.001 U	0.040	0.240	0.011	--
Volatile Organics Compounds (ug/L)						
Vinyl chloride	0.025	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

Shaded results exceed site cleanup levels.

U Compound not detected at reporting limit.

-- Not Tested.



LEGEND:

- MW — MONITORING WELLS
- SW — SURFACE WATER SAMPLING STATIONS
- GROUNDWATER AND SURFACE WATER QUALITY SAMPLE LOCATION
- 259.80 — GROUNDWATER ELEVATION MEASURED
- 5R1 — PORT GAMBLE S'KLALLAM TRIBE WATER SUPPLY WELL
- APPROXIMATE LOCATION OF THE TOP OF THE KITSAP FORMATION
- APPROXIMATE AREA OF GROUNDWATER DISCHARGE FROM UPPER AQUIFER
- TOPOGRAPHIC CONTOUR INTERVAL=20 FT
- STREAM
- HANSVILLE LANDFILL BOUNDARY
- WASTE UNIT BOUNDARY
- PORT GAMBLE S'KLALLAM TRIBE RESERVATION BOUNDARY
- 260 — POTENTIOMETRIC CONTOUR LINES
- GROUNDWATER FLOW DIRECTION
- NM — GROUNDWATER ELEVATION NOT MEASURED (BLOCKAGE)

0 600
SCALE IN FEET

VERTICAL DATUM: NAVD 83

BASE MAP SOURCE: PARAMETRIX, 2011

SCS ENGINEERS
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PROJECT NO. 042110017.05	DES BY L.L.	UPPER AQUIFER GROUNDWATER CONTOURS JULY 12, 2016	DATE AUG 2016
SCALE AS SHOWN	CHK BY D.V.	HANSVILLE LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE A-1
CAD FILE FIGURE A-1	APP BY G.H.		

Table C-1. Landfill Gas Data, Third Quarter 2016 Monitoring
Hansville Landfill, Kitsap County, Washington

Point Name	Record Date	CH4%	CO2%	O2%	Bal Gas%	Init Temp (F)	Adj Temp (F)	MaxInitAdj Temp	Init Static Pressure ("H2O)	Adj Static Pressure ("H20)	MaxStatic Pressure	Init Flow (scfm)	Comments
Blower Inlet	9/12/2016 15:07	5.5	12.7	3.5	78.3	88	87	88	-1.6	-1.7	-1.6	98	No Comment
Blower Outlet	9/12/2016 15:10	5.5	12.7	3.4	78.4	89	91	91	0.7	0.7	0.7	85	No Comment
Extraction Well 001	9/12/2016 13:18	9.3	10.5	0.1	80.1	81	80	81	-0.2	-0.2	-0.2	0	No Comment
Extraction Well 002	9/12/2016 13:42	4.6	13.7	1.6	80.1	80	79	80	-1.2	-1.2	-1.2	0	No Comment
Extraction Well 003	9/12/2016 13:45	15.7	10.6	0	73.7	78	78	78	-0.5	-0.4	-0.4	0	No Comment
Extraction Well 004	9/12/2016 13:58	6.8	15.3	0.1	77.8	79	78	79	-1.1	-1.1	-1.1	0	No Comment
Extraction Well 005	9/12/2016 14:22	8.5	15.3	1	75.2	77	77	77	-1	-1	-1	0	No Comment
Extraction Well 006	9/12/2016 14:17	5.6	18.5	0	75.9	76	76	76	-0.2	-0.3	-0.2	0	No Comment
Extraction Well 007	9/12/2016 14:14	5.3	14.4	0	80.3	77	77	77	-0.4	-0.4	-0.4	0	No Comment
Extraction Well 008	9/12/2016 14:12	11.9	15.4	0	72.7	75	74	75	-0.1	-0.1	-0.1	0	No Comment
Extraction Well 009	9/12/2016 14:09	3.3	14.9	0	81.8	78	77	78	-0.1	-0.1	-0.1	0	No Comment
Extraction Well 010	9/12/2016 13:34	9	9.6	1.7	79.7	74	73	74	-0.2	-0.2	-0.2	2	No Comment
Extraction Well 011	9/12/2016 13:38	6.7	7.1	0	86.2	77	77	77	-0.1	-0.1	-0.1	0	No Comment
Extraction Well 012	9/12/2016 14:03	4.1	7.4	4.6	83.9	81	81	81	-0.1	-0.1	-0.1	0	No Comment
Extraction Well 013	9/12/2016 14:27	8.2	10.5	0.2	81.1	78	78	78	-0.6	-0.6	-0.6	0	No Comment
Native Soil Extraction Well 1 Deep	9/12/2016 13:02	0	3.4	15.1	81.5	82	83	83	0	0	0	0	No Comment
Native Soil Extraction Well 1 Shallow	9/12/2016 13:05	0	2.4	16.5	81.1	86	85	86	-0.1	-0.1	-0.1	0	No Comment
Native Soil Extraction Well 2 Deep	9/12/2016 14:33	0	1.9	17.9	80.2	76	75	76	0	0	0	0	No Comment
Native Soil Extraction Well 2 Shallow	9/12/2016 14:35	0	3	15.9	81.1	73	72	73	0	0	0	0	No Comment
Native Soil Extraction Well 3 Deep	9/12/2016 14:38	0	3.4	15.9	80.7	78	78	78	-0.1	-0.1	-0.1	0	No Comment
Native Soil Extraction Well 3 Shallow	9/12/2016 14:40	0	3.2	16.1	80.7	80	79	80	-0.1	-0.1	-0.1	0	No Comment
Native Soil Extraction Well 4 Deep	9/12/2016 14:48	0	1.7	18.3	80	78	77	78	-0.2	-0.2	-0.2	0	No Comment
Native Soil Extraction Well 4 Shallow	9/12/2016 14:50	0	2.6	17.3	80.1	72	72	72	-1	-1	-1	0	No Comment
Native Soil Extraction Well 5 Deep	9/12/2016 14:53	0	1.2	18.8	80	78	78	78	-0.4	-0.4	-0.4	0	No Comment
Native Soil Extraction Well 5 Shallow	9/12/2016 14:56	0	2.4	17	80.6	78	78	78	-0.7	-0.7	-0.7	0	No Comment
Probe 1	9/12/2016 11:48	0	0.1	20	79.9								No Comment
Probe 2 Deep	9/12/2016 11:59	0	0	20.1	79.9								No Comment
Probe 2 Middle	9/12/2016 12:01	0	0.2	19.4	80.4								No Comment
Probe 2 Shallow	9/12/2016 12:03	0	0.1	20.1	79.8								No Comment
Probe 3	9/12/2016 12:57	0	0.8	19	80.2								No Comment
Probe 4	9/12/2016 12:23	0	1.4	18.9	79.7								No Comment
Probe 5	9/12/2016 12:32	0	0.3	20.1	79.6								No Comment
Probe 6	9/12/2016 12:39	0	0.2	19.7	80.1								No Comment
Probe 7	9/12/2016 12:14	0	1.4	18.7	79.9								No Comment
Trench Well TD-1	9/12/2016 12:52	2.1	21.2	0	76.7	72	72	72	-0.1	-0.2	-0.1	0	No Comment
Trench Well TR-1	9/12/2016 14:20	4.2	15.3	0.3	80.2	78	78	78	-0.2	-0.2	-0.2	0	No Comment
Trench Well TR-2	9/12/2016 14:07	2.6	8	9.2	80.2	79	79	79	-0.1	-0.1	-0.1	0	No Comment
Trench Well TR-3	9/12/2016 13:29	4.6	6.5	7.9	81	80	80	80	-0.3	-0.3	-0.3	0	No Comment
Trench Well TR-4	9/12/2016 13:30	9.9	14.8	0.6	74.7	82	82	82	-0.3	-0.3	-0.3	0	No Comment
Trench Well TR-5	9/12/2016 13:56	0	0.1	19.8	80.1	79	79	79	-0.1	-0.1	-0.1	0	No Comment
Trench Well TR-6	9/12/2016 14:01	2.7	7.8	8.7	80.8	77	77	77	-0.1	-0.2	-0.1	0	No Comment
Trench Well TR-7	9/12/2016 14:05	13	13.3	2.1	71.6	79	78	79	-0.2	0	0	0	No Comment

Q2 - APRIL 2016 SUMMARY TABLES
& GROUNDWATER FLOW MAP

Table A-1. Water Level Elevations, Second Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, April 4, 2016

Location ID	Elevations (ft-msl)		Screen Elevation (ft-msl)		Depth to Water (feet)	Water Level Elevation (ft-msl)
	Ground	PVC	Top	Bottom		
MW-5	363.7	366.9	244	234	101.76	265.14
MW-6	332.0	332.7	260	245	74.98	257.72
MW-7	344.3	346.0	259	244	86.05	259.95
MW-12I	245.6	248.1	217	207	9.90	238.20
MW-13D	258.1	260.4	205	195	10.83	249.57
MW-14	338.6	341.1	262	247	82.93	258.17

PVC: PVC wellhead casing measuring point elevation.
ft-msl: Elevation in feet above mean sea level.

Table A-2. Groundwater Quality Data, Second Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, April 4, 2016

Parameter	Site Cleanup Level (SCL) [1]	MW-05	MW-06	MW-07	MW-12I	MW-13D	MW-14	MW-14 DUP	Trip Blank
Field Parameters									
Dissolved Oxygen (mg/L)		7.0	0.36	1.19	0.21	0.36	0.15	--	--
pH (units)		7.15	6.59	6.41	7.16	7.63	6.58	--	--
Specific Conductivity (uS)		144	426	308	163	190	364	--	--
Temperature (degrees C)		11.6	14.5	11.0	10.0	10.6	12.6	--	--
Redox (Mv)		80	115.6	118.3	59	-42	4.9	--	--
Conventional Parameters (mg/L, unless otherwise shown)									
Alkalinity		62	180	160	82	92	140	140	--
Ammonia (As N)		0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	--
Bicarbonate		62	180	160	82	92	140	140	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		2.7	6	2.0	2.6	6.0	11	12	--
Nitrate (As N)		0.94	1.6 H	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Nitrite (As N)		0.5 U	0.5 HU	0.5 HU	0.5 U	0.5 U	0.5 HU	0.5 HU	--
Sulfate		8.6	23	3.6	5.5	17	22	23	--
Total Organic Carbon (TOC)		1.0 U	1.0	1.5	2.4	1.0 U	1.4	1.3	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)									
Arsenic	0.005	0.0014	0.0017	0.0009	0.0021	0.0035	0.0153	0.0149	--
Manganese	2.24	0.001 U	0.340	0.001 U	0.057	0.027	3.0	2.8	--
Volatile Organics Compounds (ug/L)									
Vinyl chloride	0.025	0.020 U	0.10	0.020 U	0.11	0.020 U	0.14	0.14	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

U Compound not detected at reporting limit.

-- Not Tested.

H Holding time was exceeded for analyte.

Shaded results exceed site cleanup levels.

DUP The MW-14 DUP identifier is blind duplicate MW-20DD.

Table A-3. Surface Water Quality Data, Second Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, April 4, 2016

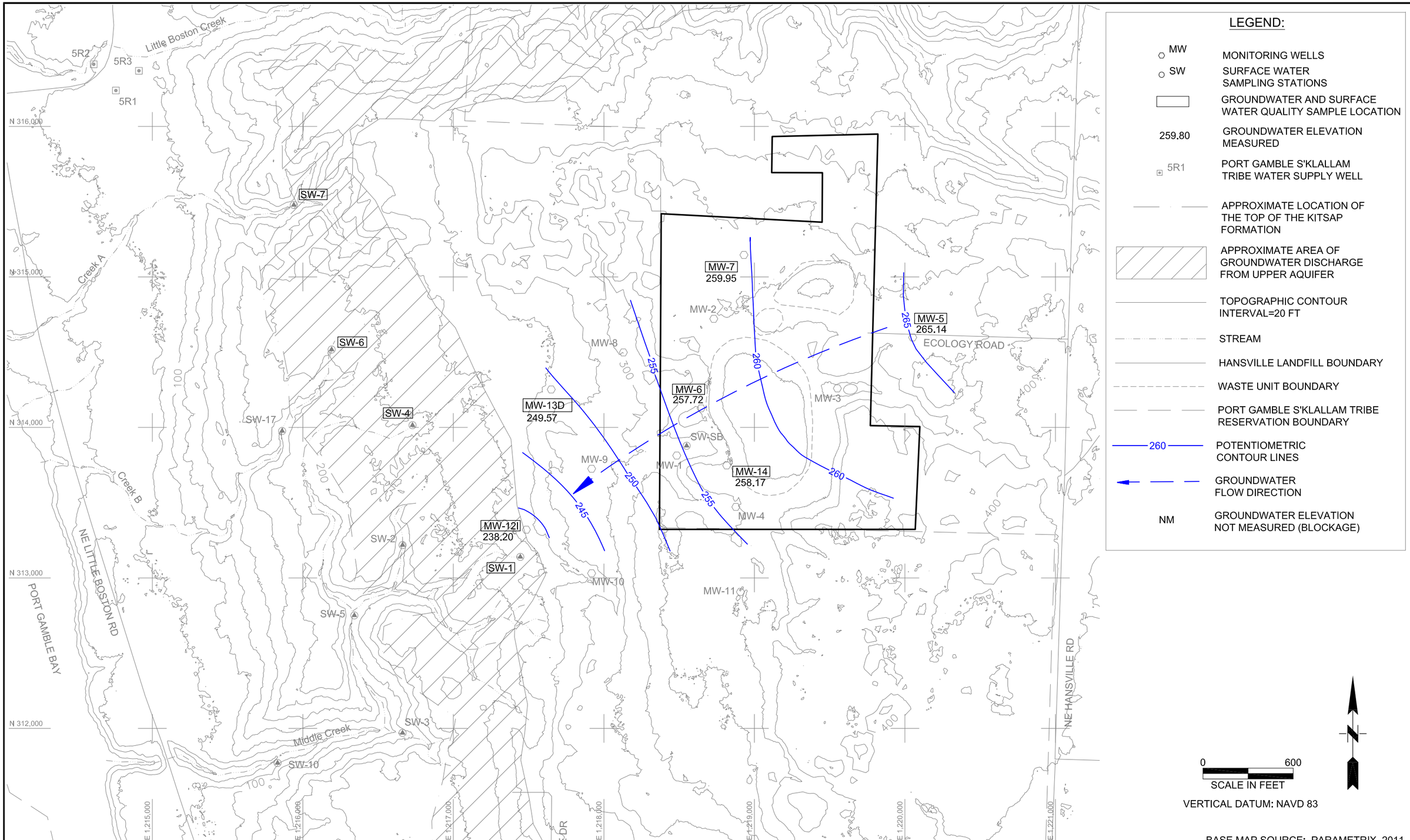
Parameter	Site Cleanup Level (SCL) [1]	SW-1	SW-4	SW-6	SW-7	Trip Blank
Field Parameters						
Dissolved Oxygen (mg/L)		6.98	8.06	7.61	8.25	--
pH (units)		7.31	7.11	6.87	6.52	--
Specific Conductivity (uS)		237	309	95	145	--
Temperature (degrees C)		10.7	9.7	9.5	9.0	--
Redox (Mv)		81.0	137	140	162	--
Conventional Parameters (mg/L, unless otherwise shown)						
Alkalinity		91	130	37	49	--
Ammonia (As N)		0.030 U	0.030 U	0.030 U	0.030 U	--
Bicarbonate		91	130	37	49	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		8.3	12	3.1	3.3	--
Nitrate (As N)		2.5	1.0	0.5 U	0.5 U	--
Nitrite (As N)		0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		17	18	5.5	9	--
Total Organic Carbon (TOC)		2.5	10	19	8.1	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)						
Arsenic	0.005	0.0008	0.0015	0.0022	0.0010	--
Manganese	2.24	0.001 U	0.037	0.0190	0.0086	--
Volatile Organics Compounds (ug/L)						
Vinyl chloride	0.025	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

Shaded results exceed site cleanup levels.

U Compound not detected at reporting limit.

-- Not Tested.



LEGEND:

- MW — MONITORING WELLS
- SW — SURFACE WATER SAMPLING STATIONS
- GROUNDWATER AND SURFACE WATER QUALITY SAMPLE LOCATION
- 259.80 — GROUNDWATER ELEVATION MEASURED
- 5R1 — PORT GAMBLE S'KLALLAM TRIBE WATER SUPPLY WELL
- APPROXIMATE LOCATION OF THE TOP OF THE KITSAP FORMATION
- APPROXIMATE AREA OF GROUNDWATER DISCHARGE FROM UPPER AQUIFER
- TOPOGRAPHIC CONTOUR INTERVAL=20 FT
- STREAM
- HANSVILLE LANDFILL BOUNDARY
- WASTE UNIT BOUNDARY
- PORT GAMBLE S'KLALLAM TRIBE RESERVATION BOUNDARY
- 260 — POTENTIOMETRIC CONTOUR LINES
- GROUNDWATER FLOW DIRECTION
- NM — GROUNDWATER ELEVATION NOT MEASURED (BLOCKAGE)

0 600
SCALE IN FEET

VERTICAL DATUM: NAVD 83

BASE MAP SOURCE: PARAMETRIX, 2011

SCS ENGINEERS
Environmental Consultants and Contractors
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PROJECT NO. 042110017.05	DES BY L.L.	UPPER AQUIFER GROUNDWATER CONTOURS APRIL 4, 2016	DATE MAY 2016
SCALE AS SHOWN	CHK BY D.V.	HANSVILLE LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE A-1
CAD FILE FIGURE A-1	APP BY G.H.		

Table C-1. Landfill Gas Data, Second Quarter 2016 Monitoring
Hansville Landfill, Kitsap County, Washington

Point Name	Record Date	CH4%	CO2%	O2%	Bal Gas%	Init Temp (F)	Adj Temp (F)	MaxInitAdj Temp	Init Static Pressure ("H2O)	Adj Static Pressure ("H20)	MaxStatic Pressure	Init Flow (scfm)	Comments
Blower Inlet	4/21/2016 8:31	5.6	10.5	6.1	77.8	63	63	63	-1.2	-1.2	-1.2	63	No Comment
Blower Outlet	4/21/2016 8:32	5.6	10.5	6.1	77.8	80	80	80	0.3	0.3	0.3	67	No Comment
Extraction Well 001	4/21/2016 7:59	8.1	10.2	1.2	80.5	60	61	61	-0.2	-0.2	-0.2	1	No Comment
Extraction Well 002	4/21/2016 7:55	5.3	11.4	5.2	78.1	60	60	60	-0.9	-0.9	-0.9	3	No Comment
Extraction Well 003	4/21/2016 7:53	16.7	10.7	0	72.6	56	56	56	0	-0.2	0	0	No Comment
Extraction Well 004	4/21/2016 7:49	8	12.5	3.6	75.9	60	60	60	-0.9	-0.8	-0.8	4	No Comment
Extraction Well 005	4/21/2016 7:29	9	14	1.9	75.1	60	60	60	-0.8	-0.8	-0.8	4	No Comment
Extraction Well 006	4/21/2016 7:26	9.8	17.4	0	72.8	59	58	59	-0.4	-0.4	-0.4	0	No Comment
Extraction Well 007	4/21/2016 7:22	2.1	9.6	6.8	81.5	58	58	58	-0.2	-0.2	-0.2	1	No Comment
Extraction Well 008	4/21/2016 7:17	12.7	14.2	1.3	71.8	57	57	57	-0.2	-0.2	-0.2	2	No Comment
Extraction Well 009	4/21/2016 7:36	4.3	10.8	5.7	79.2	63	63	63	-0.2	-0.2	-0.2	2	No Comment
Extraction Well 010	4/21/2016 8:04	9.3	9.9	0.9	79.9	62	62	62	-0.2	-0.2	-0.2	2	No Comment
Extraction Well 011	4/21/2016 8:06	0	1.5	20	78.7	59	58	59	-0.1	-0.1	-0.1	0	No Comment
Extraction Well 012	4/21/2016 7:44	6.4	8.1	2.2	83.3	57	57	57	-0.2	-0.2	-0.2	0	No Comment
Extraction Well 013	4/21/2016 7:34	6.7	10.5	1.7	81.1	64	64	64	-0.6	-0.6	-0.6	3	No Comment
Native Soil Extraction Well 1 Deep	4/21/2016 8:11	0	3	17	80.5	64	64	64	-0.1	-0.1	-0.1	1	No Comment
Native Soil Extraction Well 1 Shallow	4/21/2016 8:10	0	2.1	18	79.7	60	60	60	0	0	0	1	No Comment
Native Soil Extraction Well 2 Deep	4/21/2016 8:16	1.3	6	11	81.3	68	68	68	-0.1	-0.1	-0.1	1	No Comment
Native Soil Extraction Well 2 Shallow	4/21/2016 8:14	0.5	5.3	13	81.4	67	67	67	-0.1	-0.1	-0.1	1	No Comment
Native Soil Extraction Well 3 Deep	4/21/2016 8:19	0	3.2	17	80.2	67	67	67	-0.1	-0.1	-0.1	1	No Comment
Native Soil Extraction Well 3 Shallow	4/21/2016 8:18	0	3.4	17	79.5	67	67	67	-0.1	-0.1	-0.1	0	No Comment
Native Soil Extraction Well 4 Deep	4/21/2016 8:24	0	2.2	18	79.7	64	64	64	-0.2	-0.2	-0.2	2	No Comment
Native Soil Extraction Well 4 Shallow	4/21/2016 8:22	0	2.7	18	79.4	65	65	65	-0.8	-0.8	-0.8	4	No Comment
Native Soil Extraction Well 5 Deep	4/21/2016 8:27	0	1.7	19	79.6	65	65	65	-0.4	-0.4	-0.4	3	No Comment
Native Soil Extraction Well 5 Shallow	4/21/2016 8:26	0	2.5	18	80	63	64	64	-0.7	-0.7	-0.7	3	No Comment
Probe 1	5/5/2016 7:02	0	1.5	20	78.9								No Comment
Probe 2 Deep	5/5/2016 7:18	0	0.8	19	80.6								No Comment
Probe 2 Middle	5/5/2016 7:14	0	0.9	19	79.7								No Comment
Probe 2 Shallow	5/5/2016 7:10	0	0.2	21	78.7								No Comment
Probe 3	5/5/2016 7:38	0	1.8	20	78.5								No Comment
Probe 4	5/5/2016 6:48	0	1.1	20	79.1								No Comment
Probe 5	5/5/2016 8:02	0	4.3	16	79.5								No Comment
Probe 6	5/5/2016 7:49	0	3.7	18	78.4								No Comment
Probe 7	5/5/2016 7:49	0	3.7	18	78.4								No Comment
Trench Well TD-1	4/21/2016 7:14	2	18.5	0	79.5	54	52	54	-0.1	-0.1	-0.1	2	No Comment
Trench Well TR-1	4/21/2016 7:32	8.9	13.4	1.2	76.5	55	55	55	-0.3	-0.3	-0.3	2	No Comment
Trench Well TR-2	4/21/2016 7:19	3.1	7.3	11	78.6	58	58	58	-0.2	-0.2	-0.2	2	No Comment
Trench Well TR-3	4/21/2016 8:02	2.9	5.4	12	80	61	61	61	-0.2	-0.2	-0.2	2	No Comment
Trench Well TR-4	4/21/2016 7:51	10.7	12.3	2	75	61	61	61	-0.4	-0.3	-0.3	3	No Comment
Trench Well TR-5	4/21/2016 7:40	0	0.8	21	78.3	63	63	63	-0.2	-0.2	-0.2	2	No Comment
Trench Well TR-6	4/21/2016 7:41	3.8	7.9	9.3	79	62	62	62	-0.2	-0.2	-0.2	2	No Comment
Trench Well TR-7	4/21/2016 7:47	11.4	10.4	2.8	75.4	52	52	52	-0.3	-0.3	-0.3	0	No Comment

Q1 - JANUARY 2016 SUMMARY TABLES
& GROUNDWATER FLOW MAP

Table A-1. Water Level Elevations, First Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, Janaury 6, 2016

Location ID	Elevations (ft-msl)		Screen Elevation (ft-msl)		Depth to Water (feet)	Water Level Elevation (ft-msl)
	Ground	PVC	Top	Bottom		
MW-5	363.7	366.9	244	234	102.44	264.46
MW-6	332.0	332.7	260	245	75.80	256.90
MW-7	344.3	346.0	259	244	86.89	259.11
MW-12I	245.6	248.1	217	207	10.48	237.62
MW-13D	258.1	260.4	205	195	11.95	248.45
MW-14	338.6	341.1	262	247	83.12	257.98

PVC: PVC wellhead casing measuring point elevation.
ft-msl: Elevation in feet above mean sea level.

Table A-2. Groundwater Quality Data, First Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, January 6, 2016

Parameter	Site Cleanup Level (SCL) [1]	MW-05	MW-06	MW-07	MW-12I	MW-13D	MW-14	MW-14 DUP	Trip Blank
Field Parameters									
Dissolved Oxygen (mg/L)		5.34	0.22	1.37	1.9	2.00	0.13	--	--
pH (units)		7.25	7.00	6.64	7.24	7.55	6.84	--	--
Specific Conductivity (uS)		144	345	278	145	203	265	--	--
Temperature (degrees C)		11.9	14.4	11.0	10.0	10.4	12.7	--	--
Redox (Mv)		219.7	65	125	94.1	37.7	-73	--	--
Conventional Parameters (mg/L, unless otherwise shown)									
Alkalinity		62	140	160	74	81	120	120	--
Ammonia (As N)		0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	--
Bicarbonate		62	140	160	74	81	120	120	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		2.9	15	1.5	2.2	6.2	6.7	6.7	--
Nitrate (As N)		0.86	0.78	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Nitrite (As N)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		8.9	24	3.6	4.9	18	17	17	--
Total Organic Carbon (TOC)		1.0 U	1.0 U	1.5	2.4	1.0 U	1.0 U	1.0 U	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)									
Arsenic	0.005	0.0018	0.0018	0.0010	0.0024	0.0037	0.0158	0.0152	--
Manganese	2.24	0.001 U	0.390	0.001 U	0.057	0.028	2.4	2.5	--
Volatile Organics Compounds (ug/L) - only detected EPA method 8260 compounds as shown.									
1,2-dichloroethene - total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	3.5	3.3	2.0 U
cis-1,2-dichloroethene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.5	3.3	1.0 U
Ethyl ether		1.0 U	1.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	0.025	0.020 U	0.17	0.020 U	0.13	0.020 U	0.16	0.16	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

U Compound not detected at reporting limit.

-- Not Tested.

Shaded results exceed site cleanup levels.

DUP The MW-14 DUP identifier is blind duplicate MW-20DD.

Table A-3. Surface Water Quality Data, First Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington, January 6, 2016

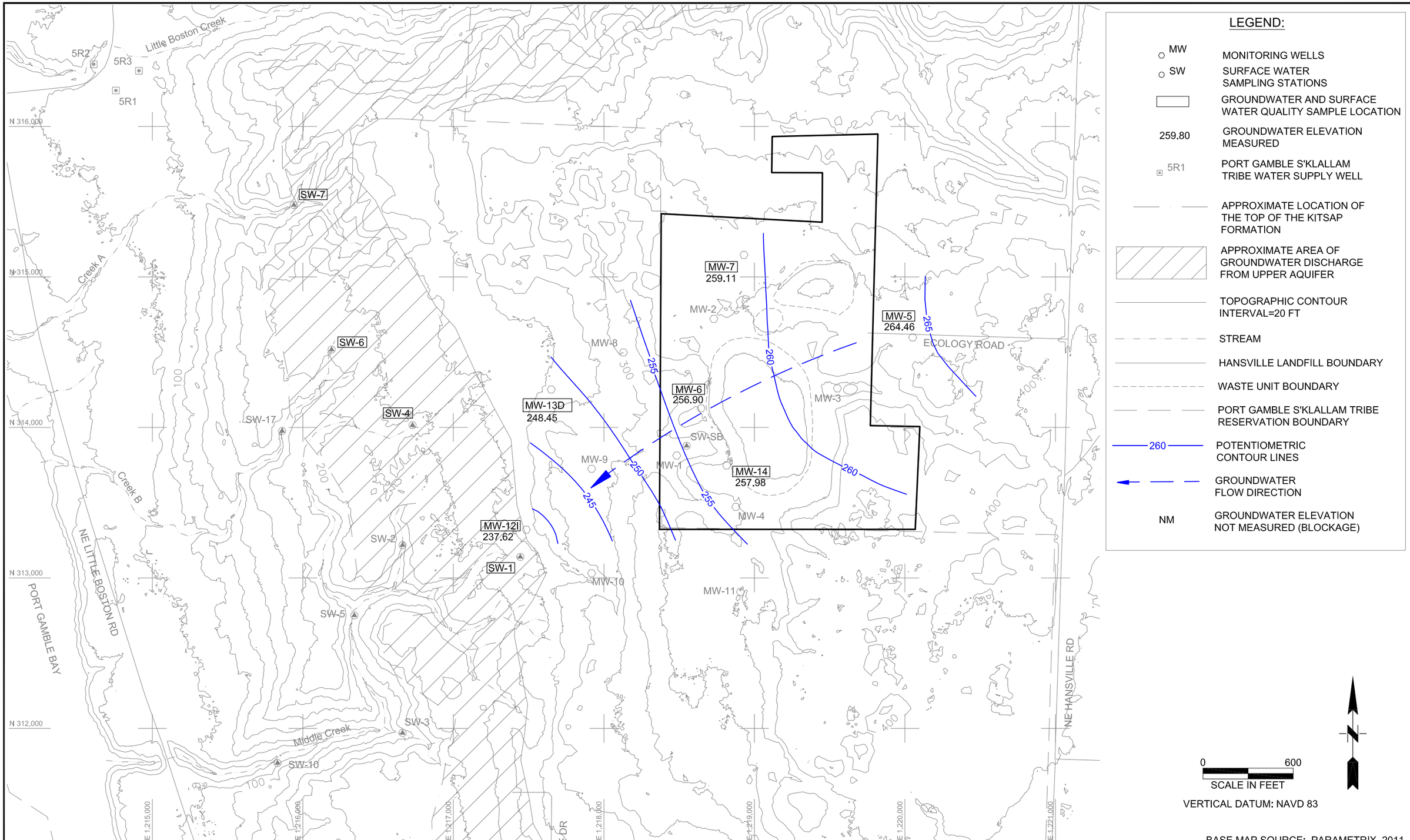
Parameter	Site Cleanup Level (SCL) [1]	SW-1	SW-4	SW-6	SW-7	Trip Blank
Field Parameters						
Dissolved Oxygen (mg/L)		6.07	6.13	6.62	7.67	--
pH (units)		7.42	7.06	7.28	6.73	--
Specific Conductivity (uS)		205	298	93	217	--
Temperature (degrees C)		7.8	6.3	4.7	5.6	--
Redox (Mv)		290.4	288.9	289.3	299.6	--
Conventional Parameters (mg/L, unless otherwise shown)						
Alkalinity		83	130	28	51	--
Ammonia (As N)		0.030 U	0.030 U	0.030 U	0.030 U	--
Bicarbonate		83	130	28	51	--
Carbonate		5.0 U	5.0 U	5.0 U	5.0 U	--
Chloride		4.5	13	4.3	4.2	--
Nitrate (As N)		1.7	1.1	0.72	0.5 U	--
Nitrite (As N)		0.5 U	0.5 U	0.5 U	0.5 U	--
Sulfate		11	18	7.8	10	--
Total Organic Carbon (TOC)		2.8	13	21	8.5	--
Orthophosphate (As P)		0.5 U	0.5 U	0.5 U	0.5 U	--
Dissolved Metals (mg/L)						
Arsenic	0.005	0.0014	0.0015	0.0018	0.0011	--
Manganese	2.24	0.001 U	0.035	0.0089	0.0035	--
Volatile Organics Compounds (ug/L) - only detected EPA method 8260 compounds as shown.						
Vinyl chloride	0.025	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

1 SCLs defined in August 2011 consent decree/cleanup action plan.

Shaded results exceed site cleanup levels.

U Compound not detected at reporting limit.

-- Not Tested.



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PROJECT NO. 042110017.05	DES BY L.L.	UPPER AQUIFER GROUNDWATER CONTOURS JANUARY 6, 2016	DATE FEB 2016
SCALE AS SHOWN	CHK BY D.V.	HANSVILLE LANDFILL KITSAP COUNTY, WASHINGTON	FIGURE A-1
CAD FILE FIGURE A-1	APP BY G.H.		

Table C-1. Landfill Gas Data, First Quarter 2016 Monitoring
Hansville Landfill, Kitsap County, Washington

Point Name	Record Date	CH4%	CO2%	O2%	Bal Gas%	Init Temp (F)	Adj Temp (F)	MaxInitAdj Temp	Init Static Pressure ("H2O)	Adj Static Pressure ("H20)	MaxStatic Pressure	Init Flow (scfm)	Comments
Blower Inlet	2/18/2016 8:52	5.6	8.6	8.5	77.3	44	44	44	-1.2	-1.2	-1.2	67	Comments:"No Change,,,,,"
Blower Outlet	2/18/2016 8:55	7.1	10.5	5.9	76.5	68	72	72	0.1	-0.1	0.1	71	Comments:"No Change,,,,,"
Extraction Well 001	2/18/2016 8:18	6	8.8	4.9	80.3	44	44	44	-0.5	-0.5	-0.5	2	Comments:"No Change,,,,,"
Extraction Well 002	2/18/2016 8:15	2.3	6.6	12.8	78.3	44	44	44	-1.2	-1.2	-1.2	3	Comments:"No Change,,,,,"
Extraction Well 003	2/18/2016 8:13	16.1	10.4	0	73.5	48	49	49	-0.6	-0.7	-0.6	1	Comments:",,,,,"
Extraction Well 004	2/18/2016 8:07	2.4	4.4	15.1	78.1	42	42	42	-1.1	-1.2	-1.1	3	Comments:"No Change,,,,,"
Extraction Well 005	2/18/2016 7:45	4.5	9.4	8.4	77.7	44	44	44	-1.2	-1.1	-1.1	3	Comments:"No Change,,,,,"
Extraction Well 006	2/18/2016 7:42	1.4	2	18.2	78.4	43	43	43	-0.4	-0.4	-0.4		Comments:",,,,,"
Extraction Well 007	2/18/2016 7:38	0	0.2	20.9	78.9	44	44	44	-0.3	-0.3	-0.3	2	Comments:"No Change,,,,,"
Extraction Well 008	2/18/2016 7:30	0.2	0.7	20.3	78.8	46	46	46	-0.2	-0.2	-0.2	1	Comments:"No Change,,,,,"
Extraction Well 009	2/18/2016 7:52	4.8	12	5	78.2	46	46	46	-0.4	-0.4	-0.4	3	Comments:"No Change,,,,,"
Extraction Well 010	2/18/2016 8:23	6.1	8.8	4.9	80.2	44	44	44	-0.6	-0.6	-0.6	2	Comments:"No Change,,,,,"
Extraction Well 011	2/18/2016 8:26	0.8	2	17.5	79.7	43	43	43	-0.5	-0.5	-0.5		Comments:",,,,,"
Extraction Well 012	2/18/2016 8:00	11.2	3.8	2	83	44	43	44	-0.4	-0.4	-0.4		Comments:",,,,,"
Extraction Well 013	2/18/2016 7:50	4.2	9.2	5.4	81.2	47	47	47	-0.5	-0.6	-0.5	2	Comments:"No Change,,,,,"
Native Soil Extraction Well 1 Deep	2/18/2016 8:34	1.7	6	11	81.3	45	45	45	-0.4	-0.4	-0.4	1	Comments:"No Change,,,,,"
Native Soil Extraction Well 1 Shallow	2/18/2016 8:32	0.4	2.2	17.4	80	44	44	44	-0.5	-0.5	-0.5	2	Comments:"No Change,,,,,"
Native Soil Extraction Well 2 Deep	2/18/2016 8:38	6.7	10.6	2.2	80.5	48	48	48	-0.6	-0.6	-0.6	2	Comments:"No Change,,,,,"
Native Soil Extraction Well 2 Shallow	2/18/2016 8:36	6.7	11.5	0.8	81	46	46	46	-0.6	-0.5	-0.5	3	Comments:"No Change,,,,,"
Native Soil Extraction Well 3 Deep	2/18/2016 8:42	0.2	2.8	17.6	79.4	44	44	44	-0.6	-0.6	-0.6	3	Comments:"No Change,,,,,"
Native Soil Extraction Well 3 Shallow	2/18/2016 8:40	0	3.1	17.6	79.3	45	45	45	-0.6	-0.6	-0.6	2	Comments:"No Change,,,,,"
Native Soil Extraction Well 4 Deep	2/18/2016 8:45	1.5	3.4	16.1	79	44	44	44	-0.6	-0.6	-0.6	2	Comments:"No Change,,,,,"
Native Soil Extraction Well 4 Shallow	2/18/2016 8:44	0.3	2.3	17.9	79.5	44	44	44	-1.3	-1.4	-1.3	4	Comments:"No Change,,,,,"
Native Soil Extraction Well 5 Deep	2/18/2016 8:49	0	1.6	18.9	79.5	44	44	44	-0.9	-0.9	-0.9	3	Comments:"No Change,,,,,"
Native Soil Extraction Well 5 Shallow	2/18/2016 8:47	0	2.3	18.2	79.5	44	44	44	-1.3	-1.3	-1.3	4	Comments:"No Change,,,,,"
Probe 1	2/18/2016 9:05	0	2.2	17.2	80.6								Comments:,,,,,
Probe 2 Deep	2/18/2016 9:17	0	1.3	17	81.7								Comments:,,,,,
Probe 2 Middle	2/18/2016 9:14	0	1.2	17.5	81.3								Comments:,,,,,
Probe 2 Shallow	2/18/2016 9:11	0	0.2	20.5	79.3								Comments:,,,,,
Probe 3	2/18/2016 9:22	0	1.1	19.6	79.3								Comments:,,,,,
Probe 4	2/18/2016 9:28	0	1.6	19.1	79.3								Comments:,,,,,
Probe 5	2/18/2016 9:40	0	0.2	20.5	79.3								Comments:,,,,,
Probe 6	2/18/2016 7:24	0	4.6	14.1	81.3								Comments:,,,,,
Probe 7	2/18/2016 9:32	0	1	19.6	79.4								Comments:,,,,,
Trench Well TD-1	2/18/2016 7:20	7.3	15.8	0	76.9	45	44	45	-0.1	-0.1	-0.1	5	Comments:"No Change,,,,,"
Trench Well TR-1	2/18/2016 7:47	9.7	10.9	4.1	75.3	44	44	44	-0.4	-0.4	-0.4	2	Comments:"No Change,,,,,"
Trench Well TR-2	2/18/2016 7:32	4.8	10.4	5.7	79.1	44	44	44	-0.3	-0.3	-0.3	2	Comments:"No Change,,,,,"
Trench Well TR-3	2/18/2016 8:20	6	9.5	3.7	80.8	44	44	44	-0.6	-0.6	-0.6	2	Comments:"No Change,,,,,"
Trench Well TR-4	2/18/2016 8:08	8.8	7.8	7.9	75.5	42	42	42	-0.7	-0.7	-0.7	2	Comments:"No Change,,,,,"
Trench Well TR-5	2/18/2016 7:56	0.1	0.8	20.5	78.6	44	45	45	-0.5	-0.5	-0.5	2	Comments:"No Change,,,,,"
Trench Well TR-6	2/18/2016 7:55	6.3	12.8	1.9	79	45	45	45	-0.5	-0.4	-0.4	2	Comments:"No Change,,,,,"
Trench Well TR-7	2/18/2016 8:04	19.4	8.9	0	71.7	44	45	45	-0.5	-0.4	-0.4	1	Comments:",,,,,"

Appendix D

2016 Groundwater Statistics and Time Series Plots

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Table D-1. Statistical Evaluations, Hansville Landfill

Arsenic (mg/L)

Monitoring Location	Mean	LCL	UCL	Site Cleanup Level	Mann-Kendall Test				Sen's Test	
					Mann-Kendall (S)	Z	Probability %	Trend	Sen's Slope	Trend
MW-05	0.00119	0.00025	0.00213	0.005	—		—	—	—	—
MW-06	0.00120	0.00025	0.00215	0.005	—		—	—	—	—
MW-07	0.00068	0.00015	0.00120	0.005	—		—	—	—	—
MW-12I	0.00164	0.00035	0.00293	0.005	—		—	—	—	—
MW-13D	0.00278	0.00059	0.00497	0.005	—		—	—	—	—
MW-14	0.01513	0.01444	0.01580	0.005	-461	-5.359	0.1	↓	-0.00000417	↓

Vinyl Chloride (µg/L)

Monitoring Location	Mean	LCL	UCL	Site Cleanup Level	Mann-Kendall Test				Sen's Test	
					Mann-Kendall (S)	Z	Probability %	Trend	Sen's Slope	Trend
MW-05	—	—	—	0.025	—			—	—	—
MW-06	0.128	0.092	0.163	0.025	-361	-4.195	0.001	↓	-0.0000625	↓
MW-07	—	—	—	0.025	—			—	—	—
MW-12I	0.120	0.106	0.134	0.025	-454	-5.279	0.001	↓	-0.000154	↓
MW-13D	—	—	—	0.025	—			—	—	—
MW-14	0.153	0.141	0.164	0.025	-563	-6.548	0.001	↓	-0.0001275	↓

Footnotes:

N = 4 (Mean, LCL, UCL); N = 40 (Mann-Kendall/Sen's Test).

Mean, LCL and UCL at 95%

N/A = Not applicable, data are all non-detect.

NDs set at 1/2 the MDL

Probability % is the Mann-Kendall p-value shown in a percentage format (i.e, raw p-value mutipiled by factor of 100).

(—) not applicable

95% confidence level

(↑) *Test identifies a significant increasing trend*

(↓) *Test identifies a significant decreasing trend*

(N) *Test identifies no significant trend*

Table D-2. Statistical Data Set (N=40), Hansville Landfill

Sample ID	Location	Date Sampled	Vinyl Chloride (µg/L)	Arsenic (mg/L)
0107-01	MW-05	1/23/2007	<0.02	0.00214
0107-02	MW-06	1/23/2007	0.316	0.00535
0107-03	MW-07	1/23/2007	<0.02	0.00125
0107-04	MW-12I	1/23/2007	0.485	0.00188
0107-05	MW-13D	1/23/2007	<0.02	0.00295
0107-06	MW-14	1/23/2007	0.652	0.0278
0407-01	MW-05	4/19/2007	<0.02	0.00192
0407-02	MW-06	4/19/2007	0.45	0.00534
0407-03	MW-07	4/19/2007	<0.02	0.00103
0407-04	MW-12I	4/19/2007	0.531	0.00164
0407-05	MW-13D	4/19/2007	<0.02	0.00289
0407-06	MW-14	4/19/2007	0.77	0.027
0707-01	MW-05	7/18/2007	<0.02	0.00209
0707-02	MW-06	7/18/2007	0.502	0.00526
0707-03	MW-07	7/18/2007	<0.02	0.00103
0707-04	MW-12I	7/18/2007	0.771	0.00167
0707-05	MW-13D	7/18/2007	<0.02	0.00285
0707-06	MW-14	7/18/2007	0.914	0.0281
1007-01	MW-05	10/23/2007	<0.02	0.00215
1007-02	MW-06	10/23/2007	0.38	0.00464
1007-03	MW-07	10/23/2007	<0.02	0.00117
1007-04	MW-12I	10/23/2007	0.814	0.0018
1007-05	MW-13D	10/23/2007	<0.02	0.00303
1007-06	MW-14	10/23/2007	0.639	0.0275
0108-01	MW-05	1/16/2008	<0.02	0.00204
0108-02	MW-06	1/16/2008	0.38	0.00401
0108-03	MW-07	1/16/2008	<0.02	0.00122
0108-04	MW-12I	1/16/2008	0.42	0.00159
0108-05	MW-13D	1/16/2008	<0.02	0.0029
0108-06	MW-14	1/16/2008	0.64	0.0226
0408-01	MW-05	4/16/2008	<0.02	0.00221
0408-02	MW-06	4/16/2008	0.31	0.00465
0408-03	MW-07	4/16/2008	<0.02	0.00107
0408-04	MW-12I	4/16/2008	0.37	0.00167
0408-05	MW-13D	4/16/2008	<0.02	0.0032
0408-06	MW-14	4/16/2008	0.81	0.0266
0708-01	MW-05	7/16/2008	<0.02	0.00203
0708-02	MW-06	7/16/2008	0.29	0.00427
0708-03	MW-07	7/16/2008	<0.02	0.00109
0708-04	MW-12I	7/16/2008	0.42	0.00169
0708-05	MW-13D	7/16/2008	<0.02	0.00299
0708-06	MW-14	7/16/2008	0.57	0.0233
1008-01	MW-05	10/22/2008	<0.02	0.00227

Table D-2. Statistical Data Set (N=40), Hansville Landfill

Sample ID	Location	Date Sampled	Vinyl Chloride (µg/L)	Arsenic (mg/L)
1008-02	MW-06	10/22/2008	0.35	0.00464
1008-03	MW-07	10/22/2008	<0.02	0.00127
1008-04	MW-12I	10/22/2008	0.58	0.00217
1008-05	MW-13D	10/22/2008	<0.02	0.00342
1008-06	MW-14	10/22/2008	0.4	0.03
0109-01	MW-05	1/20/2009	<0.02	0.00207
0109-02	MW-06	1/20/2009	0.34	0.00437
0109-03	MW-07	1/20/2009	<0.02	0.00128
0109-04	MW-12I	1/20/2009	0.38	0.00172
0109-05	MW-13D	1/20/2009	<0.02	0.0031
0109-06	MW-14	1/20/2009	0.33	0.025
0409-01	MW-05	4/14/2009	<0.02	0.00216
0409-02	MW-06	4/14/2009	0.41	0.00434
0409-03	MW-07	4/14/2009	<0.02	0.00124
0409-04	MW-12I	4/14/2009	0.42	0.00192
0409-05	MW-13D	4/14/2009	<0.02	0.00333
0409-06	MW-14	4/14/2009	0.34	0.0245
0709-01	MW-05	7/14/2009	<0.02	0.001
0709-02	MW-06	7/14/2009	0.36	0.0017
0709-03	MW-07	7/14/2009	<0.02	0.001
0709-04	MW-12I	7/14/2009	0.45	0.001
0709-05	MW-13D	7/14/2009	<0.02	0.0042
0709-06	MW-14	7/14/2009	0.14	0.025
1009-01	MW-05	10/29/2009	<0.02	0.0032
1009-02	MW-06	10/29/2009	0.35	0.0058
1009-03	MW-07	10/29/2009	<0.02	0.025
1009-04	MW-12I	10/29/2009	0.68	0.0029
1009-05	MW-13D	10/29/2009	<0.02	0.0037
1009-05	MW-14	10/29/2009	0.34	0.0049
0110-01	MW-05	1/27/2010	<0.02	0.002
0110-02	MW-06	1/27/2010	0.24	0.002
0110-03	MW-07	1/27/2010	<0.02	0.002
0110-04	MW-12I	1/27/2010	0.29	0.002
0110-05	MW-13D	1/27/2010	<0.02	0.002
0110-06	MW-14	1/27/2010	0.3	0.02
0410-01	MW-05	4/29/2010	<0.02	0.0025
0410-02	MW-06	4/29/2010	0.22	0.0048
0410-03	MW-07	4/29/2010	<0.02	0.0019
0410-04	MW-12I	4/29/2010	0.26	0.0028
0410-05	MW-13D	4/29/2010	<0.02	0.0039
0410-06	MW-14	4/29/2010	0.27	0.023
0710-01	MW-05	7/27/2010	<0.02	0.0004
0710-02	MW-06	7/27/2010	0.27	0.0028

Table D-2. Statistical Data Set (N=40), Hansville Landfill

Sample ID	Location	Date Sampled	Vinyl Chloride (µg/L)	Arsenic (mg/L)
0710-03	MW-07	7/27/2010	<0.02	0.0004
0710-04	MW-12I	7/27/2010	0.4	0.00049
0710-05	MW-13D	7/27/2010	<0.02	0.0013
0710-06	MW-14	7/27/2010	0.35	0.033
1010-01	MW-05	10/26/2010	<0.02	0.0004
1010-02	MW-06	10/26/2010	0.39	0.0004
1010-03	MW-07	10/26/2010	<0.02	0.0004
1010-04	MW-12I	10/26/2010	0.5	0.0004
1010-05	MW-13D	10/26/2010	<0.02	0.0014
1010-06	MW-14	10/26/2010	0.38	0.023
0111-01	MW-05	1/25/2011	<0.02	0.002
0111-02	MW-06	1/25/2011	0.24	0.0049
0111-03	MW-07	1/25/2011	<0.02	0.00059
0111-04	MW-12I	1/25/2011	0.21	0.0019
0111-05	MW-13D	1/25/2011	<0.02	0.0031
0111-06	MW-14	1/25/2011	0.45	0.026
0411-01	MW-05	4/14/2011	<0.02	0.0004
0411-02	MW-06	4/14/2011	0.21	0.0013
0411-03	MW-07	4/14/2011	<0.02	0.004
0411-04	MW-12I	4/14/2011	0.16	0.004
0411-05	MW-13D	4/14/2011	<0.02	0.0011
0411-06	MW-14	4/14/2011	0.32	0.022
0711-01	MW-05	7/25/2011	<0.02	0.0018
0711-02	MW-06	7/25/2011	0.12	0.0027
0711-03	MW-07	7/25/2011	<0.02	0.00106
0711-04	MW-12I	7/25/2011	0.2	0.0018
0711-05	MW-13D	7/25/2011	0.0082	0.003
0711-06	MW-14	7/25/2011	0.23	0.0205
1011-01	MW-05	10/4/2011	<0.02	0.002
1011-02	MW-06	10/4/2011	0.19	0.0032
1011-03	MW-07	10/4/2011	<0.02	0.00107
1011-04	MW-12I	10/4/2011	0.24	0.0022
1011-05	MW-13D	10/4/2011	<0.02	0.0032
1011-06	MW-14	10/4/2011	0.27	0.0226
0112-01	MW-05	1/31/2012	<0.02	0.0019
0112-02	MW-06	1/31/2012	0.35	0.00319
0112-03	MW-07	1/31/2012	<0.02	0.00106
0112-04	MW-12I	1/31/2012	0.19	0.00222
0112-05	MW-13D	1/31/2012	<0.02	0.00293
0112-06	MW-14	1/31/2012	0.28	0.0194
0412-01	MW-05	4/19/2012	<0.02	0.00192
0412-02	MW-06	4/19/2012	0.18	0.0032
0412-03	MW-07	4/19/2012	<0.02	0.0011

Table D-2. Statistical Data Set (N=40), Hansville Landfill

Sample ID	Location	Date Sampled	Vinyl Chloride (µg/L)	Arsenic (mg/L)
0412-04	MW-12I	4/19/2012	0.13	0.0021
0412-05	MW-13D	4/19/2012	0.016	0.00307
0412-06	MW-14	4/19/2012	0.35	0.00788
0712-01	MW-05	7/5/2012	<0.02	0.00210
0712-02	MW-06	7/5/2012	0.22	0.00360
0712-03	MW-07	7/5/2012	<0.02	0.00112
0712-04	MW-12I	7/5/2012	0.15	0.00250
0712-05	MW-13D	7/5/2012	0.0049	0.00340
0712-06	MW-14	7/5/2012	0.24	0.02160
1012-01	MW-05	10/2/2012	<0.02	0.00177
1012-02	MW-06	10/2/2012	0.43	0.00330
1012-03	MW-07	10/2/2012	<0.02	0.00105
1012-04	MW-12I	10/2/2012	0.34	0.00205
1012-05	MW-13D	10/2/2012	<0.02	0.00316
1012-06	MW-14	10/2/2012	0.27	0.02120
0113-01	MW-05	1/3/2013	<0.02	0.00207
0113-02	MW-06	1/3/2013	0.23	0.00350
0113-03	MW-07	1/3/2013	<0.02	0.00360
0113-04	MW-12I	1/3/2013	0.11	0.00212
0113-05	MW-13D	1/3/2013	<0.02	0.0034
0113-06	MW-14	1/3/2013	0.25	0.0202
0413-01	MW-05	4/4/2013	<0.02	0.00185
0413-02	MW-06	4/4/2013	0.17	0.00330
0413-03	MW-07	4/4/2013	<0.02	0.00104
0413-04	MW-12I	4/4/2013	0.16	0.00192
0413-05	MW-13D	4/4/2013	<0.02	0.00342
0413-06	MW-14	4/4/2013	0.25	0.0213
0713-01	MW-05	7/24/2013	<0.02	0.00180
0713-02	MW-06	7/24/2013	0.28	0.00259
0713-03	MW-07	7/24/2013	<0.02	0.00096
0713-04	MW-12I	7/24/2013	0.16	0.00191
0713-05	MW-13D	7/24/2013	<0.02	0.00330
0713-06	MW-14	7/24/2013	0.25	0.0184
1013-01	MW-05	10/3/2013	<0.02	0.00210
1013-02	MW-06	10/3/2013	0.34	0.00230
1013-03	MW-07	10/3/2013	<0.02	0.00094
1013-04	MW-12I	10/3/2013	0.23	0.00220
1013-05	MW-13D	10/3/2013	<0.02	0.00301
1013-06	MW-14	10/3/2013	0.22	0.01580
0114-01	MW-05	1/16/2014	<0.02	0.00163
0114-02	MW-06	1/16/2014	0.51	0.00259
0114-03	MW-07	1/16/2014	<0.02	0.00093
0114-04	MW-12I	1/16/2014	0.22	0.00201

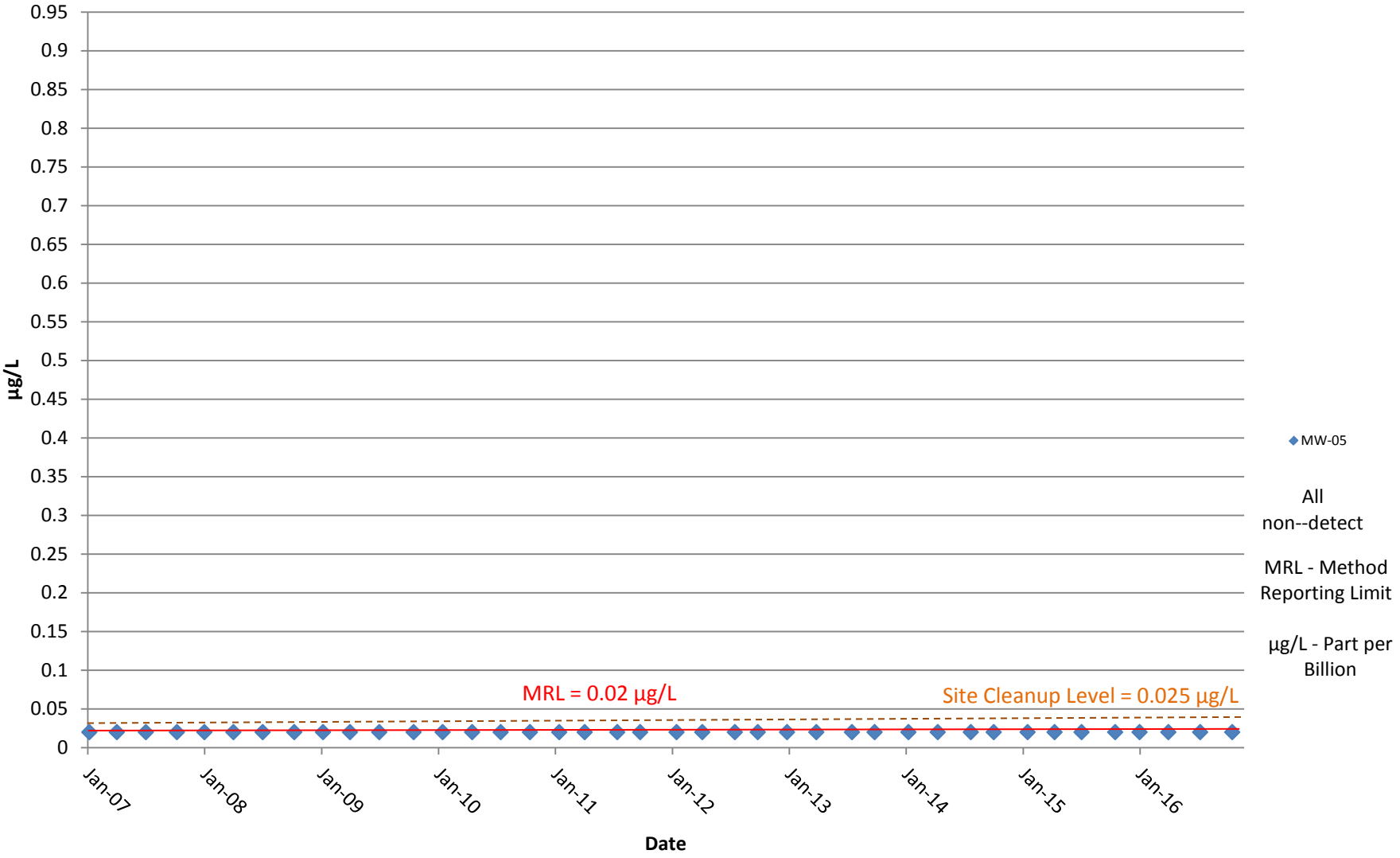
Table D-2. Statistical Data Set (N=40), Hansville Landfill

Sample ID	Location	Date Sampled	Vinyl Chloride (µg/L)	Arsenic (mg/L)
0114-05	MW-13D	1/16/2014	<0.02	0.00308
0114-06	MW-14	1/16/2014	0.16	0.01510
0414-01	MW-14	4/17/2014	0.21	0.0156
0414-02	MW-05	4/17/2014	<0.02	0.00165
0414-03	MW-06	4/17/2014	0.22	0.00213
0414-04	MW-07	4/17/2014	<0.02	0.00089
0414-05	MW-12I	4/17/2014	0.089	0.00205
0414-06	MW-13D	4/17/2014	<0.02	0.00301
0714-01	MW-05	7/29/2014	<0.02	0.00176
0714-02	MW-06	7/29/2014	0.35	0.0021
0714-03	MW-07	7/29/2014	<0.02	0.00095
0714-04	MW-12I	7/29/2014	0.28	0.00219
0714-05	MW-13D	7/29/2014	<0.02	0.00353
0714-06	MW-14	7/29/2014	0.16	0.016
1014-01	MW-05	10/9/2014	<0.02	0.00194
1014-02	MW-06	10/9/2014	0.19	0.00181
1014-03	MW-07	10/9/2014	<0.02	0.00106
1014-04	MW-12I	10/8/2014	0.23	0.00229
1014-05	MW-13D	10/8/2014	<0.02	0.00346
1014-06	MW-14	10/9/2014	0.14	0.0246
0115-06	MW-05	1/22/2015	<0.02	0.0019
0115-04	MW-06	1/22/2015	0.23	0.00178
0115-03	MW-07	1/22/2015	<0.02	0.00098
0115-01	MW-12I	1/21/2015	0.094	0.00236
0115-02	MW-13D	1/21/2015	<0.02	0.00353
0115-05	MW-14	1/22/2015	0.19	0.0177
0415-01	MW-12I	4/16/2015	0.083	0.00227
0415-02	MW-13D	4/16/2015	<0.02	0.00331
0415-03	MW-14	4/16/2015	0.21	0.0157
0415-04	MW-5	4/16/2015	<0.02	0.00166
0415-05	MW-6	4/16/2015	0.2	0.00173
0415-06	MW-7	4/16/2015	<0.02	0.00088
0715-01	MW-05	7/9/2015	<0.02	0.0016
0715-02	MW-06	7/9/2015	0.27	0.00164
0715-03	MW-07	7/9/2015	<0.02	0.00087
0715-04	MW-12I	7/9/2015	0.19	0.00216
0715-05	MW-13D	7/9/2015	<0.02	0.00327
0715-06	MW-14	7/9/2015	0.17	0.0175
1015-01	MW-05	10/21/2015	<0.02	0.0017
1015-02	MW-06	10/21/2015	0.14	0.0016
1015-03	MW-07	10/21/2015	<0.02	0.0010
1015-04	MW-12I	10/21/2015	0.39	0.0022
1015-05	MW-13D	10/21/2015	<0.02	0.0038

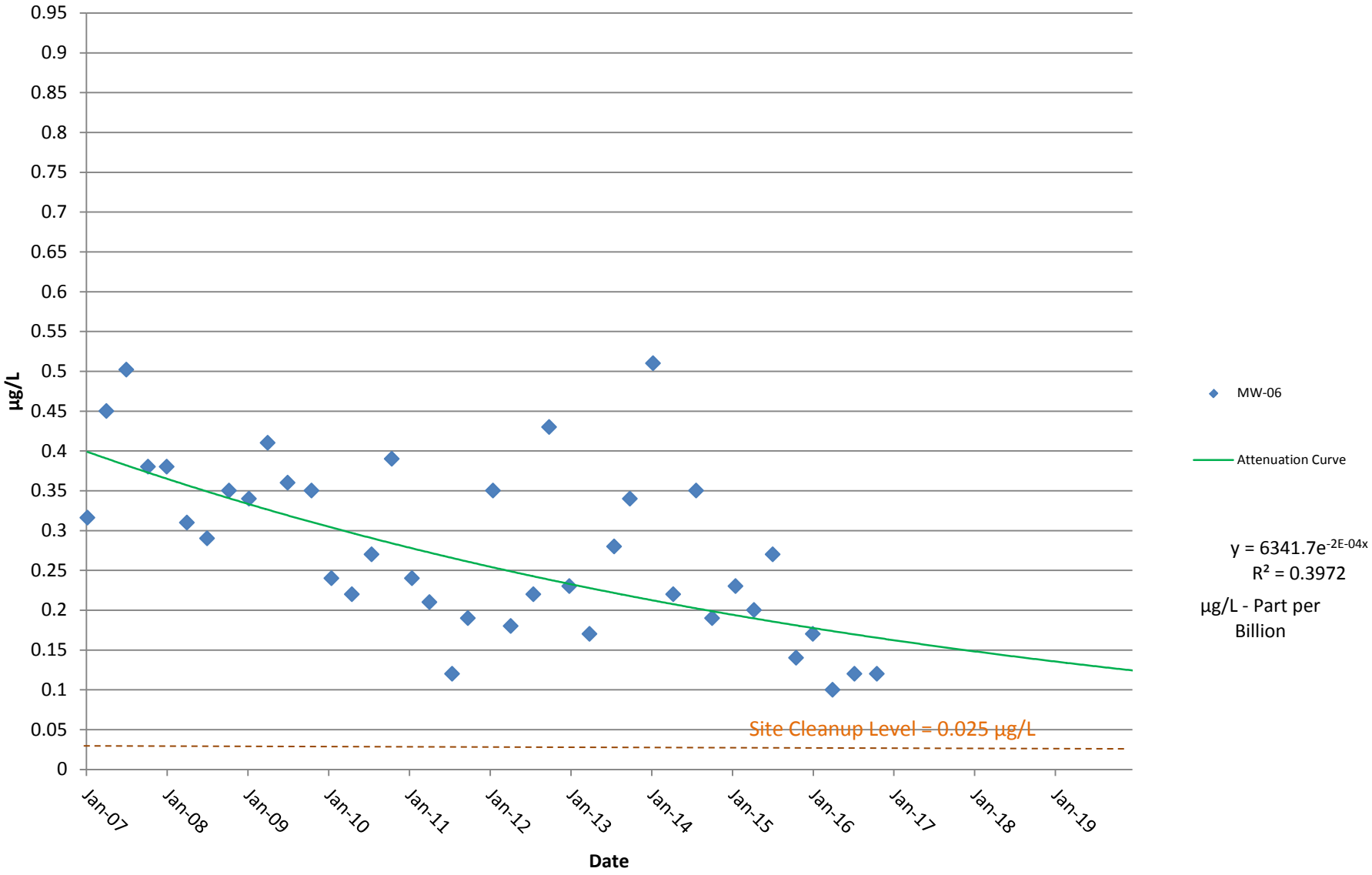
Table D-2. Statistical Data Set (N=40), Hansville Landfill

Sample ID	Location	Date Sampled	Vinyl Chloride (µg/L)	Arsenic (mg/L)
1015-06	MW-14	10/21/2015	0.14	0.0146
0116-01	MW-05	1/6/2016	<0.02	0.0018
0116-02	MW-06	1/6/2016	0.17	0.0018
0116-03	MW-07	1/6/2016	<0.02	0.0010
0116-04	MW-12I	1/6/2016	0.13	0.0024
0116-05	MW-13D	1/6/2016	<0.02	0.0037
0116-06	MW-14	1/6/2016	0.16	0.0158
0416-01	MW-05	4/4/2016	<0.02	0.0014
0416-02	MW-06	4/4/2016	0.10	0.0017
0416-03	MW-07	4/4/2016	<0.02	0.0009
0416-04	MW-12I	4/4/2016	0.11	0.0021
0416-05	MW-13D	4/4/2016	<0.02	0.0035
0416-06	MW-14	4/4/2016	0.14	0.0153
0716-01	MW-05	7/12/2016	<0.02	0.00168
0716-02	MW-06	7/12/2016	0.12	0.00152
0716-03	MW-07	7/12/2016	<0.02	0.0009
0716-04	MW-12I	7/12/2016	0.11	0.00221
0716-05	MW-13D	7/12/2016	<0.02	0.00361
0716-06	MW-14	7/12/2016	0.16	0.015
1016-01	MW-05	10/20/2016	<0.02	0.00167
1016-02	MW-06	10/20/2016	0.12	0.00156
1016-03	MW-07	10/20/2016	<0.02	0.00088
1016-04	MW-12I	10/20/2016	0.13	0.00226
1016-05	MW-13D	10/20/2016	<0.02	0.004
1016-06	MW-14	10/20/2016	0.15	0.0144

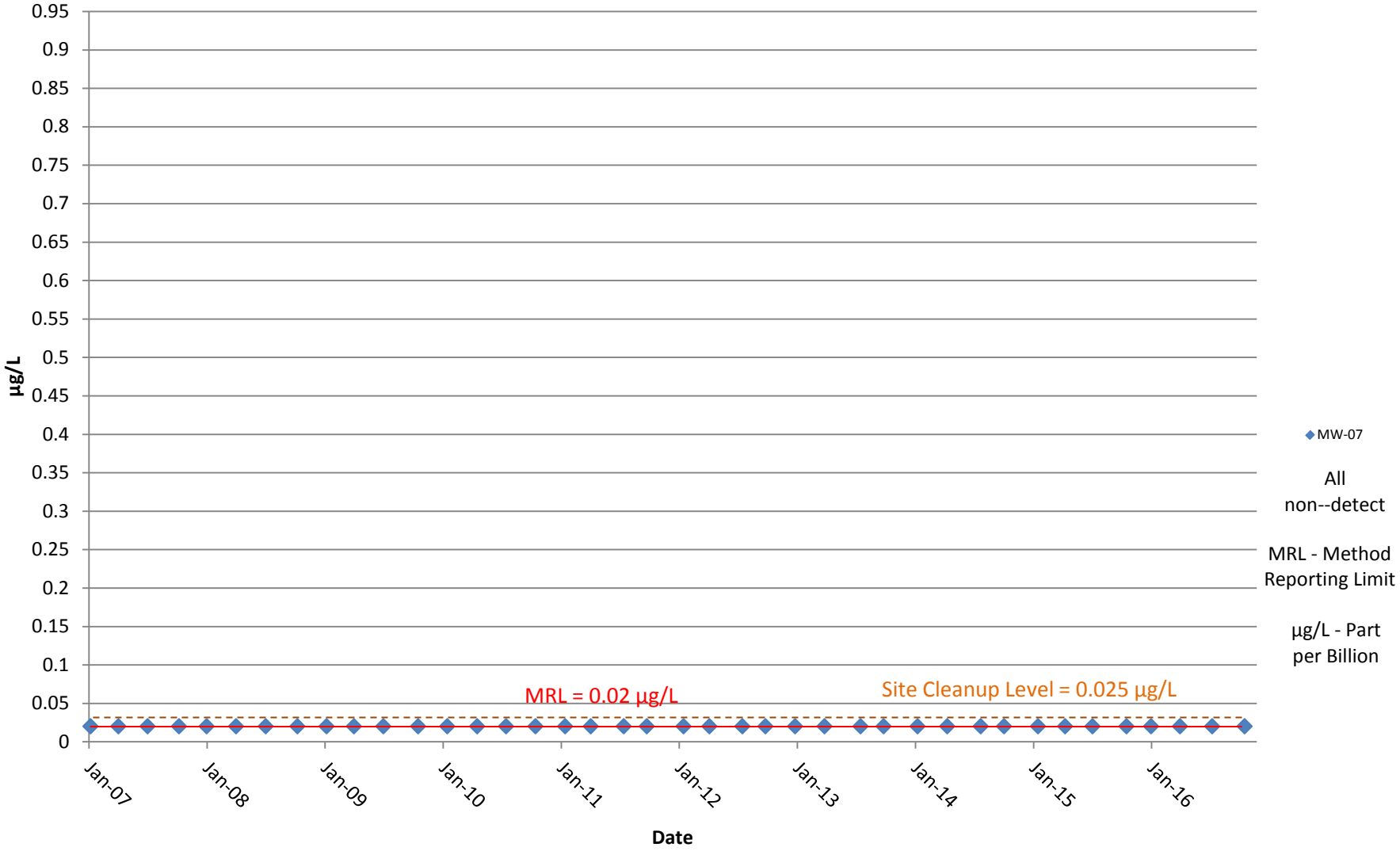
Vinyl Chloride , MW-05
Hansville Landfill



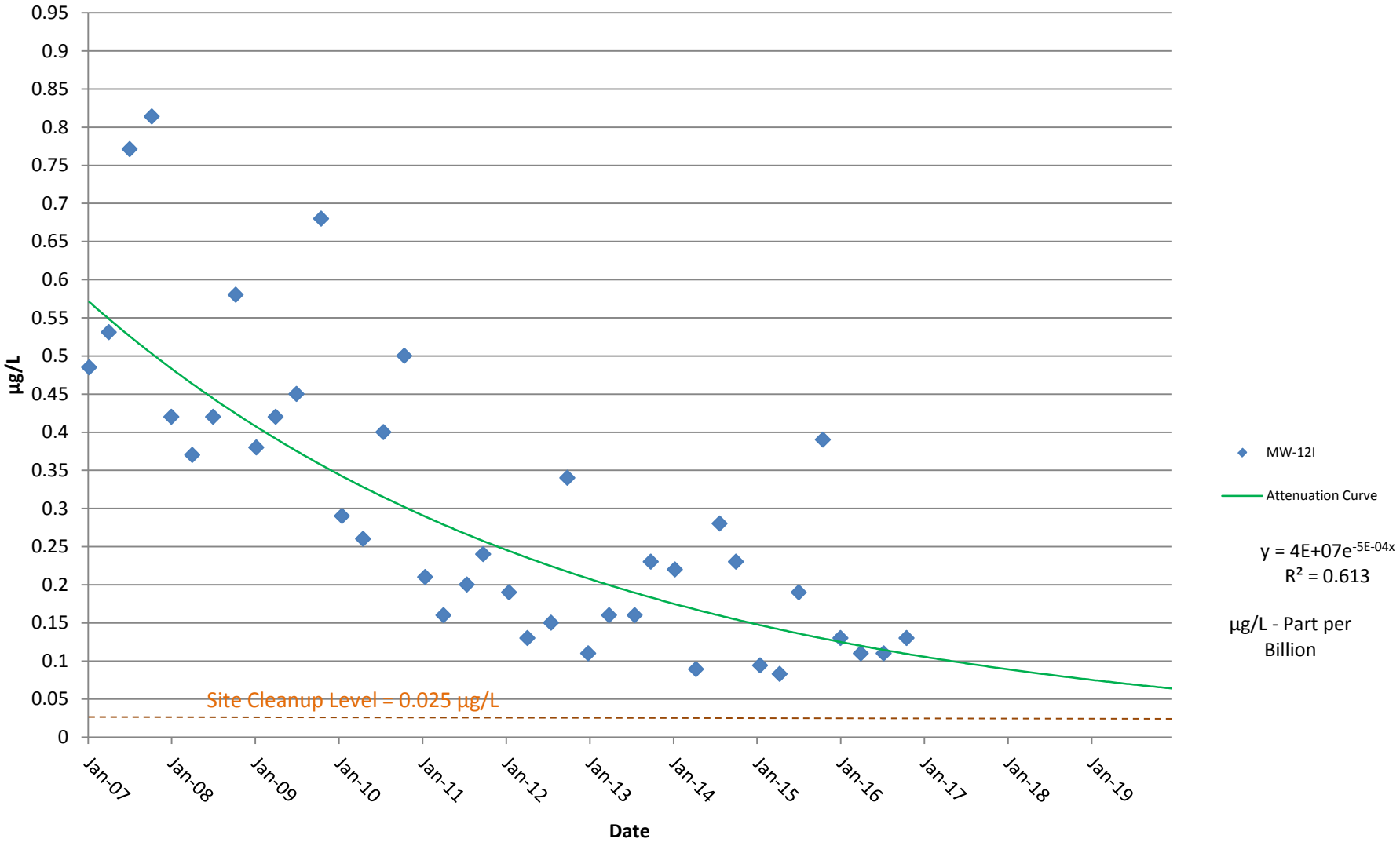
Vinyl Chloride, MW-06
Hansville Landfill



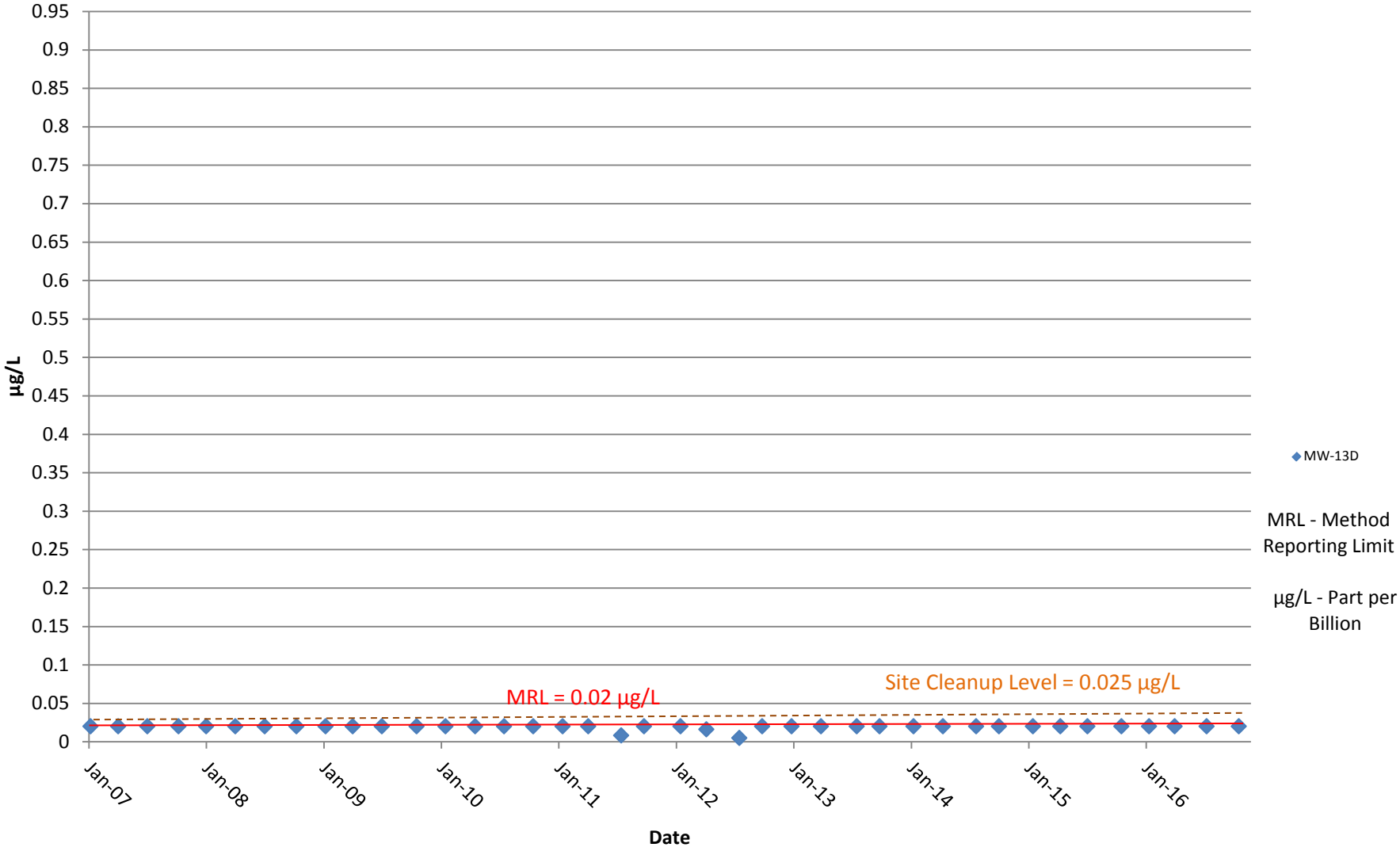
Vinyl Chloride , MW-07
Hansville Landfill



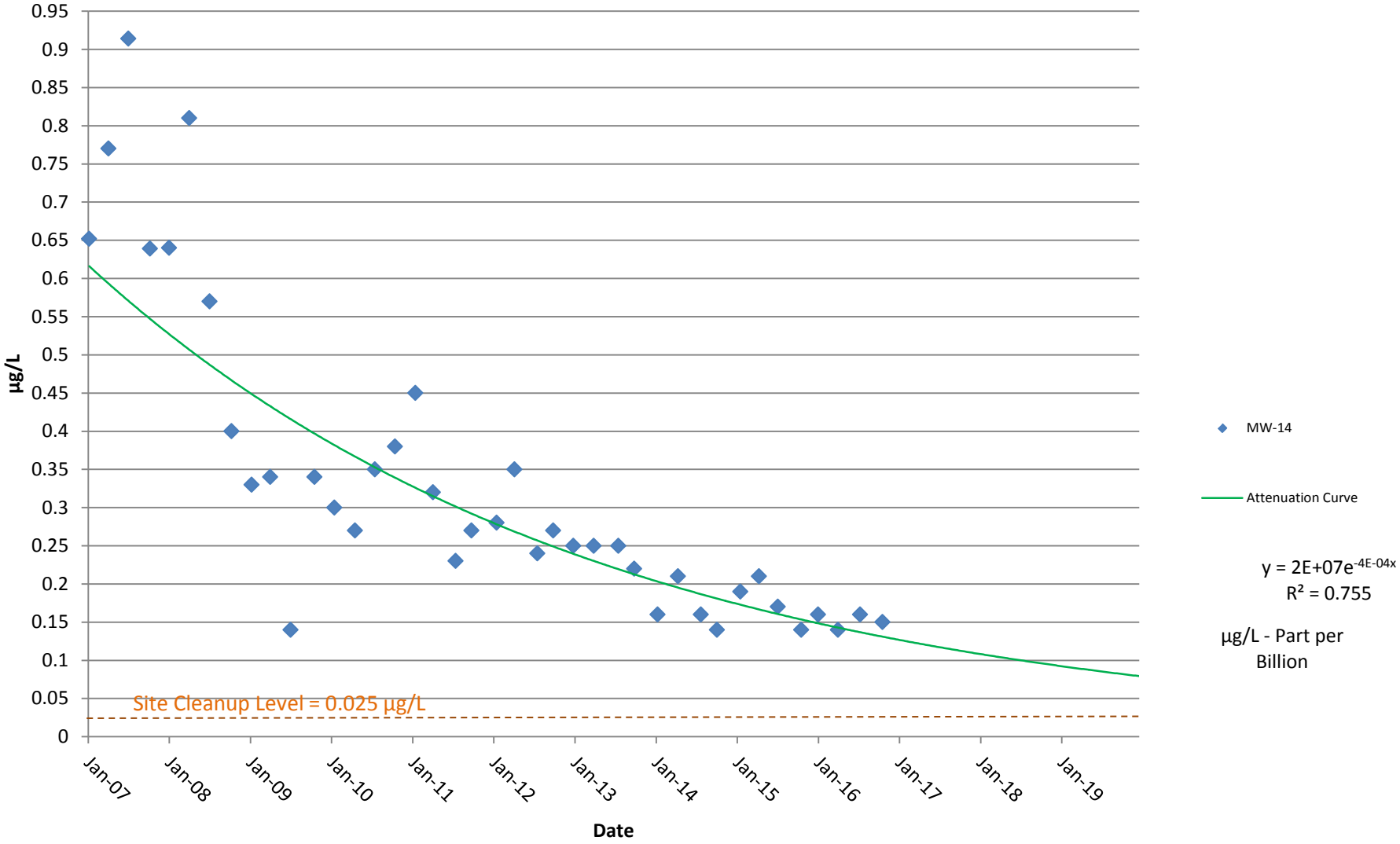
Vinyl Chloride, MW-12I
Hansville Landfill



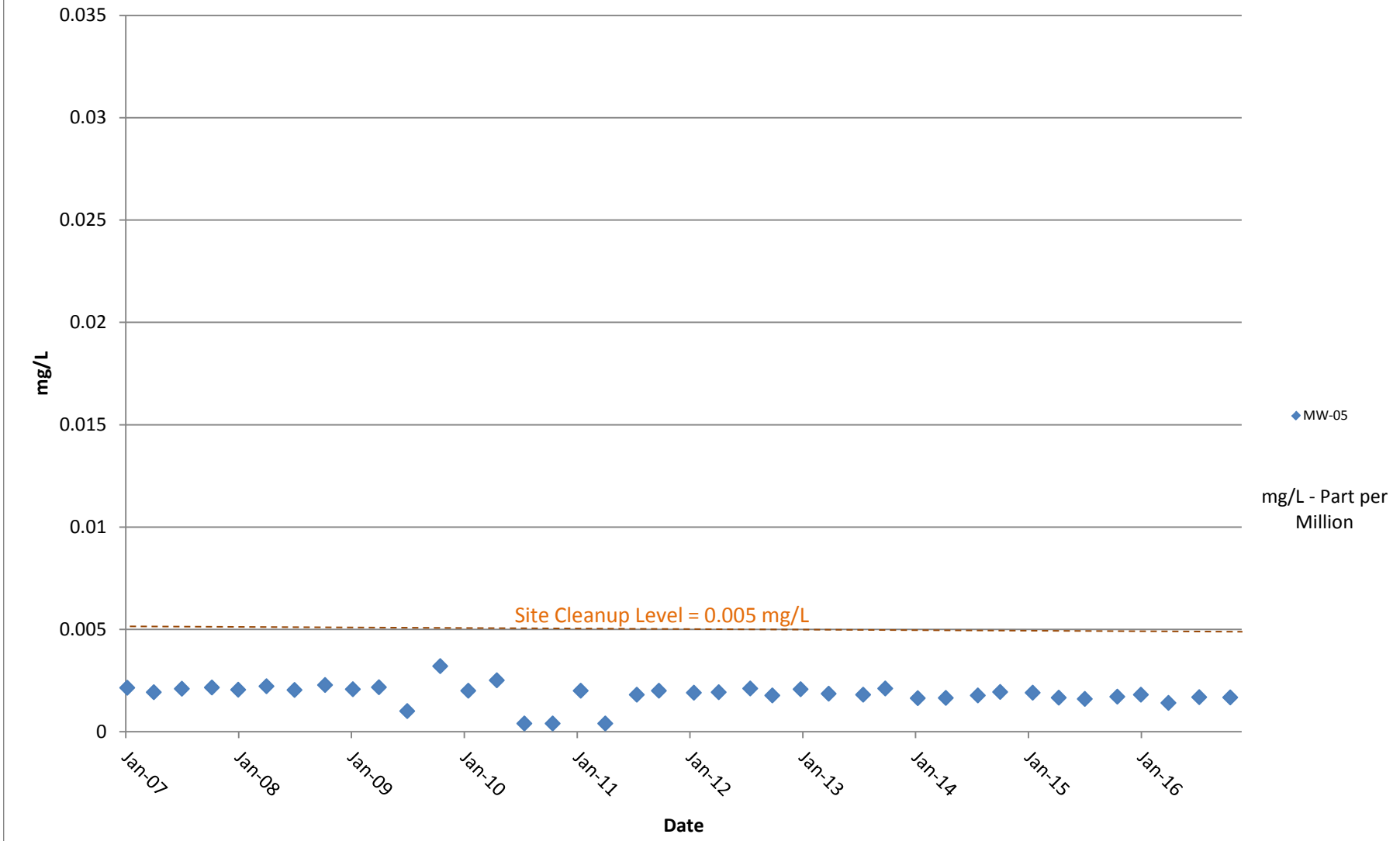
Vinyl Chloride, MW-13D
Hansville Landfill



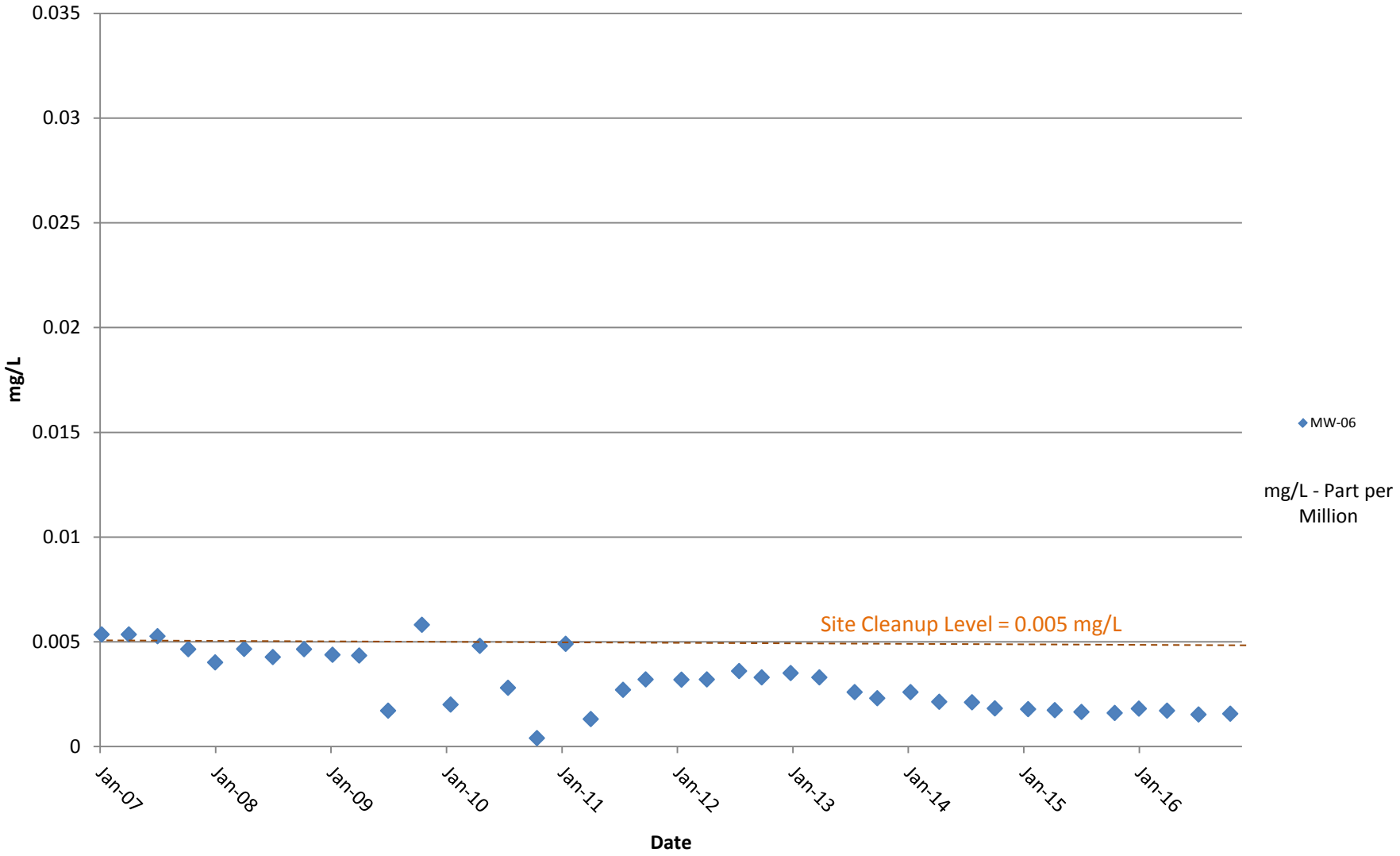
Vinyl Chloride, MW-14
Hansville Landfill



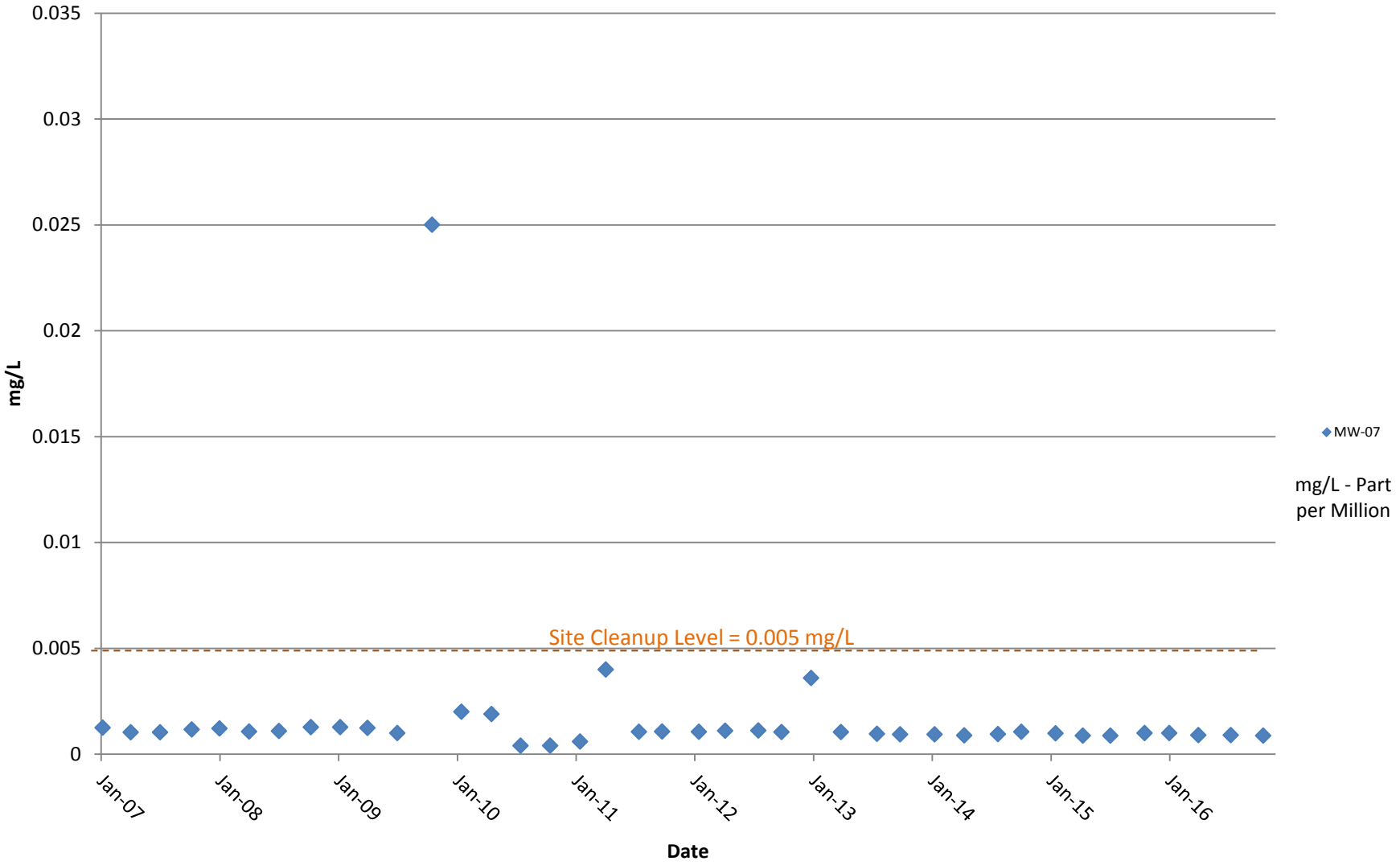
Arsenic, MW-05
Hansville Landfill

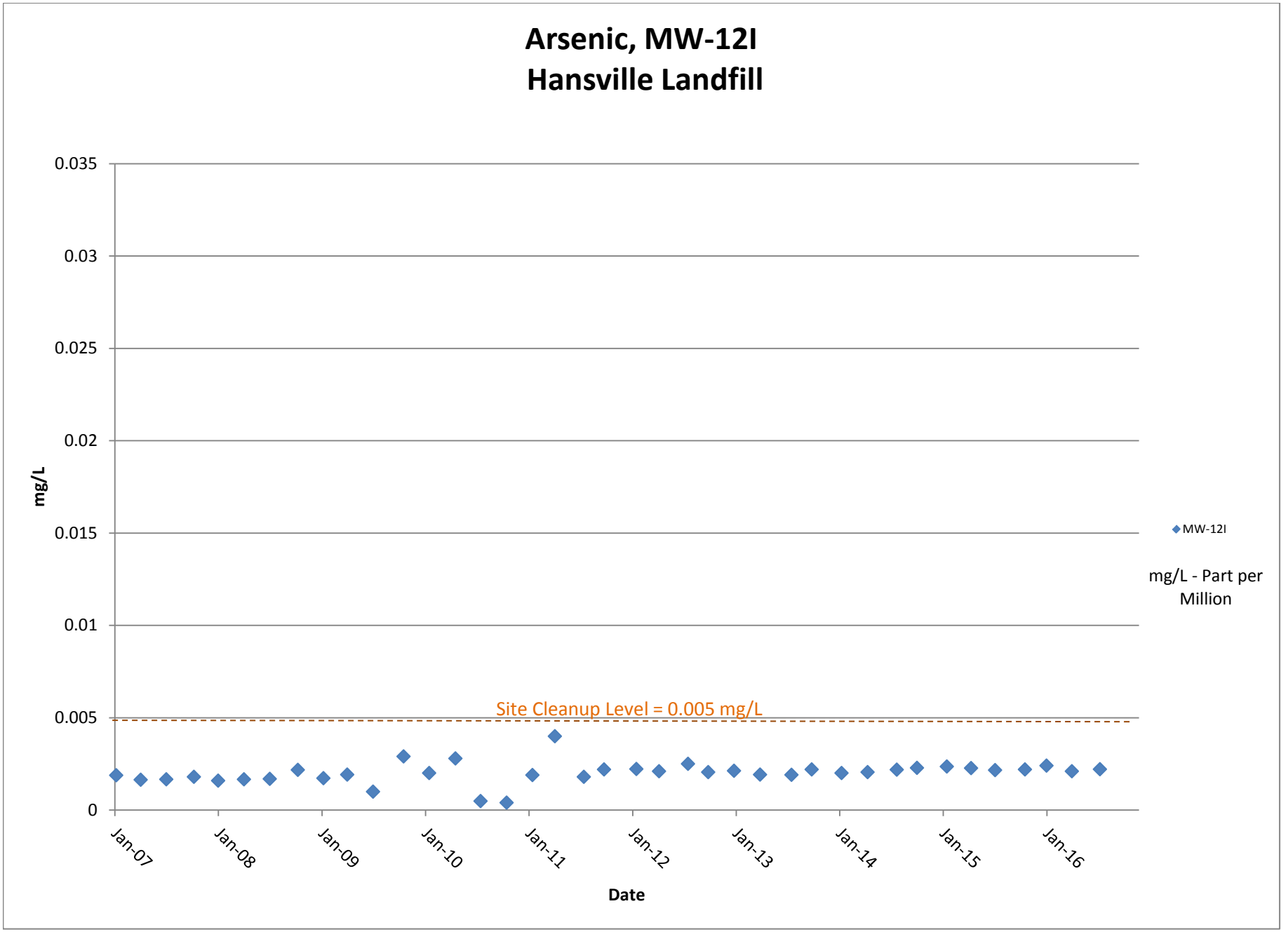


Arsenic, MW-06
Hansville Landfill

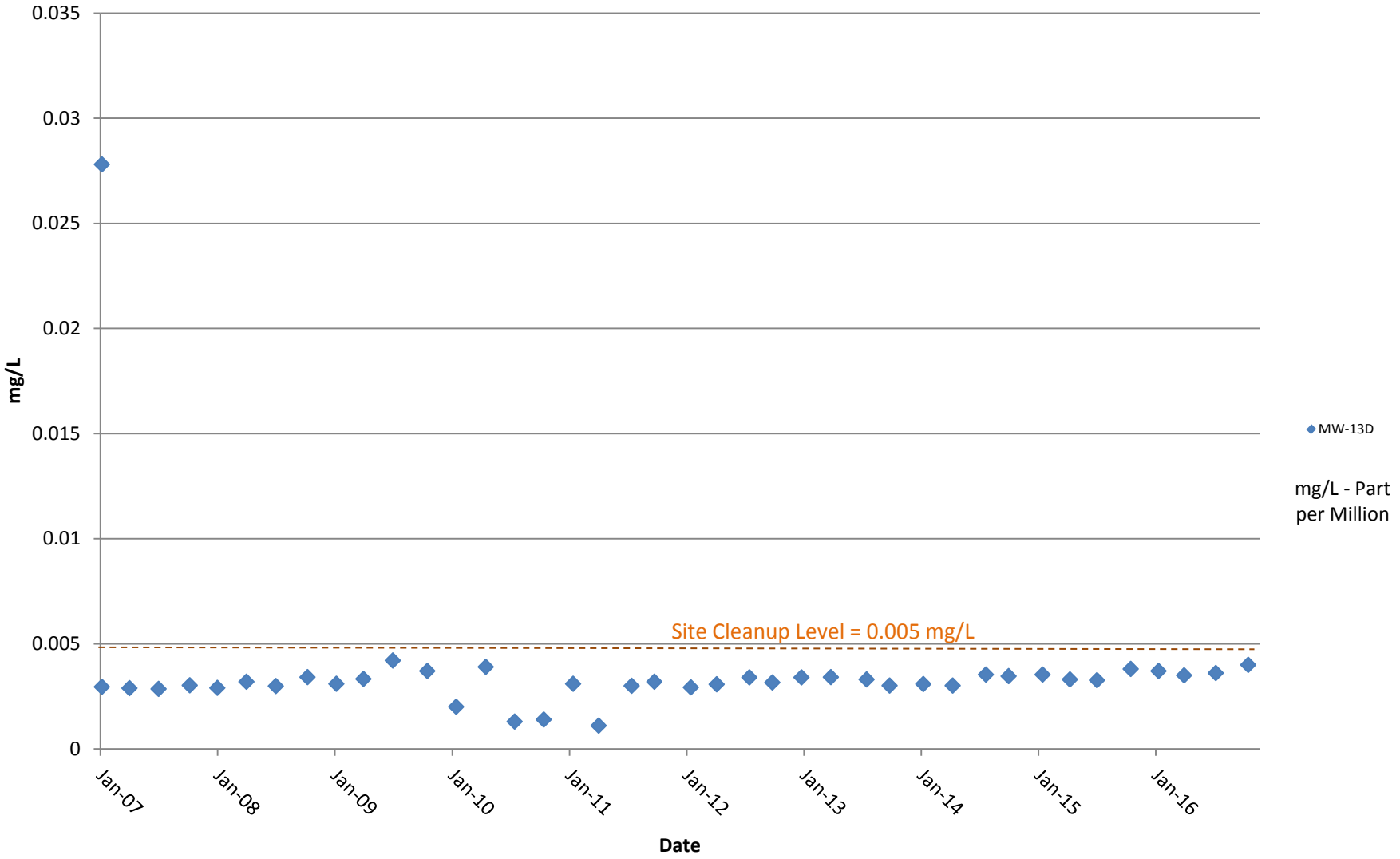


Arsenic, MW-07
Hansville Landfill

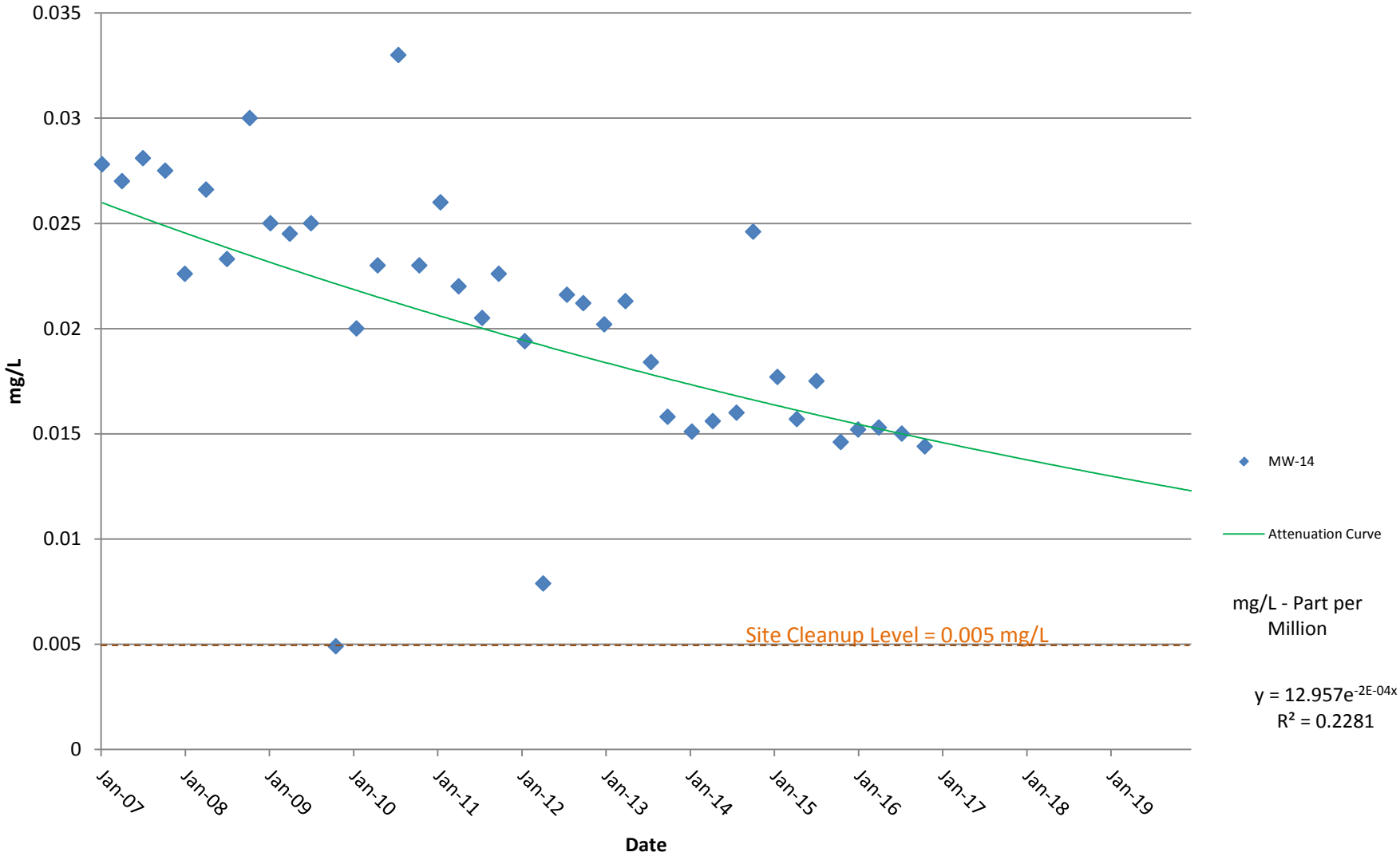



Arsenic, MW-12I
Hansville Landfill
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
mg/L
Site Cleanup Level = 0.005 mg/L
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Date
MW-12I
mg/L - Part per Million

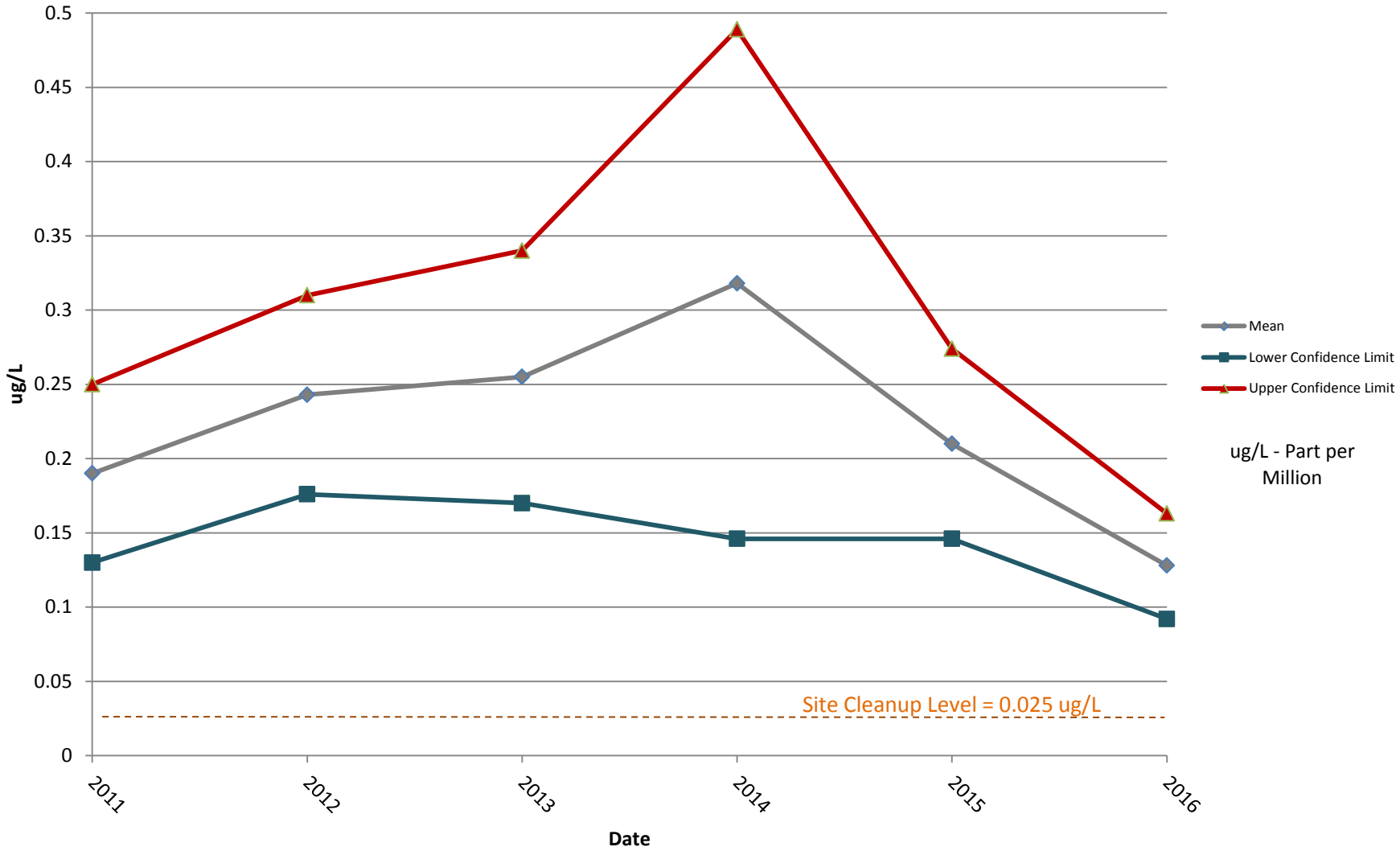
Arsenic, MW-13D
Hansville Landfill



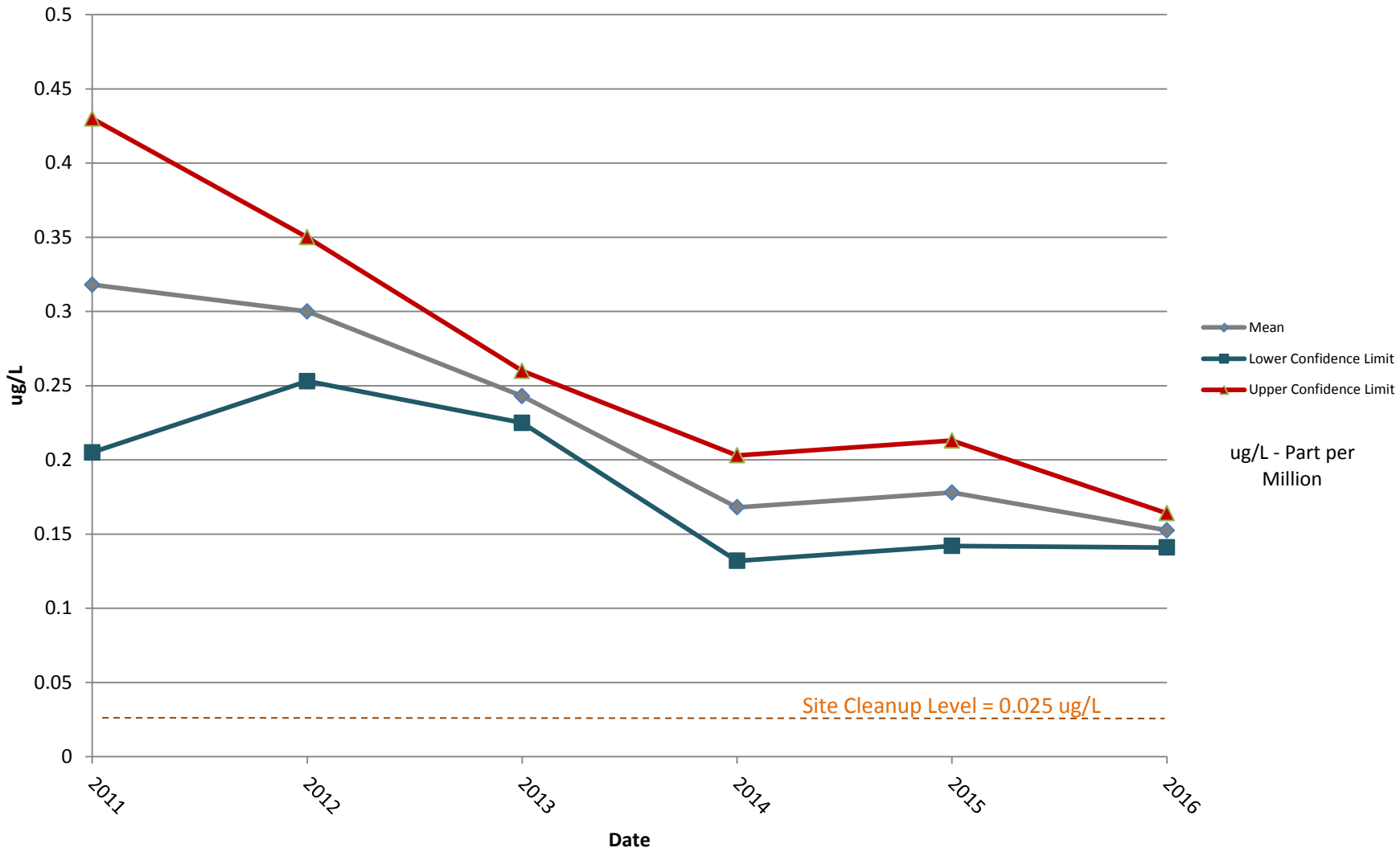
Arsenic, MW-14
Hansville Landfill



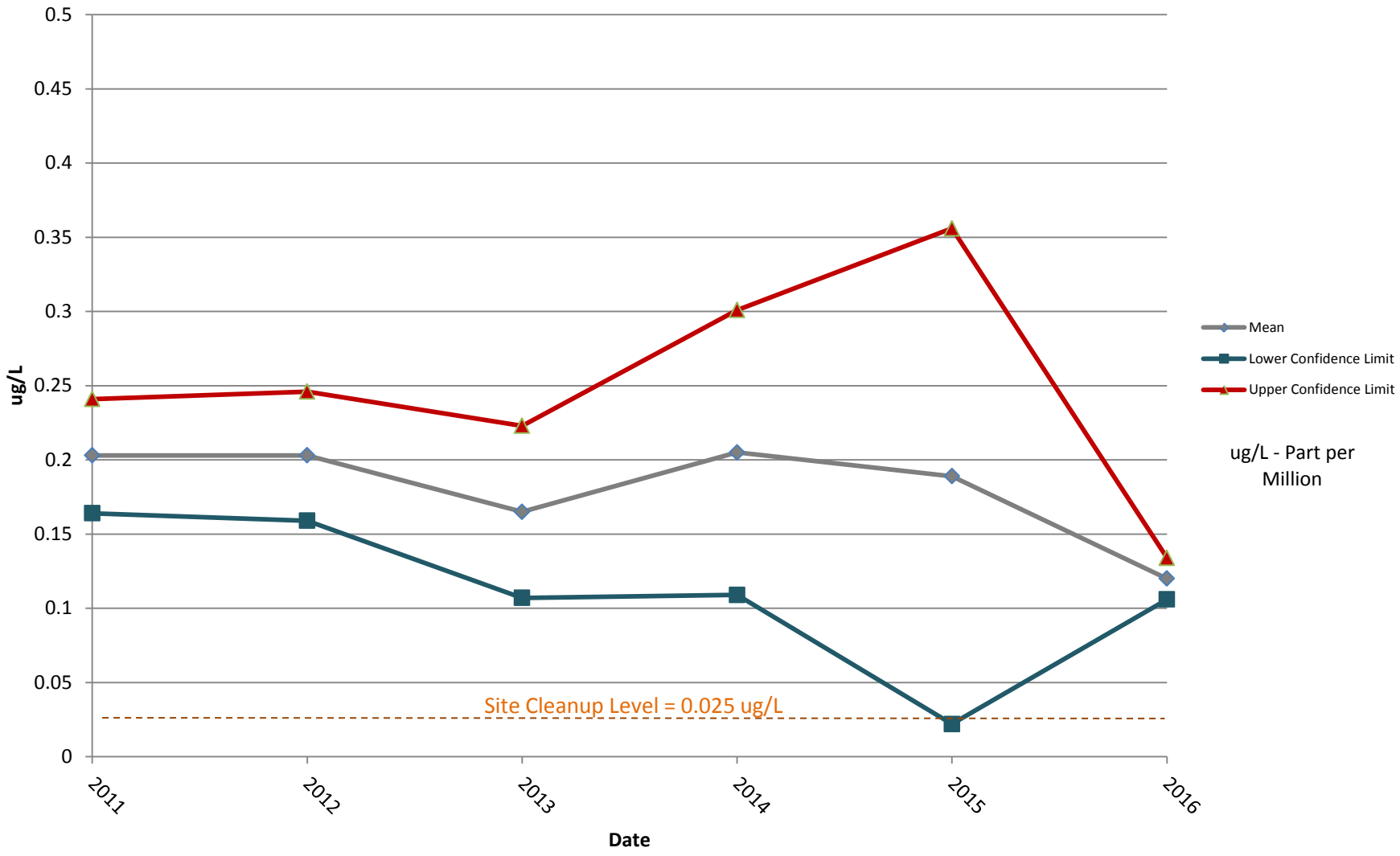
2011-2016 Annualized Means, LCLs and UCLs
Vinyl Chloride in MW-6



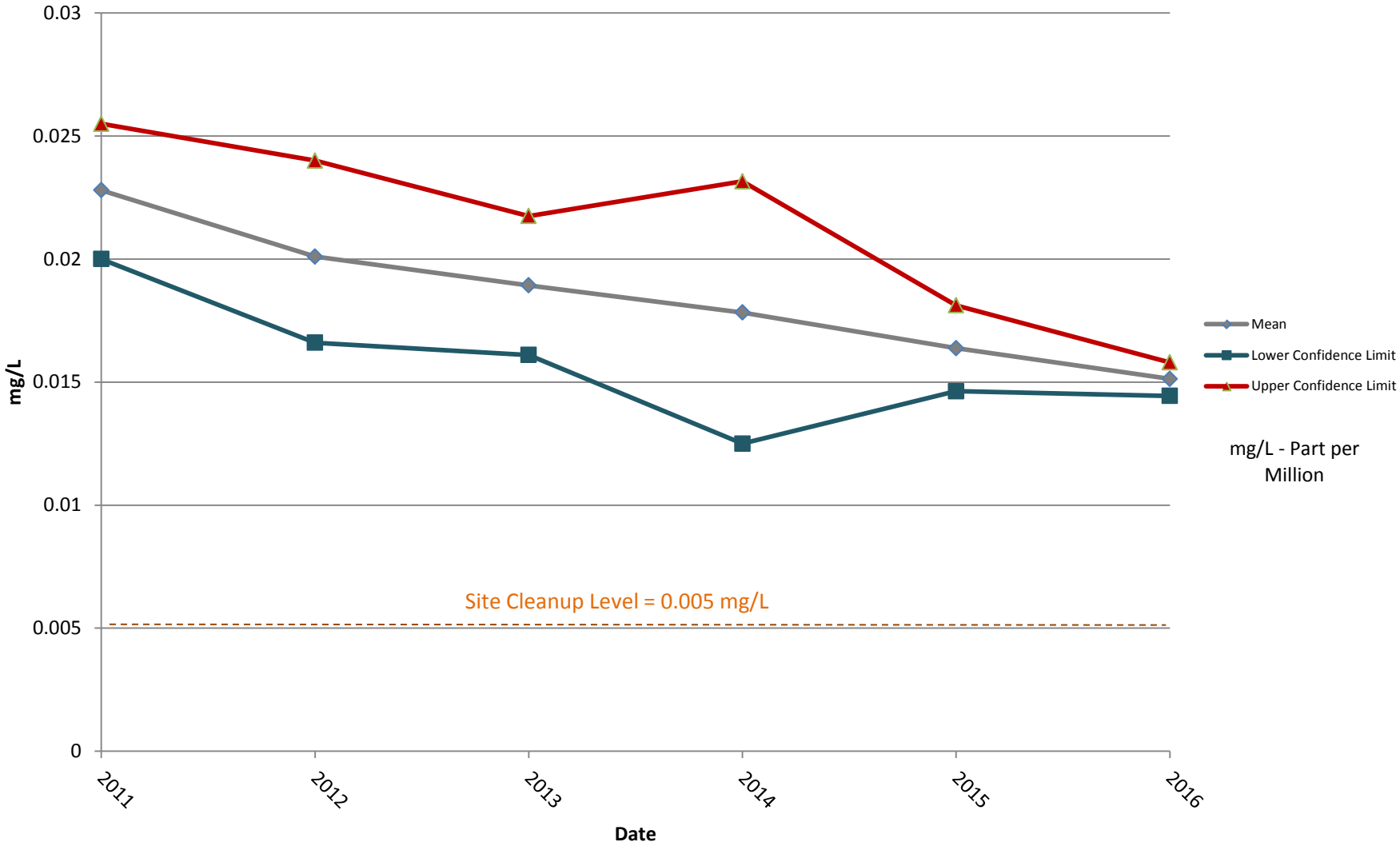
2011-2016 Annualized Means, LCLs and UCLs
Vinyl Chloride in MW-14



2011-2016 Annualized Means, LCLs and UCLs
Vinyl Chloride in MW-12I



2011-2016 Annualized Means, LCLs and UCLs
Arsenic in MW-14



Appendix E

Fourth Quarter (October) 2016 Field Sampling Sheets

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Environmental Consultants
and Contractors

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Bellevue, WA 98005-1877

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FAX 425 746-6747
www.scsengineers.com

SCS ENGINEERS

November 2, 2016
File No. 04211017.05

Subject: Fourth Quarter 2016 Monitoring Event
Hansville Landfill, Kitsap County, Washington

Field Staff: Sam Graber & Sam Adlington
Field Date(s): October 20, 2016

NOTES/SAMPLE DECODING

- Dedicated Grundfos pumps were used for sampling all monitoring wells.
- All samples and water levels were measured on October 20, 2016.
- Surface water samples were collected as grab samples.
- Dissolved metals and O-phosphate samples were field filtered. Field meters were calibrated prior to sampling.
- The duplicate was collected at MW-14, and labeled as MW-20DD.

Sample Number	Well Number
MW-7	MW-7
MW-6	MW-6
MW-14	MW-14
MW-20DD	Dup for MW-14
MW-5	MW-5
MW-13D	MW-13D
MW-12I	MW-12I
SW-1	SW-1
SW-4	SW-4
SW-6	SW-6
SW-7	SW-7

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05 | Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Site: Hansville LF | Meter: | CONTROL SETTINGS: | 1 ft water = 0.62L | 1L = 0.24 gallons

Well ID: MW-5 | MP-20 | YSI | 100.25 DTW | TOS | Intake | BOS | Total Depth | Refill | Discharge | Pressure | Flow | One Well Volume (liters) | Other: | Flow Setting:

Sample ID: | Total Volume Bailed (liters)

Date: 10/20/16

Weather: Overcast

Filtered? Y N | Locked? Y N | Water in Protector? Y N | Damage? Y N

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1128		10.36	147	7.70	6.99	50		
1133		10.91	147	7.60	6.96	48		
1136		11.67	148	7.49	6.93	44		
1139		12.02	150	7.47	6.91	47		
1142	100.32	12.12	150	7.47	6.90	50		
1145		12.16	150	7.46	6.89	53		
1148		12.19	150	7.46	6.89	54	0.76	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Sam Graber (Printed Name) _____ (Signature)

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05 | Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Site: Hansville LF | Meter: | CONTROL SETTINGS: | 1 ft water = 0.62L | 1L = 0.24 gallons

Well ID: MW-6 | 74.29 DTW | MP-20 | Refill | One Well Volume (liters) | Other:

Sample ID: | TOS | YSI | Discharge | Flow Setting:

Date: 10/20/16 | Intake | Pressure | Total Volume Bailed (liters)

Weather: rainy | BOS | Flow

Total Depth

Filtered? (Y) N | Locked? (Y) N | Water in Protector? Y (N) | Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
925		13.69	469	0.77	6.68	75		
930		14.21	470	0.51	6.66	60		
933		14.83	471	0.39	6.64	50		
936		14.88	460	0.38	6.64	48		
939		14.88	464	0.37	6.63	44		
942	74.60	14.88	466	0.37	6.63	41		
945		14.88	466	0.35	6.63	39	2.83	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Sam Graber
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05
Site: Hansville LF
Well ID: MW-7
Sample ID:
Date: 10/20/16
Weather: rainy

84.55 DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other
Meter: MP-20 | YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.24 gallons
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? (Y) N
Water in Protector? Y (N)
Damage? Y (N)

Sample Containers:
1000 ml Poly
500 ml Poly
250 ml Poly
125 ml Poly
500 ml HNO3 x2
500 ml H2SO4 x2
40 ml VOA x3 x6
1000 ml Amber
125 ml NaOH

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
825		10.24	313	1.61	6.49	97		
830		11.01	299	1.33	6.43	78		
833		11.52	298	1.29	6.36	72		
836	84.65	11.63	296	1.28	6.42	70		
839		11.65	297	1.26	6.43	69		
842	84.69	11.36	293	1.21	6.43	71		
845		11.32	293	1.27	6.43	70	0.92	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Sam Graber
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05 | Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Site: Hansville LF | Meter: MP-20 / YSI | CONTROL SETTINGS: | 1 ft water = 0.62L | 1L = 0.24 gallons

Well ID: MW-12I | 10.15 DTW | Refill | One Well Volume (liters) | Other:

Sample ID: | TOS | Discharge | Flow Setting:

Date: 10/20/16 | Intake | Pressure | Total Volume Bailed (liters)

Weather: rainy | BOS | Flow

Total Depth

Filtered? (Y) N | Locked? (Y) N | Water in Protector? Y (N) | Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1326		10.02	158	1.07	7.10	43		
1231		10.14	165	0.52	7.01	38		
1234		10.25	171	0.14	6.91	33		
1237		10.26	172	0.13	6.90	32		
1240		10.28	173	0.12	6.89	31		
1243	10.40	10.28	174	0.09	6.88	30		
1246		10.28	175	0.09	6.88	~~0.09~~ 129	0.84	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Sam Graber
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05 | Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Site: Hansville LF | DTW: 11.76 | Meter: MP-20 / YSI | CONTROL SETTINGS: | 1 ft water = 0.62L | 1L = 0.24 gallons

Well ID: MW-13D | TOS: | Refill: | One Well Volume (liters): | Other:

Sample ID: | Intake: | Discharge: | Flow Setting:

Date: 10/20/16 | BOS: | Pressure: | Total Volume Bailed (liters):

Weather: Overcast | Total Depth: | Flow:

Filtered? (Y) N | Locked? (Y) N | Water in Protector? Y (N) | Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

Notes / Observations (color, odor, anomalies, etc):

* Micro TPW used

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1235		10.57	201	1.64	7.08	16		
1240		10.62	202	0.82	7.15	-10		
1243		10.74	204	0.15	7.20	-36		
1246		10.77	205	0.11	7.22	-49		
1249		10.80	206	0.09	7.22	-54		
1252	12.52	10.84	206	0.10	7.23	-58		
1255	12.52	10.86	205	0.09	7.22	-61	4.34 *	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Sam Brittain
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05 | Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Site: Hansville LF | 32.35 DTW | Meter: MP-20 / YSI | CONTROL SETTINGS: | 1 ft water = 0.62L | 1L = 0.24 gallons

Well ID: MW-14 | TOS | Refill | One Well Volume (liters) | Other:

Sample ID: | Intake | Discharge | Flow Setting:

Date: 10/20/16 | BOS | Pressure | Total Volume Bailed (liters)

Weather: rainy | Total Depth | Flow

Filtered? (Y) N | Locked? (Y) N | Water in Protector? Y (N) | Damage? Y (N)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1017	11.70	346	1.09	6.89	21			
1022		12.12	328	0.85	6.70	10		
1025		12.83	301	0.54	6.68	-26		
1028		13.38	288	0.19	6.65	-59		
1031		13.42	286	0.20	6.65	-63		
1034		13.44	285	0.20	6.64	-68		
1037		13.49	287	0.17	6.65	-73	0.89	

Notes / Observations (color, odor, anomalies, etc):

Dup taken as MW-20DD @ 1045

Split sample for Alexis taken as well @ 1037

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: Sam Graber
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05
Site: Hansville LF
Well ID: SW-1
Sample ID: SW-1
Date: 10/26/16
Weather: OVERCAST

DTW
TOS
Intake
BOS
Total Depth

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | (Grab) | Other
Meter: MP-20 (YSI)
CONTROL SETTINGS: 1 ft water = 0.62L 1L = 0.24 gallons
Refill
Discharge
Pressure
Flow
One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N/A)
Water in Protector? Y (N/A)
Damage? Y (N/A)

Sample Containers:
1000 ml Poly
500 ml Poly
250 ml Poly
125 ml Poly
500 ml HNO3 x2
500 ml H2SO4 x2
40 ml VOA x3 x6
1000 ml Amber
125 ml NaOH

Notes / Observations (color, odor, anomalies, etc):
ACCESS PATH NEEDS CLEARING

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1335	—	11.21	195	8.15	7.44	116.9	4.30	

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: SAM ADDINGTON
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05
Site: Hansville LF
Well ID: SW-4
Sample ID: SW-4
Date: 10/ 20 /16
Weather: OVERCAST ; RAIN

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | (Grab) | Other

DTW
TOS
Intake
BOS
Total Depth

Meter: MP-20 (YSI)

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.24 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? (Y) N
Locked? Y (N/A)
Water in Protector? Y (N/A)
Damage? Y (N/A)

Sample Containers:
~~1000 ml Poly~~ | ~~500 ml Poly~~ | ~~250 ml Poly~~ | 125 ml Poly
500 ml HNO3 x2 | 500 ml H2SO4 x2 | 40 ml VOA x3 x6 | 1000 ml Amber
125 ml NaOH

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1010	—	11.40	231	8.31	7.69	113.3	40.66	

Notes / Observations (color, odor, anomalies, etc):
SPLIT SAMPLES COLLECTED FOR KITSAP COUNTY 2 X 500 mL UNPRESERVED AMBER GLASS BOTTLES FOR 3RD PARTY ANALYSIS

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: SAM ADDINGTON
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05 | Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

Site: Hansville LF | Meter: CONTROL SETTINGS: | 1 ft water = 0.62L | 1L = 0.24 gallons

Well ID: SW-6 | MP-20

Sample ID: SW-6 | YSI

Date: 10/20/16

Weather: OVERCAST ? RAIN

DTW | Refill | One Well Volume (liters) | Other:

TOS | Discharge | Flow Setting:

Intake | Pressure | Total Volume Bailed (liters)

BOS | Flow

Total Depth

Filtered? (Y) N | Locked? Y (N/A) | Water in Protector? Y (N/A) | Damage? Y (N/A)

Sample Containers:

1000 ml Poly	500 ml Poly	250 ml Poly	125 ml Poly
500 ml HNO3 x2	500 ml H2SO4 x2	40 ml VOA x3 x6	1000 ml Amber
125 ml NaOH			

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
1050	—	11.44	119	7.81	7.88	103.4	16.54	

Notes / Observations (color, odor, anomalies, etc):

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: SAM ADDINGTON
Printed Name

Signature

SCS ENGINEERS
2405 140th ave NE #107
Bellevue, WA 98005 (425) 746-4600

Groundwater Sampling Data Sheet

Project #: 04211017.05
Site: Hansville LF
Well ID: SW-7
Sample ID: SW-7
Date: 10/20/16
Weather: OVERCAST & RAIN

Sampling Method: Dedicated | 1.75" QED SamplePro | Bail | Peristaltic | Grab | Other

DTW
TOS
Intake
BOS
Total Depth

Meter: MP-20 YSI

CONTROL SETTINGS:
Refill
Discharge
Pressure
Flow

1 ft water = 0.62L
1L = 0.24 gallons

One Well Volume (liters)
Total Volume Bailed (liters)
Other:
Flow Setting:

Filtered? Y N
Locked? Y N/A
Water in Protector? Y N/A
Damage? Y N/A

Sample Containers:
1000 ml Poly
500 ml HNO3 x2
125 ml NaOH
500 ml Poly
500 ml H2SO4 x2
250 ml Poly
40 ml VOA x3 x6
125 ml Poly
1000 ml Amber

Notes / Observations (color, odor, anomalies, etc):

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q / Vol.
0920	—	11.62	185	7.89	7.01	129.7	33.95	—

Stabilization Parameters: pH/DO ± 0.2, SpC ± 10%, Temp ± 0.5°C, Turb. ± 10% or ≤ 5

SAMPLER: SAM ADDINGTON
Printed Name

Signature

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	10/20/16					
Time	900					
Weather (sky or precip, temp)	rainy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1401	3.92	7.04			
Post Cal Reading	1413	4.01	7.00	9.55	791.3, 103.2, 20.9, 0.2	
Descrepancy	No					
Calib. Successful?	Yes					
Calibration by	SEG					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	Hanville					

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

SCS ENGINEERS

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Conductivity	pH4	pH 7	DO	Turbidity	Comments/Exceptions
Date	10/20/16					
Time	800					
Weather (sky or precip, temp)	rainy					
Type of Calibration	Standard	Standard	Standard	Standard	Standard	
Standard Value	1413	4.01	7.00	100% or ~8.5	1000, 10, 0.2 800, 100, 20, <0.1	
Pre-Cal Reading	1430	4.10	7.05	7.98	971.2, 10.21, 0.51	
Post Cal Reading	1413	4.01	7.00			
Descrepancy	No					
Calib. Successful?	yes					
Calibration by	SEB					
Instrument Type, ID	MP20 / YSI 556				MicoTPW / HACH2000	
Calibration Location	Hauville					

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

Appendix F

Fourth Quarter (October) 2016 Laboratory Data Reports

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ANALYTICAL REPORT

Job Number: 280-89784-1

Job Description: Hansville Landfill

For:
SCS Engineers
2405 140th Avenue NE
Suite 107
Bellevue, WA 98005-1877

Attention: Mr. Dan Venchiarutti

Approved for release.
Betsy A Sara
Project Manager II
11/29/2016 9:15 AM

Betsy A Sara, Project Manager II
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0189
betsy.sara@testamericainc.com
11/29/2016

cc: Mr. Greg Helland

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

The Lab Certification ID# is 4025.

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

Table of Contents

CASE NARRATIVE

Client: SCS Engineers

Project: Hansville Landfill

Report Number: 280-89784-1

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

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

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

Sample Receiving

The samples were received on 10/21/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.3º C, 0.4º C and 1.2º C.

Holding Times

All holding times were within established control limits.

Method Blanks

All Method Blanks were within established control limits.

Laboratory Control Samples (LCS)

All Laboratory Control Samples were within established control limits.

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

Sample MW-12I 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 Orthophosphate as P-Dissolved above the upper control limit. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

Sample MW-14was selected to fulfill the laboratory batch quality control requirements for Method 350.1. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Ammonia 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.

General Comments

The analysis for Method 8260C SIM was performed by TestAmerica Buffalo. Their address and phone number are:
TestAmerica Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228
716-691-2600

The analysis for Dissolved Arsenic Method 200.8 was performed by ARI. Their address and phone number are:
Analytical Resources, Inc.
4611 S.134th Place
Tukwila, WA 98168-3240
206-695-6200

EXECUTIVE SUMMARY - Detections

Client: SCS Engineers Job Number: 280-89784-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-89784-1	**SW-7**					
Chloride		4.1		1.0	mg/L	300.0
Nitrate		3.2		0.50	mg/L	300.0
Sulfate		7.2		1.0	mg/L	300.0
Total Alkalinity		42		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		42		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		23		1.0	mg/L	SM 5310B
Dissolved						
Manganese		14		1.0	ug/L	6020
280-89784-2	**SW-4**					
Chloride		11		1.0	mg/L	300.0
Nitrate		0.59		0.50	mg/L	300.0
Sulfate		9.3		1.0	mg/L	300.0
Total Alkalinity		87		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		87		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		34		1.0	mg/L	SM 5310B
Dissolved						
Manganese		50		1.0	ug/L	6020
280-89784-3	**SW-6**					
Chloride		4.5		1.0	mg/L	300.0
Nitrate		1.1		0.50	mg/L	300.0
Sulfate		5.5		1.0	mg/L	300.0
Total Alkalinity		59		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		59		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		37		1.0	mg/L	SM 5310B
Dissolved						
Manganese		36		1.0	ug/L	6020
280-89784-4	**SW-1**					
Chloride		4.5		1.0	mg/L	300.0
Nitrate		2.0		0.50	mg/L	300.0
Sulfate		10		1.0	mg/L	300.0
Total Alkalinity		78		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		78		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		8.6		1.0	mg/L	SM 5310B

EXECUTIVE SUMMARY - Detections

Client: SCS Engineers Job Number: 280-89784-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-89784-5	**MW-7**					
Chloride		1.6		1.0	mg/L	300.0
Nitrate		0.51		0.50	mg/L	300.0
Sulfate		4.0		1.0	mg/L	300.0
Total Alkalinity		150		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		150		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		1.6		1.0	mg/L	SM 5310B
280-89784-6	**MW-14**					
Vinyl chloride		0.15		0.020	ug/L	8260C SIM
Chloride		7.8		1.0	mg/L	300.0
Sulfate		15		1.0	mg/L	300.0
Total Alkalinity		120		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		120		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		1.1		1.0	mg/L	SM 5310B
Dissolved						
Manganese		2300		1.0	ug/L	6020
280-89784-7	**MW-20DD**					
Vinyl chloride		0.14		0.020	ug/L	8260C SIM
Chloride		7.7		1.0	mg/L	300.0
Sulfate		15		1.0	mg/L	300.0
Total Alkalinity		120		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		120		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		1.1		1.0	mg/L	SM 5310B
Dissolved						
Manganese		2200		1.0	ug/L	6020
280-89784-8	**MW-6**					
Vinyl chloride		0.12		0.020	ug/L	8260C SIM
Chloride		21		1.0	mg/L	300.0
Nitrate		2.6		0.50	mg/L	300.0
Sulfate		27		1.0	mg/L	300.0
Total Alkalinity		180		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		180		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		1.2		1.0	mg/L	SM 5310B
Dissolved						
Manganese		480		1.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: SCS Engineers Job Number: 280-89784-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-89784-9	**MW-5**					
Chloride		2.6		1.0	mg/L	300.0
Nitrate		0.98		0.50	mg/L	300.0
Sulfate		7.6		1.0	mg/L	300.0
Total Alkalinity		61		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		61		5.0	mg/L	SM 2320B
280-89784-10	**MW-13D**					
Chloride		5.6		1.0	mg/L	300.0
Sulfate		16		1.0	mg/L	300.0
Total Alkalinity		80		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		80		5.0	mg/L	SM 2320B
Dissolved						
Manganese		27		1.0	ug/L	6020
280-89784-11	**MW-12I**					
Vinyl chloride		0.13		0.020	ug/L	8260C SIM
Chloride		2.7		1.0	mg/L	300.0
Sulfate		5.2		1.0	mg/L	300.0
Total Alkalinity		91		5.0	mg/L	SM 2320B
Bicarbonate Alkalinity		91		5.0	mg/L	SM 2320B
Total Organic Carbon - Average		2.3		1.0	mg/L	SM 5310B
Dissolved						
Manganese		45		1.0	ug/L	6020

METHOD SUMMARY

Client: SCS Engineers Job Number: 280-89784-1

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

Lab References:

SC0056 = Analytical Resources, Inc

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Method References:

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

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

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

METHOD / ANALYST SUMMARY

Client: SCS Engineers Job Number: 280-89784-1

Method	Analyst	Analyst ID
SW846 8260C SIM	Dias, Nicole M	NMD1
SW846 8260C SIM	Gentile, Joseph W	JWG
SW846 6020	Mooney, Joseph C	JM
MCAWW 300.0	Benson, Alex F	AFB
MCAWW 350.1	Spedale, Morgan A	MAS
SM SM 2320B	Carter, Melynda M	MMC
SM SM 2320B	Jewell, Connie C	CCJ
SM SM 5310B	Jewell, Connie C	CCJ

SAMPLE SUMMARY

Client: SCS Engineers Job Number: 280-89784-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-89784-1	SW-7	Water	10/20/2016 0920	10/21/2016 1000
280-89784-2	SW-4	Water	10/20/2016 1010	10/21/2016 1000
280-89784-3	SW-6	Water	10/20/2016 1050	10/21/2016 1000
280-89784-4	SW-1	Water	10/20/2016 1335	10/21/2016 1000
280-89784-5	MW-7	Water	10/20/2016 0845	10/21/2016 1000
280-89784-6	MW-14	Water	10/20/2016 1037	10/21/2016 1000
280-89784-7	MW-20DD	Water	10/20/2016 1045	10/21/2016 1000
280-89784-8	MW-6	Water	10/20/2016 0945	10/21/2016 1000
280-89784-9	MW-5	Water	10/20/2016 1148	10/21/2016 1000
280-89784-10	MW-13D	Water	10/20/2016 1255	10/21/2016 1000
280-89784-11	MW-12I	Water	10/20/2016 1346	10/21/2016 1000
280-89784-12TB	TRIP BLANK	Water	10/20/2016 0000	10/21/2016 1000

SAMPLE RESULTS

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-7

Lab Sample ID: 280-89784-1 Date Sampled: 10/20/2016 0920
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0967.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1322			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1322				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	116		50 - 150
TBA-d9 (Surr)	138		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-4

Lab Sample ID: 280-89784-2 Date Sampled: 10/20/2016 1010
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0968.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1347			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1347				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	115		50 - 150
TBA-d9 (Surr)	104		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-6

Lab Sample ID: 280-89784-3 Date Sampled: 10/20/2016 1050
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328210	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0996.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 0128			Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 0128				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	125		50 - 150
TBA-d9 (Surr)	132		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-1

Lab Sample ID: 280-89784-4 Date Sampled: 10/20/2016 1335
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0970.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1435			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1435				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	118		50 - 150
TBA-d9 (Surr)	147		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-7

Lab Sample ID: 280-89784-5 Date Sampled: 10/20/2016 0845
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0971.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1500			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1500				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	122		50 - 150
TBA-d9 (Surr)	142		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-14

Lab Sample ID: 280-89784-6 Date Sampled: 10/20/2016 1037
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0972.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1525			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1525				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	0.15		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	118		50 - 150
TBA-d9 (Surr)	136		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-20DD

Lab Sample ID: 280-89784-7 Date Sampled: 10/20/2016 1045
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0973.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1549			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1549				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	0.14		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	120		50 - 150
TBA-d9 (Surr)	138		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-6

Lab Sample ID: 280-89784-8 Date Sampled: 10/20/2016 0945
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0974.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1613			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1613				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	0.12		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	122		50 - 150
TBA-d9 (Surr)	138		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-5

Lab Sample ID: 280-89784-9 Date Sampled: 10/20/2016 1148
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0975.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1637			Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1637				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	123		50 - 150
TBA-d9 (Surr)	130		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-13D

Lab Sample ID: 280-89784-10 Date Sampled: 10/20/2016 1255
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328210	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0997.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 0152			Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 0152				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	130		50 - 150
TBA-d9 (Surr)	150		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-12I

Lab Sample ID: 280-89784-11 Date Sampled: 10/20/2016 1346
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328312	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J1021.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 1435			Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 1435				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	0.13		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	115		50 - 150
TBA-d9 (Surr)	148		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-89784-12TB Date Sampled: 10/20/2016 0000
Client Matrix: Water Date Received: 10/21/2016 1000

8260C SIM Volatile Organic Compounds (GC/MS)

Analysis Method:	8260C SIM	Analysis Batch:	480-328210	Instrument ID:	HP5973J
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	J0999.D
Dilution:	1.0			Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 0240			Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 0240				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	ND		0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
Dibromofluoromethane (Surr)	128		50 - 150
TBA-d9 (Surr)	149		50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-7

Lab Sample ID: 280-89784-1 Date Sampled: 10/20/2016 0920
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	032SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2125			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	14		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-4

Lab Sample ID: 280-89784-2 Date Sampled: 10/20/2016 1010
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	033SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2128			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	50		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-6

Lab Sample ID: 280-89784-3 Date Sampled: 10/20/2016 1050
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	034SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2132			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	36		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: SW-1

Lab Sample ID: 280-89784-4 Date Sampled: 10/20/2016 1335
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	035SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2136			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	ND		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-7

Lab Sample ID: 280-89784-5 Date Sampled: 10/20/2016 0845
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	036SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2140			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	ND		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-14

Lab Sample ID: 280-89784-6 Date Sampled: 10/20/2016 1037
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	037SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2144			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	2300		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-20DD

Lab Sample ID: 280-89784-7 Date Sampled: 10/20/2016 1045
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	038SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2147			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	2200		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-6

Lab Sample ID: 280-89784-8 Date Sampled: 10/20/2016 0945
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	041SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2159			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	480		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-5

Lab Sample ID: 280-89784-9 Date Sampled: 10/20/2016 1148
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	042SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2203			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	ND		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-13D

Lab Sample ID: 280-89784-10 Date Sampled: 10/20/2016 1255
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	043SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2206			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	27		1.0

Client: SCS Engineers Job Number: 280-89784-1

Client Sample ID: MW-12I

Lab Sample ID: 280-89784-11 Date Sampled: 10/20/2016 1346
Client Matrix: Water Date Received: 10/21/2016 1000

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	280-348946	Instrument ID:	MT_077
Prep Method:	3005A	Prep Batch:	280-348353	Lab File ID:	044SMPL.d
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2210			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				

Analyte	Result (ug/L)	Qualifier	RL
Manganese	45		1.0

General Chemistry

Client Sample ID: SW-7

Lab Sample ID: 280-89784-1 Date Sampled: 10/20/2016 0920
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.1		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0059					
Nitrate	3.2		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0059					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/21/2016 2216					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0059					
Sulfate	7.2		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0059					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1708					
Total Alkalinity	42		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1540					
Bicarbonate Alkalinity	42		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1540					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1540					
Total Organic Carbon - Average	23		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350147	Analysis Date: 11/05/2016 1436					

General Chemistry

Client Sample ID: SW-4

Lab Sample ID: 280-89784-2 Date Sampled: 10/20/2016 1010
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	11		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0114					
Nitrate	0.59		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0114					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/21/2016 2236					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0114					
Sulfate	9.3		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0114					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1724					
Total Alkalinity	87		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1545					
Bicarbonate Alkalinity	87		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1545					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1545					
Total Organic Carbon - Average	34		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350147	Analysis Date: 11/05/2016 1454					

General Chemistry

Client Sample ID: SW-6

Lab Sample ID: 280-89784-3 Date Sampled: 10/20/2016 1050
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.5		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0130					
Nitrate	1.1		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0130					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/21/2016 2256					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0130					
Sulfate	5.5		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0130					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1726					
Total Alkalinity	59		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-348786	Analysis Date: 10/28/2016 1736					
Bicarbonate Alkalinity	59		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-348786	Analysis Date: 10/28/2016 1736					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-348786	Analysis Date: 10/28/2016 1736					
Total Organic Carbon - Average	37		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350147	Analysis Date: 11/05/2016 1547					

General Chemistry

Client Sample ID: SW-1

Lab Sample ID: 280-89784-4 Date Sampled: 10/20/2016 1335
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	4.5		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0145					
Nitrate	2.0		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0145					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/21/2016 2316					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0145					
Sulfate	10		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0145					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1728					
Total Alkalinity	78		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-348786	Analysis Date: 10/28/2016 1740					
Bicarbonate Alkalinity	78		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-348786	Analysis Date: 10/28/2016 1740					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-348786	Analysis Date: 10/28/2016 1740					
Total Organic Carbon - Average	8.6		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350147	Analysis Date: 11/05/2016 1603					

General Chemistry

Client Sample ID: MW-7

Lab Sample ID: 280-89784-5 Date Sampled: 10/20/2016 0845
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	1.6		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0201					
Nitrate	0.51		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0201					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/21/2016 2336					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0201					
Sulfate	4.0		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0201					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1738					
Total Alkalinity	150		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1550					
Bicarbonate Alkalinity	150		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1550					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1550					
Total Organic Carbon - Average	1.6		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350147	Analysis Date: 11/05/2016 1618					

General Chemistry

Client Sample ID: **MW-14**

Lab Sample ID: 280-89784-6 Date Sampled: 10/20/2016 1037
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	7.8		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0333					
Nitrate	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0333					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/21/2016 2356					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0333					
Sulfate	15		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0333					
Ammonia as N	ND	F1	mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1740					
Total Alkalinity	120		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1556					
Bicarbonate Alkalinity	120		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1556					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1556					
Total Organic Carbon - Average	1.1		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350631	Analysis Date: 11/08/2016 2229					

General Chemistry

Client Sample ID: MW-20DD

Lab Sample ID: 280-89784-7 Date Sampled: 10/20/2016 1045
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	7.7		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0348					
Nitrate	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0348					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/22/2016 0016					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0348					
Sulfate	15		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0348					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1746					
Total Alkalinity	120		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1626					
Bicarbonate Alkalinity	120		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1626					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1626					
Total Organic Carbon - Average	1.1		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350631	Analysis Date: 11/08/2016 2313					

General Chemistry

Client Sample ID: MW-6

Lab Sample ID: 280-89784-8 Date Sampled: 10/20/2016 0945
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	21		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0404					
Nitrate	2.6		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0404					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/22/2016 0215					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0404					
Sulfate	27		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0404					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1748					
Total Alkalinity	180		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1637					
Bicarbonate Alkalinity	180		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1637					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1637					
Total Organic Carbon - Average	1.2		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350631	Analysis Date: 11/08/2016 2328					

General Chemistry

Client Sample ID: MW-5

Lab Sample ID: 280-89784-9 Date Sampled: 10/20/2016 1148
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	2.6		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0419					
Nitrate	0.98		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0419					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/22/2016 0235					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0419					
Sulfate	7.6		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0419					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1750					
Total Alkalinity	61		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1642					
Bicarbonate Alkalinity	61		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1642					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1642					
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350631	Analysis Date: 11/08/2016 2343					

General Chemistry

Client Sample ID: MW-13D

Lab Sample ID: 280-89784-10 Date Sampled: 10/20/2016 1255
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	5.6		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0435					
Nitrate	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0435					
Orthophosphate as P-Dissolved	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/22/2016 0255					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0435					
Sulfate	16		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0435					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1752					
Total Alkalinity	80		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1648					
Bicarbonate Alkalinity	80		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1648					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1648					
Total Organic Carbon - Average	ND		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350631	Analysis Date: 11/09/2016 0000					

General Chemistry

Client Sample ID: MW-12I

Lab Sample ID: 280-89784-11 Date Sampled: 10/20/2016 1346
Client Matrix: Water Date Received: 10/21/2016 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	2.7		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0450					
Nitrate	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0450					
Orthophosphate as P-Dissolved	ND	F1	mg/L	0.50	1.0	300.0
Analysis Batch: 280-347551	Analysis Date: 10/22/2016 0315					
Nitrite	ND		mg/L	0.50	1.0	300.0
Analysis Batch: 280-347547	Analysis Date: 10/22/2016 0450					
Sulfate	5.2		mg/L	1.0	1.0	300.0
Analysis Batch: 280-347548	Analysis Date: 10/22/2016 0450					
Ammonia as N	ND		mg/L	0.030	1.0	350.1
Analysis Batch: 280-349105	Analysis Date: 10/31/2016 1754					
Total Alkalinity	91		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1654					
Bicarbonate Alkalinity	91		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1654					
Carbonate Alkalinity	ND		mg/L	5.0	1.0	SM 2320B
Analysis Batch: 280-349356	Analysis Date: 11/01/2016 1654					
Total Organic Carbon - Average	2.3		mg/L	1.0	1.0	SM 5310B
Analysis Batch: 280-350631	Analysis Date: 11/09/2016 0014					

DATA REPORTING QUALIFIERS

Client: SCS Engineers Job Number: 280-89784-1

Lab Section	Qualifier	Description
General Chemistry		
	F1	MS and/or MSD Recovery is outside acceptance limits.

QUALITY CONTROL RESULTS

Client: SCS Engineers Job Number: 280-89784-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-328043					
LCS 480-328043/4	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-328043/5	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-328043/7	Method Blank	T	Water	8260C SIM	
280-89784-1	SW-7	T	Water	8260C SIM	
280-89784-2	SW-4	T	Water	8260C SIM	
280-89784-4	SW-1	T	Water	8260C SIM	
280-89784-5	MW-7	T	Water	8260C SIM	
280-89784-6	MW-14	T	Water	8260C SIM	
280-89784-7	MW-20DD	T	Water	8260C SIM	
280-89784-8	MW-6	T	Water	8260C SIM	
280-89784-9	MW-5	T	Water	8260C SIM	
Analysis Batch:480-328210					
LCS 480-328210/4	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-328210/5	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-328210/7	Method Blank	T	Water	8260C SIM	
280-89784-3	SW-6	T	Water	8260C SIM	
280-89784-10	MW-13D	T	Water	8260C SIM	
280-89784-12TB	TRIP BLANK	T	Water	8260C SIM	
480-108480-I-5 MS	Matrix Spike	T	Water	8260C SIM	
480-108480-I-5 MSD	Matrix Spike Duplicate	T	Water	8260C SIM	
Analysis Batch:480-328312					
LCS 480-328312/4	Lab Control Sample	T	Water	8260C SIM	
LCSD 480-328312/5	Lab Control Sample Duplicate	T	Water	8260C SIM	
MB 480-328312/7	Method Blank	T	Water	8260C SIM	
280-89784-11	MW-12I	T	Water	8260C SIM	

Report Basis
T = Total

Client: SCS Engineers Job Number: 280-89784-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-348353					
LCS 280-348353/2-A	Lab Control Sample	R	Water	3005A	
MB 280-348353/1-A	Method Blank	R	Water	3005A	
280-89657-B-1-C MS	Matrix Spike	D	Water	3005A	
280-89657-B-1-D MSD	Matrix Spike Duplicate	D	Water	3005A	
280-89784-1	SW-7	D	Water	3005A	
280-89784-2	SW-4	D	Water	3005A	
280-89784-3	SW-6	D	Water	3005A	
280-89784-4	SW-1	D	Water	3005A	
280-89784-5	MW-7	D	Water	3005A	
280-89784-6	MW-14	D	Water	3005A	
280-89784-7	MW-20DD	D	Water	3005A	
280-89784-8	MW-6	D	Water	3005A	
280-89784-9	MW-5	D	Water	3005A	
280-89784-10	MW-13D	D	Water	3005A	
280-89784-11	MW-12I	D	Water	3005A	
Analysis Batch:280-348946					
LCS 280-348353/2-A	Lab Control Sample	R	Water	6020	280-348353
MB 280-348353/1-A	Method Blank	R	Water	6020	280-348353
280-89657-B-1-C MS	Matrix Spike	D	Water	6020	280-348353
280-89657-B-1-D MSD	Matrix Spike Duplicate	D	Water	6020	280-348353
280-89784-1	SW-7	D	Water	6020	280-348353
280-89784-2	SW-4	D	Water	6020	280-348353
280-89784-3	SW-6	D	Water	6020	280-348353
280-89784-4	SW-1	D	Water	6020	280-348353
280-89784-5	MW-7	D	Water	6020	280-348353
280-89784-6	MW-14	D	Water	6020	280-348353
280-89784-7	MW-20DD	D	Water	6020	280-348353
280-89784-8	MW-6	D	Water	6020	280-348353
280-89784-9	MW-5	D	Water	6020	280-348353
280-89784-10	MW-13D	D	Water	6020	280-348353
280-89784-11	MW-12I	D	Water	6020	280-348353

Report Basis
D = Dissolved
R = Total Recoverable

Client: SCS Engineers Job Number: 280-89784-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-347547					
LCS 280-347547/11	Lab Control Sample	T	Water	300.0	
LCS 280-347547/47	Lab Control Sample	T	Water	300.0	
LCSD 280-347547/12	Lab Control Sample Duplicate	T	Water	300.0	
LCSD 280-347547/50	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-347547/13	Method Blank	T	Water	300.0	
MB 280-347547/51	Method Blank	T	Water	300.0	
280-89784-1	SW-7	T	Water	300.0	
280-89784-2	SW-4	T	Water	300.0	
280-89784-3	SW-6	T	Water	300.0	
280-89784-4	SW-1	T	Water	300.0	
280-89784-5	MW-7	T	Water	300.0	
280-89784-6	MW-14	T	Water	300.0	
280-89784-7	MW-20DD	T	Water	300.0	
280-89784-8	MW-6	T	Water	300.0	
280-89784-9	MW-5	T	Water	300.0	
280-89784-10	MW-13D	T	Water	300.0	
280-89784-11	MW-12I	T	Water	300.0	
280-89784-11DU	Duplicate	T	Water	300.0	
280-89784-11MS	Matrix Spike	T	Water	300.0	
280-89784-11MSD	Matrix Spike Duplicate	T	Water	300.0	
Analysis Batch:280-347548					
LCS 280-347548/11	Lab Control Sample	T	Water	300.0	
LCS 280-347548/47	Lab Control Sample	T	Water	300.0	
LCSD 280-347548/12	Lab Control Sample Duplicate	T	Water	300.0	
LCSD 280-347548/50	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-347548/13	Method Blank	T	Water	300.0	
MB 280-347548/51	Method Blank	T	Water	300.0	
280-89784-1	SW-7	T	Water	300.0	
280-89784-2	SW-4	T	Water	300.0	
280-89784-3	SW-6	T	Water	300.0	
280-89784-4	SW-1	T	Water	300.0	
280-89784-5	MW-7	T	Water	300.0	
280-89784-6	MW-14	T	Water	300.0	
280-89784-7	MW-20DD	T	Water	300.0	
280-89784-8	MW-6	T	Water	300.0	
280-89784-9	MW-5	T	Water	300.0	
280-89784-10	MW-13D	T	Water	300.0	
280-89784-11	MW-12I	T	Water	300.0	
280-89784-11DU	Duplicate	T	Water	300.0	
280-89784-11MS	Matrix Spike	T	Water	300.0	
280-89784-11MSD	Matrix Spike Duplicate	T	Water	300.0	

Client: SCS Engineers Job Number: 280-89784-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-347551					
LCS 280-347551/11	Lab Control Sample	T	Water	300.0	
LCS 280-347551/45	Lab Control Sample	T	Water	300.0	
LCSD 280-347551/12	Lab Control Sample Duplicate	T	Water	300.0	
LCSD 280-347551/46	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-347551/13	Method Blank	T	Water	300.0	
MB 280-347551/47	Method Blank	T	Water	300.0	
280-89784-1	SW-7	D	Water	300.0	
280-89784-2	SW-4	D	Water	300.0	
280-89784-3	SW-6	D	Water	300.0	
280-89784-4	SW-1	D	Water	300.0	
280-89784-5	MW-7	D	Water	300.0	
280-89784-6	MW-14	D	Water	300.0	
280-89784-7	MW-20DD	D	Water	300.0	
280-89784-8	MW-6	D	Water	300.0	
280-89784-9	MW-5	D	Water	300.0	
280-89784-10	MW-13D	D	Water	300.0	
280-89784-11	MW-12I	D	Water	300.0	
280-89784-11DU	Duplicate	D	Water	300.0	
280-89784-11MS	Matrix Spike	D	Water	300.0	
280-89784-11MSD	Matrix Spike Duplicate	D	Water	300.0	
Analysis Batch:280-347552					
LCS 280-347552/11	Lab Control Sample	T	Water	300.0	
LCS 280-347552/45	Lab Control Sample	T	Water	300.0	
LCSD 280-347552/12	Lab Control Sample Duplicate	T	Water	300.0	
LCSD 280-347552/46	Lab Control Sample Duplicate	T	Water	300.0	
MB 280-347552/13	Method Blank	T	Water	300.0	
MB 280-347552/47	Method Blank	T	Water	300.0	
280-89784-1	SW-7	T	Water	300.0	
280-89784-2	SW-4	T	Water	300.0	
280-89784-3	SW-6	T	Water	300.0	
280-89784-4	SW-1	T	Water	300.0	
280-89784-5	MW-7	T	Water	300.0	
280-89784-6	MW-14	T	Water	300.0	
280-89784-7	MW-20DD	T	Water	300.0	
280-89784-8	MW-6	T	Water	300.0	
280-89784-9	MW-5	T	Water	300.0	
280-89784-10	MW-13D	T	Water	300.0	
280-89784-11	MW-12I	T	Water	300.0	
280-89784-11DU	Duplicate	T	Water	300.0	
280-89784-11MS	Matrix Spike	T	Water	300.0	
280-89784-11MSD	Matrix Spike Duplicate	T	Water	300.0	

Client: SCS Engineers Job Number: 280-89784-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-348786					
LCS 280-348786/30	Lab Control Sample	T	Water	SM 2320B	
MB 280-348786/31	Method Blank	T	Water	SM 2320B	
280-89635-C-1 DU	Duplicate	T	Water	SM 2320B	
280-89784-3	SW-6	T	Water	SM 2320B	
280-89784-4	SW-1	T	Water	SM 2320B	
Analysis Batch:280-349105					
LCS 280-349105/107	Lab Control Sample	T	Water	350.1	
LCS 280-349105/148	Lab Control Sample	T	Water	350.1	
LCSD 280-349105/108	Lab Control Sample Duplicate	T	Water	350.1	
LCSD 280-349105/149	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-349105/109	Method Blank	T	Water	350.1	
MB 280-349105/150	Method Blank	T	Water	350.1	
280-89784-1	SW-7	T	Water	350.1	
280-89784-2	SW-4	T	Water	350.1	
280-89784-3	SW-6	T	Water	350.1	
280-89784-4	SW-1	T	Water	350.1	
280-89784-5	MW-7	T	Water	350.1	
280-89784-6	MW-14	T	Water	350.1	
280-89784-6MS	Matrix Spike	T	Water	350.1	
280-89784-6MSD	Matrix Spike Duplicate	T	Water	350.1	
280-89784-7	MW-20DD	T	Water	350.1	
280-89784-8	MW-6	T	Water	350.1	
280-89784-9	MW-5	T	Water	350.1	
280-89784-10	MW-13D	T	Water	350.1	
280-89784-11	MW-12I	T	Water	350.1	
Analysis Batch:280-349356					
LCS 280-349356/30	Lab Control Sample	T	Water	SM 2320B	
LCS 280-349356/4	Lab Control Sample	T	Water	SM 2320B	
MB 280-349356/31	Method Blank	T	Water	SM 2320B	
MB 280-349356/5	Method Blank	T	Water	SM 2320B	
280-89784-1	SW-7	T	Water	SM 2320B	
280-89784-2	SW-4	T	Water	SM 2320B	
280-89784-5	MW-7	T	Water	SM 2320B	
280-89784-6	MW-14	T	Water	SM 2320B	
280-89784-7	MW-20DD	T	Water	SM 2320B	
280-89784-7DU	Duplicate	T	Water	SM 2320B	
280-89784-8	MW-6	T	Water	SM 2320B	
280-89784-9	MW-5	T	Water	SM 2320B	
280-89784-10	MW-13D	T	Water	SM 2320B	
280-89784-11	MW-12I	T	Water	SM 2320B	

Client: SCS Engineers Job Number: 280-89784-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-350147					
LCS 280-350147/67	Lab Control Sample	T	Water	SM 5310B	
MB 280-350147/68	Method Blank	T	Water	SM 5310B	
280-89773-C-1 MS	Matrix Spike	T	Water	SM 5310B	
280-89773-C-1 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-89784-1	SW-7	T	Water	SM 5310B	
280-89784-2	SW-4	T	Water	SM 5310B	
280-89784-3	SW-6	T	Water	SM 5310B	
280-89784-4	SW-1	T	Water	SM 5310B	
280-89784-5	MW-7	T	Water	SM 5310B	
Analysis Batch:280-350631					
LCS 280-350631/3	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-350631/4	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-350631/5	Method Blank	T	Water	SM 5310B	
280-89675-F-2 MS	Matrix Spike	T	Water	SM 5310B	
280-89675-F-2 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-89784-6	MW-14	T	Water	SM 5310B	
280-89784-7	MW-20DD	T	Water	SM 5310B	
280-89784-8	MW-6	T	Water	SM 5310B	
280-89784-9	MW-5	T	Water	SM 5310B	
280-89784-10	MW-13D	T	Water	SM 5310B	
280-89784-11	MW-12I	T	Water	SM 5310B	
Analysis Batch:280-350632					
LCS 280-350632/3	Lab Control Sample	T	Water	SM 5310B	
LCSD 280-350632/4	Lab Control Sample Duplicate	T	Water	SM 5310B	
MB 280-350632/5	Method Blank	T	Water	SM 5310B	
280-89675-F-2 MS	Matrix Spike	T	Water	SM 5310B	
280-89675-F-2 MSD	Matrix Spike Duplicate	T	Water	SM 5310B	
280-89784-6	MW-14	T	Water	SM 5310B	
280-89784-7	MW-20DD	T	Water	SM 5310B	
280-89784-8	MW-6	T	Water	SM 5310B	
280-89784-9	MW-5	T	Water	SM 5310B	
280-89784-10	MW-13D	T	Water	SM 5310B	
280-89784-11	MW-12I	T	Water	SM 5310B	

Report Basis
D = Dissolved
T = Total

Surrogate Recovery Report

8260C SIM Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	TBA %Rec
280-89784-1	SW-7	116	138
280-89784-2	SW-4	115	104
280-89784-3	SW-6	125	132
280-89784-4	SW-1	118	147
280-89784-5	MW-7	122	142
280-89784-6	MW-14	118	136
280-89784-7	MW-20DD	120	138
280-89784-8	MW-6	122	138
280-89784-9	MW-5	123	130
280-89784-10	MW-13D	130	150
280-89784-11	MW-12I	115	148
280-89784-12	TRIP BLANK	128	149
MB 480-328043/7		118	129
MB 480-328210/7		121	147
MB 480-328312/7		119	125
LCS 480-328043/4		105	112
LCS 480-328210/4		105	119
LCS 480-328312/4		105	104
LCSD 480-328043/5		103	98
LCSD 480-328210/5		105	103
LCSD 480-328312/5		102	114
480-108480-I-5 MS		110	110
480-108480-I-5 MSD		107	101

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	50-150
TBA = TBA-d9 (Surr)	50-150

Method Blank - Batch: 480-328043

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-328043/7	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J0966.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1238	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1238				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Vinyl chloride	ND		0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	118	50 - 150
TBA-d9 (Surr)	129	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-328043

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-328043/4	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J0963.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1126	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1126				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-328043/5	Analysis Batch:	480-328043	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J0964.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 1150	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 1150				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	89	87	50 - 150	2	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	105	103	50 - 150
TBA-d9 (Surr)	112	98	50 - 150

Client: SCS Engineers

Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-328043

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-328043/4	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-328043/5
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/27/2016 1126			Analysis Date:	10/27/2016 1150
Prep Date:	10/27/2016 1126			Prep Date:	10/27/2016 1150
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.178	0.175

Method Blank - Batch: 480-328210

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-328210/7	Analysis Batch:	480-328210	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J0993.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 2350	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 2350				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Vinyl chloride	ND		0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	121	50 - 150
TBA-d9 (Surr)	147	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-328210

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-328210/4	Analysis Batch:	480-328210	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J0990.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 2238	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 2238				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-328210/5	Analysis Batch:	480-328210	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J0991.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/27/2016 2302	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/27/2016 2302				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	100	97	50 - 150	3	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	105	105	50 - 150
TBA-d9 (Surr)	119	103	50 - 150

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-328210

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-328210/4	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-328210/5
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/27/2016 2238			Analysis Date:	10/27/2016 2302
Prep Date:	10/27/2016 2238			Prep Date:	10/27/2016 2302
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.200	0.193

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	110	107	50 - 150
TBA-d9 (Surr)	110	101	50 - 150

Method Blank - Batch: 480-328312

Method: 8260C SIM
Preparation: 5030C

Lab Sample ID:	MB 480-328312/7	Analysis Batch:	480-328312	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J1020.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 1409	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 1409				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Vinyl chloride	ND		0.020

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	119	50 - 150
TBA-d9 (Surr)	125	50 - 150

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 480-328312

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-328312/4	Analysis Batch:	480-328312	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J1017.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 1250	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 1250				25 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 480-328312/5	Analysis Batch:	480-328312	Instrument ID:	HP5973J
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	J1018.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	10/28/2016 1315	Units:	ug/L	Final Weight/Volume:	25 mL
Prep Date:	10/28/2016 1315				25 mL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Vinyl chloride	88	82	50 - 150	8	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	105	102	50 - 150
TBA-d9 (Surr)	104	114	50 - 150

Client: SCS Engineers

Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 480-328312

Method: 8260C SIM
Preparation: 5030C

LCS Lab Sample ID:	LCS 480-328312/4	Units: ug/L		LCSD Lab Sample ID:	LCSD 480-328312/5
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/28/2016 1250			Analysis Date:	10/28/2016 1315
Prep Date:	10/28/2016 1250			Prep Date:	10/28/2016 1315
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Vinyl chloride	0.200	0.200	0.177	0.163

Method Blank - Batch: 280-348353

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 280-348353/1-A	Analysis Batch:	280-348946	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-348353	Lab File ID:	030_BLK.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2117	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Manganese	ND		1.0

Lab Control Sample - Batch: 280-348353

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 280-348353/2-A	Analysis Batch:	280-348946	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-348353	Lab File ID:	031_LCS.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2121	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese	40.0	40.9	102	85 - 117	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-348353

Method: 6020
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-89657-B-1-C MS	Analysis Batch:	280-348946	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-348353	Lab File ID:	047SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2222			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				
Leach Date:	N/A				

MSD Lab Sample ID:	280-89657-B-1-D MSD	Analysis Batch:	280-348946	Instrument ID:	MT_077
Client Matrix:	Water	Prep Batch:	280-348353	Lab File ID:	048SMPL.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	10/28/2016 2225			Final Weight/Volume:	50 mL
Prep Date:	10/28/2016 1530				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Manganese	98	97	85 - 117	1	20		

Client: SCS Engineers

Job Number: 280-89784-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-348353

Method: 6020
Preparation: 3005A
Dissolved

MS Lab Sample ID:	280-89657-B-1-C MS	Units: ug/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/28/2016 2222		
Prep Date:	10/28/2016 1530		
Leach Date:	N/A		

MSD Lab Sample ID:	280-89657-B-1-D MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/28/2016 2225
Prep Date:	10/28/2016 1530
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Manganese	ND	40.0	40.0	39.1	38.9

Client: SCS Engineers Job Number: 280-89784-1

Method Blank - Batch: 280-347547

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-347547/13	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1019	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Nitrate	ND		0.50
Nitrite	ND		0.50

Method Blank - Batch: 280-347547

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-347547/51	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0318	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Nitrate	ND		0.50
Nitrite	ND		0.50

Method Reporting Limit Check - Batch: 280-347547

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-347547/10	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 0933	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate	0.200	ND	118	50 - 150	
Nitrite	0.200	ND	117	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-347547

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347547/11	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 0948	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-347547/12	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1004	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Nitrate	95	95	90 - 110	0	10		
Nitrite	95	96	90 - 110	0	10		

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-347547

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347547/47	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0216	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-347547/50	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0302	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Nitrate	95	95	90 - 110	0	10		
Nitrite	95	96	90 - 110	0	10		

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-347547

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347547/11	Units: mg/L	LCSD Lab Sample ID:	LCSD 280-347547/12
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	10/21/2016 0948		Analysis Date:	10/21/2016 1004
Prep Date:	N/A		Prep Date:	N/A
Leach Date:	N/A		Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Nitrate	5.00	5.00	4.73	4.74
Nitrite	5.00	5.00	4.77	4.79

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-347547

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347547/47	Units: mg/L	LCSD Lab Sample ID:	LCSD 280-347547/50
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	10/22/2016 0216		Analysis Date:	10/22/2016 0302
Prep Date:	N/A		Prep Date:	N/A
Leach Date:	N/A		Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Nitrate	5.00	5.00	4.76	4.75
Nitrite	5.00	5.00	4.76	4.78

Client: SCS Engineers Job Number: 280-89784-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-347547

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-89784-11	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0521			Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-89784-11	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0607			Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate	97	98	80 - 120	1	20		
Nitrite	95	96	80 - 120	1	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-347547

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-89784-11	Units:	mg/L	MSD Lab Sample ID:	280-89784-11
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/22/2016 0521			Analysis Date:	10/22/2016 0607
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Nitrate	ND	5.00	5.00	4.84	4.89
Nitrite	ND	5.00	5.00	4.76	4.82

Client: SCS Engineers

Job Number: 280-89784-1

Duplicate - Batch: 280-347547

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-89784-11	Analysis Batch:	280-347547	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0505	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate	ND	ND	NC	15	
Nitrite	ND	ND	NC	15	

Client: SCS Engineers Job Number: 280-89784-1

Method Blank - Batch: 280-347548

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-347548/13	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1019	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Chloride	ND		1.0
Sulfate	ND		1.0

Method Blank - Batch: 280-347548

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-347548/51	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0318	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Chloride	ND		1.0
Sulfate	ND		1.0

Method Reporting Limit Check - Batch: 280-347548

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-347548/10	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anio
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 0933	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	2.50	ND	94	50 - 150	
Sulfate	2.50	ND	94	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-347548

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347548/11	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 0948	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-347548/12	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1004	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	102	102	90 - 110	0	10		
Sulfate	101	101	90 - 110	0	10		

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-347548

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347548/47	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0216	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-347548/50	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0302	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Chloride	102	102	90 - 110	0	10		
Sulfate	102	102	90 - 110	0	10		

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-347548

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347548/11	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/21/2016 0948		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-347548/12
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/21/2016 1004
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Chloride	100	100	102	102
Sulfate	100	100	101	101

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-347548

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347548/47	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/22/2016 0216		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-347548/50
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/22/2016 0302
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Chloride	100	100	102	102
Sulfate	100	100	102	102

Client: SCS Engineers Job Number: 280-89784-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-347548

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-89784-11	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0521			Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-89784-11	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0607			Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Chloride	104	105	80 - 120	1	20		
Sulfate	102	103	80 - 120	1	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-347548

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-89784-11	Units:	mg/L	MSD Lab Sample ID:	280-89784-11
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/22/2016 0521			Analysis Date:	10/22/2016 0607
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Chloride	2.7	25.0	25.0	28.7	28.9
Sulfate	5.2	25.0	25.0	30.6	30.9

Client: SCS Engineers

Job Number: 280-89784-1

Duplicate - Batch: 280-347548

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-89784-11	Analysis Batch:	280-347548	Instrument ID:	WC_IonChrom10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	Info 2_DENPC179_Anic
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0505	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				5 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chloride	2.7	2.71	0.06	15	
Sulfate	5.2	5.16	0	15	

Client: SCS Engineers Job Number: 280-89784-1

Method Blank - Batch: 280-347551

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-347551/13	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0006.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1043	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Orthophosphate as P-Dissolved	ND		0.50

Method Blank - Batch: 280-347551

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 280-347551/47	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0040.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0115	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Orthophosphate as P-Dissolved	ND		0.50

Method Reporting Limit Check - Batch: 280-347551

Method: 300.0
Preparation: N/A

Lab Sample ID:	MRL 280-347551/10	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 0944	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Orthophosphate as P-Dissolved	0.200	ND	101	50 - 150	

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-347551

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347551/11	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0004.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1004	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-347551/12	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0005.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/21/2016 1024	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Orthophosphate as P-Dissolved	103	103	90 - 110	1	10		

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-347551

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347551/45	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0038.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0036	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-347551/46	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0039.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0056	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Orthophosphate as P-Dissolved	105	104	90 - 110	1	10		

Client: SCS Engineers

Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-347551

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347551/11	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/21/2016 1004		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-347551/12
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/21/2016 1024
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Orthophosphate as P-Dissolved	5.00	5.00	5.15	5.17

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-347551

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 280-347551/45	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/22/2016 0036		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-347551/46
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/22/2016 0056
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Orthophosphate as P-Dissolved	5.00	5.00	5.27	5.21

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-347551

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-89784-11	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0048.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0355			Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-89784-11	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0049.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0415			Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Orthophosphate as P-Dissolved	131	136	80 - 120	3	20	F1	F1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-347551

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	280-89784-11	Units:	mg/L	MSD Lab Sample ID:	280-89784-11
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/22/2016 0355			Analysis Date:	10/22/2016 0415
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Orthophosphate as P-Dissolved	ND	5.00	5.00	6.55	F1	6.78	F1

Duplicate - Batch: 280-347551

Method: 300.0
Preparation: N/A

Lab Sample ID:	280-89784-11	Analysis Batch:	280-347551	Instrument ID:	WC_IonChrom11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	0047.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	10/22/2016 0335	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				10 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Orthophosphate as P-Dissolved	ND	ND	NC	15	

Method Blank - Batch: 280-349105

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-349105/109	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	10/31/2016 1614	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Ammonia as N	ND		0.030

Method Blank - Batch: 280-349105

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 280-349105/150	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	10/31/2016 1736	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Ammonia as N	ND		0.030

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-349105

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-349105/107	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	10/31/2016 1610	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				
LCSD Lab Sample ID:	LCSD 280-349105/108	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	10/31/2016 1612	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia as N	100	101	90 - 110	1	10		

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-349105

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-349105/148	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	10/31/2016 1732	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				
LCSD Lab Sample ID:	LCSD 280-349105/149	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	10/31/2016 1734	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ammonia as N	97	99	90 - 110	2	10		

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-349105

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-349105/107	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/31/2016 1610		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-349105/108
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/31/2016 1612
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia as N	2.50	2.50	2.51	2.52

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-349105

Method: 350.1
Preparation: N/A

LCS Lab Sample ID:	LCS 280-349105/148	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	10/31/2016 1732		
Prep Date:	N/A		
Leach Date:	N/A		

LCSD Lab Sample ID:	LCSD 280-349105/149
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	10/31/2016 1734
Prep Date:	N/A
Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia as N	2.50	2.50	2.42	2.47

Client: SCS Engineers Job Number: 280-89784-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-349105

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-89784-6	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	10/31/2016 1742			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-89784-6	Analysis Batch:	280-349105	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\103116.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	10/31/2016 1744			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia as N	110	111	90 - 110	1	10		F1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-349105

Method: 350.1
Preparation: N/A

MS Lab Sample ID:	280-89784-6	Units:	mg/L	MSD Lab Sample ID:	280-89784-6
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	10/31/2016 1742			Analysis Date:	10/31/2016 1744
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Ammonia as N	ND	1.00	1.00	1.10	1.11	F1

Client: SCS Engineers Job Number: 280-89784-1

Method Blank - Batch: 280-348786

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-348786/31	Analysis Batch:	280-348786	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	102816 alk.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	10/28/2016 1652	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Alkalinity	ND		5.0
Bicarbonate Alkalinity	ND		5.0
Carbonate Alkalinity	ND		5.0

Lab Control Sample - Batch: 280-348786

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	LCS 280-348786/30	Analysis Batch:	280-348786	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	102816 alk.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	10/28/2016 1648	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Alkalinity	200	202	101	90 - 110	

Duplicate - Batch: 280-348786

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	280-89635-C-1 DU	Analysis Batch:	280-348786	Instrument ID:	WC-AT3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	102816 alk.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	10/28/2016 1702	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Alkalinity	220	215	4	10	

Client: SCS Engineers

Job Number: 280-89784-1

Method Blank - Batch: 280-349356

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-349356/5	Analysis Batch:	280-349356	Instrument ID:	WC_AT2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/01/2016 1401	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Alkalinity	ND		5.0
Bicarbonate Alkalinity	ND		5.0
Carbonate Alkalinity	ND		5.0

Method Blank - Batch: 280-349356

Method: SM 2320B
Preparation: N/A

Lab Sample ID:	MB 280-349356/31	Analysis Batch:	280-349356	Instrument ID:	WC_AT2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/01/2016 1621	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Alkalinity	ND		5.0
Bicarbonate Alkalinity	ND		5.0
Carbonate Alkalinity	ND		5.0

Client: SCS Engineers Job Number: 280-89784-1

Lab Control Sample - Batch: 280-349356 **Method: SM 2320B**
Preparation: N/A

Lab Sample ID:	LCS 280-349356/4	Analysis Batch:	280-349356	Instrument ID:	WC_AT2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/01/2016 1355	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Alkalinity	200	199	99	90 - 110	

Lab Control Sample - Batch: 280-349356 **Method: SM 2320B**
Preparation: N/A

Lab Sample ID:	LCS 280-349356/30	Analysis Batch:	280-349356	Instrument ID:	WC_AT2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/01/2016 1615	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Alkalinity	200	196	98	90 - 110	

Duplicate - Batch: 280-349356 **Method: SM 2320B**
Preparation: N/A

Lab Sample ID:	280-89784-7	Analysis Batch:	280-349356	Instrument ID:	WC_AT2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110116.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/01/2016 1632	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Alkalinity	120	121	0.7	10	

Method Blank - Batch: 280-350147

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-350147/68	Analysis Batch:	280-350147	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110416B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/05/2016 1012	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Organic Carbon - Average	ND		1.0

Lab Control Sample - Batch: 280-350147

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	LCS 280-350147/67	Analysis Batch:	280-350147	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110416B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/05/2016 0954	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon - Average	25.0	26.0	104	88 - 112	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-350147

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-89773-C-1 MS	Analysis Batch:	280-350147	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110416B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/05/2016 1403			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-89773-C-1 MSD	Analysis Batch:	280-350147	Instrument ID:	WC_SHI2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110416B.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/05/2016 1419			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	103	103	88 - 112	0	15		

Client: SCS Engineers

Job Number: 280-89784-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-350147

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-89773-C-1 MS	Units: mg/L	MSD Lab Sample ID:	280-89773-C-1 MSD	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	11/05/2016 1403		Analysis Date:	11/05/2016 1419	
Prep Date:	N/A		Prep Date:	N/A	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon - Average	ND	25.0	25.0	26.2	26.2

Method Blank - Batch: 280-350631

Method: SM 5310B
Preparation: N/A

Lab Sample ID:	MB 280-350631/5	Analysis Batch:	280-350631	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110816.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/08/2016 1653	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Total Organic Carbon - Average	ND		1.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-350631

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-350631/3	Analysis Batch:	280-350631	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110816.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/08/2016 1619	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-350631/4	Analysis Batch:	280-350631	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110816.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/08/2016 1634	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Total Organic Carbon - Average	98	95	88 - 112	4	15		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 280-350631

Method: SM 5310B
Preparation: N/A

LCS Lab Sample ID:	LCS 280-350631/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-350631/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/08/2016 1619			Analysis Date:	11/08/2016 1634
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Organic Carbon - Average	25.0	25.0	24.5	23.7

Client: SCS Engineers

Job Number: 280-89784-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-350631

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-89675-F-2 MS	Analysis Batch:	280-350631	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110816.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/08/2016 2114			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-89675-F-2 MSD	Analysis Batch:	280-350631	Instrument ID:	WC_SHI3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	110816.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/08/2016 2128			Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon - Average	94	94	88 - 112	0	15		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-350631

Method: SM 5310B
Preparation: N/A

MS Lab Sample ID:	280-89675-F-2 MS	Units:	mg/L	MSD Lab Sample ID:	280-89675-F-2 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	11/08/2016 2114			Analysis Date:	11/08/2016 2128
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon - Average	1.2	25.0	25.0	24.6	24.7

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: 280-89784-1 **Client ID: SW-7**

Sample Date/Time: 10/20/2016 09:20 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-1		480-328043		10/27/2016 13:22	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-1		480-328043		10/27/2016 13:22	1	TAL BUF	NMD1
P:3005A	280-89784-C-1-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-1-A		280-348946	280-348353	10/28/2016 21:25	1	TAL DEN	JM
A:300.0	280-89784-D-1		280-347551		10/21/2016 22:16	1	TAL DEN	AFB
A:300.0	280-89784-A-1		280-347547		10/22/2016 00:59	1	TAL DEN	AFB
A:300.0	280-89784-A-1		280-347548		10/22/2016 00:59	1	TAL DEN	AFB
A:350.1	280-89784-B-1		280-349105		10/31/2016 17:08	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-1		280-349356		11/01/2016 15:40	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-1		280-350147		11/05/2016 14:36	1	TAL DEN	CCJ

Lab ID: 280-89784-2 **Client ID: SW-4**

Sample Date/Time: 10/20/2016 10:10 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-2		480-328043		10/27/2016 13:47	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-2		480-328043		10/27/2016 13:47	1	TAL BUF	NMD1
P:3005A	280-89784-C-2-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-2-A		280-348946	280-348353	10/28/2016 21:28	1	TAL DEN	JM
A:300.0	280-89784-D-2		280-347551		10/21/2016 22:36	1	TAL DEN	AFB
A:300.0	280-89784-A-2		280-347547		10/22/2016 01:14	1	TAL DEN	AFB
A:300.0	280-89784-A-2		280-347548		10/22/2016 01:14	1	TAL DEN	AFB
A:350.1	280-89784-B-2		280-349105		10/31/2016 17:24	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-2		280-349356		11/01/2016 15:45	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-2		280-350147		11/05/2016 14:54	1	TAL DEN	CCJ

Lab ID: 280-89784-3 **Client ID: SW-6**

Sample Date/Time: 10/20/2016 10:50 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-F-3		480-328210		10/28/2016 01:28	1	TAL BUF	JWG
A:8260C SIM	280-89784-F-3		480-328210		10/28/2016 01:28	1	TAL BUF	JWG
P:3005A	280-89784-C-3-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-3-A		280-348946	280-348353	10/28/2016 21:32	1	TAL DEN	JM
A:300.0	280-89784-D-3		280-347551		10/21/2016 22:56	1	TAL DEN	AFB
A:300.0	280-89784-A-3		280-347547		10/22/2016 01:30	1	TAL DEN	AFB
A:300.0	280-89784-A-3		280-347548		10/22/2016 01:30	1	TAL DEN	AFB
A:350.1	280-89784-B-3		280-349105		10/31/2016 17:26	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-3		280-348786		10/28/2016 17:36	1	TAL DEN	CCJ
A:SM 5310B	280-89784-B-3		280-350147		11/05/2016 15:47	1	TAL DEN	CCJ

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: 280-89784-4 **Client ID: SW-1**

Sample Date/Time: 10/20/2016 13:35 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-4		480-328043		10/27/2016 14:35	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-4		480-328043		10/27/2016 14:35	1	TAL BUF	NMD1
P:3005A	280-89784-C-4-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-4-A		280-348946	280-348353	10/28/2016 21:36	1	TAL DEN	JM
A:300.0	280-89784-D-4		280-347551		10/21/2016 23:16	1	TAL DEN	AFB
A:300.0	280-89784-A-4		280-347547		10/22/2016 01:45	1	TAL DEN	AFB
A:300.0	280-89784-A-4		280-347548		10/22/2016 01:45	1	TAL DEN	AFB
A:350.1	280-89784-B-4		280-349105		10/31/2016 17:28	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-4		280-348786		10/28/2016 17:40	1	TAL DEN	CCJ
A:SM 5310B	280-89784-B-4		280-350147		11/05/2016 16:03	1	TAL DEN	CCJ

Lab ID: 280-89784-5 **Client ID: MW-7**

Sample Date/Time: 10/20/2016 08:45 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-5		480-328043		10/27/2016 15:00	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-5		480-328043		10/27/2016 15:00	1	TAL BUF	NMD1
P:3005A	280-89784-C-5-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-5-A		280-348946	280-348353	10/28/2016 21:40	1	TAL DEN	JM
A:300.0	280-89784-D-5		280-347551		10/21/2016 23:36	1	TAL DEN	AFB
A:300.0	280-89784-A-5		280-347547		10/22/2016 02:01	1	TAL DEN	AFB
A:300.0	280-89784-A-5		280-347548		10/22/2016 02:01	1	TAL DEN	AFB
A:350.1	280-89784-B-5		280-349105		10/31/2016 17:38	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-5		280-349356		11/01/2016 15:50	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-5		280-350147		11/05/2016 16:18	1	TAL DEN	CCJ

Lab ID: 280-89784-6 **Client ID: MW-14**

Sample Date/Time: 10/20/2016 10:37 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-6		480-328043		10/27/2016 15:25	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-6		480-328043		10/27/2016 15:25	1	TAL BUF	NMD1
P:3005A	280-89784-C-6-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-6-A		280-348946	280-348353	10/28/2016 21:44	1	TAL DEN	JM
A:300.0	280-89784-D-6		280-347551		10/21/2016 23:56	1	TAL DEN	AFB
A:300.0	280-89784-A-6		280-347547		10/22/2016 03:33	1	TAL DEN	AFB
A:300.0	280-89784-A-6		280-347548		10/22/2016 03:33	1	TAL DEN	AFB
A:350.1	280-89784-B-6		280-349105		10/31/2016 17:40	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-6		280-349356		11/01/2016 15:56	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-6		280-350631		11/08/2016 22:29	1	TAL DEN	CCJ

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: 280-89784-6 MS **Client ID: MW-14**

Sample Date/Time: 10/20/2016 10:37 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:350.1	280-89784-B-6 MS		280-349105		10/31/2016 17:42	1	TAL DEN	MAS

Lab ID: 280-89784-6 MSD **Client ID: MW-14**

Sample Date/Time: 10/20/2016 10:37 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:350.1	280-89784-B-6 MSD		280-349105		10/31/2016 17:44	1	TAL DEN	MAS

Lab ID: 280-89784-7 **Client ID: MW-20DD**

Sample Date/Time: 10/20/2016 10:45 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-7		480-328043		10/27/2016 15:49	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-7		480-328043		10/27/2016 15:49	1	TAL BUF	NMD1
P:3005A	280-89784-C-7-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-7-A		280-348946	280-348353	10/28/2016 21:47	1	TAL DEN	JM
A:300.0	280-89784-D-7		280-347551		10/22/2016 00:16	1	TAL DEN	AFB
A:300.0	280-89784-A-7		280-347547		10/22/2016 03:48	1	TAL DEN	AFB
A:300.0	280-89784-A-7		280-347548		10/22/2016 03:48	1	TAL DEN	AFB
A:350.1	280-89784-B-7		280-349105		10/31/2016 17:46	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-7		280-349356		11/01/2016 16:26	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-7		280-350631		11/08/2016 23:13	1	TAL DEN	CCJ

Lab ID: 280-89784-7 DU **Client ID: MW-20DD**

Sample Date/Time: 10/20/2016 10:45 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2320B	280-89784-D-7 DU		280-349356		11/01/2016 16:32	1	TAL DEN	MMC

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: 280-89784-8 **Client ID: MW-6**

Sample Date/Time: 10/20/2016 09:45 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-8		480-328043		10/27/2016 16:13	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-8		480-328043		10/27/2016 16:13	1	TAL BUF	NMD1
P:3005A	280-89784-C-8-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-8-A		280-348946	280-348353	10/28/2016 21:59	1	TAL DEN	JM
A:300.0	280-89784-D-8		280-347551		10/22/2016 02:15	1	TAL DEN	AFB
A:300.0	280-89784-A-8		280-347547		10/22/2016 04:04	1	TAL DEN	AFB
A:300.0	280-89784-A-8		280-347548		10/22/2016 04:04	1	TAL DEN	AFB
A:350.1	280-89784-B-8		280-349105		10/31/2016 17:48	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-8		280-349356		11/01/2016 16:37	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-8		280-350631		11/08/2016 23:28	1	TAL DEN	CCJ

Lab ID: 280-89784-9 **Client ID: MW-5**

Sample Date/Time: 10/20/2016 11:48 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-9		480-328043		10/27/2016 16:37	1	TAL BUF	NMD1
A:8260C SIM	280-89784-G-9		480-328043		10/27/2016 16:37	1	TAL BUF	NMD1
P:3005A	280-89784-C-9-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-9-A		280-348946	280-348353	10/28/2016 22:03	1	TAL DEN	JM
A:300.0	280-89784-C-9		280-347551		10/22/2016 02:35	1	TAL DEN	AFB
A:300.0	280-89784-A-9		280-347547		10/22/2016 04:19	1	TAL DEN	AFB
A:300.0	280-89784-A-9		280-347548		10/22/2016 04:19	1	TAL DEN	AFB
A:350.1	280-89784-D-9		280-349105		10/31/2016 17:50	1	TAL DEN	MAS
A:SM 2320B	280-89784-C-9		280-349356		11/01/2016 16:42	1	TAL DEN	MMC
A:SM 5310B	280-89784-D-9		280-350631		11/08/2016 23:43	1	TAL DEN	CCJ

Lab ID: 280-89784-10 **Client ID: MW-13D**

Sample Date/Time: 10/20/2016 12:55 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-G-10		480-328210		10/28/2016 01:52	1	TAL BUF	JWG
A:8260C SIM	280-89784-G-10		480-328210		10/28/2016 01:52	1	TAL BUF	JWG
P:3005A	280-89784-C-10-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-10-A		280-348946	280-348353	10/28/2016 22:06	1	TAL DEN	JM
A:300.0	280-89784-D-10		280-347551		10/22/2016 02:55	1	TAL DEN	AFB
A:300.0	280-89784-A-10		280-347547		10/22/2016 04:35	1	TAL DEN	AFB
A:300.0	280-89784-A-10		280-347548		10/22/2016 04:35	1	TAL DEN	AFB
A:350.1	280-89784-B-10		280-349105		10/31/2016 17:52	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-10		280-349356		11/01/2016 16:48	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-10		280-350631		11/09/2016 00:00	1	TAL DEN	CCJ

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: 280-89784-11 **Client ID: MW-12I**

Sample Date/Time: 10/20/2016 13:46 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-F-11		480-328312		10/28/2016 14:35	1	TAL BUF	JWG
A:8260C SIM	280-89784-F-11		480-328312		10/28/2016 14:35	1	TAL BUF	JWG
P:3005A	280-89784-C-11-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89784-C-11-A		280-348946	280-348353	10/28/2016 22:10	1	TAL DEN	JM
A:300.0	280-89784-D-11		280-347551		10/22/2016 03:15	1	TAL DEN	AFB
A:300.0	280-89784-A-11		280-347547		10/22/2016 04:50	1	TAL DEN	AFB
A:300.0	280-89784-A-11		280-347548		10/22/2016 04:50	1	TAL DEN	AFB
A:350.1	280-89784-B-11		280-349105		10/31/2016 17:54	1	TAL DEN	MAS
A:SM 2320B	280-89784-D-11		280-349356		11/01/2016 16:54	1	TAL DEN	MMC
A:SM 5310B	280-89784-B-11		280-350631		11/09/2016 00:14	1	TAL DEN	CCJ

Lab ID: 280-89784-11 MS **Client ID: MW-12I**

Sample Date/Time: 10/20/2016 13:46 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-89784-D-11 MS		280-347551		10/22/2016 03:55	1	TAL DEN	AFB
A:300.0	280-89784-A-11 MS		280-347547		10/22/2016 05:21	1	TAL DEN	AFB
A:300.0	280-89784-A-11 MS		280-347548		10/22/2016 05:21	1	TAL DEN	AFB

Lab ID: 280-89784-11 MSD **Client ID: MW-12I**

Sample Date/Time: 10/20/2016 13:46 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-89784-D-11 MSD		280-347551		10/22/2016 04:15	1	TAL DEN	AFB
A:300.0	280-89784-A-11 MSD		280-347547		10/22/2016 06:07	1	TAL DEN	AFB
A:300.0	280-89784-A-11 MSD		280-347548		10/22/2016 06:07	1	TAL DEN	AFB

Lab ID: 280-89784-11 DU **Client ID: MW-12I**

Sample Date/Time: 10/20/2016 13:46 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	280-89784-D-11 DU		280-347551		10/22/2016 03:35	1	TAL DEN	AFB
A:300.0	280-89784-A-11 DU		280-347547		10/22/2016 05:05	1	TAL DEN	AFB
A:300.0	280-89784-A-11 DU		280-347548		10/22/2016 05:05	1	TAL DEN	AFB

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: 280-89784-12 **Client ID: TRIP BLANK**

Sample Date/Time: 10/20/2016 00:00 Received Date/Time: 10/21/2016 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	280-89784-C-12		480-328210		10/28/2016 02:40	1	TAL BUF	JWG
A:8260C SIM	280-89784-C-12		480-328210		10/28/2016 02:40	1	TAL BUF	JWG

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	MB 480-328043/7		480-328043		10/27/2016 12:38	1	TAL BUF	NMD1
A:8260C SIM	MB 480-328043/7		480-328043		10/27/2016 12:38	1	TAL BUF	NMD1
P:5030C	MB 480-328210/7		480-328210		10/27/2016 23:50	1	TAL BUF	JWG
A:8260C SIM	MB 480-328210/7		480-328210		10/27/2016 23:50	1	TAL BUF	JWG
P:5030C	MB 480-328312/7		480-328312		10/28/2016 14:09	1	TAL BUF	JWG
A:8260C SIM	MB 480-328312/7		480-328312		10/28/2016 14:09	1	TAL BUF	JWG
P:3005A	MB 280-348353/1-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	MB 280-348353/1-A		280-348946	280-348353	10/28/2016 21:17	1	TAL DEN	JM
A:300.0	MB 280-347547/13		280-347547		10/21/2016 10:19	1	TAL DEN	AFB
A:300.0	MB 280-347548/13		280-347548		10/21/2016 10:19	1	TAL DEN	AFB
A:300.0	MB 280-347551/13		280-347551		10/21/2016 10:43	1	TAL DEN	AFB
A:300.0	MB 280-347551/47		280-347551		10/22/2016 01:15	1	TAL DEN	AFB
A:300.0	MB 280-347547/51		280-347547		10/22/2016 03:18	1	TAL DEN	AFB
A:300.0	MB 280-347548/51		280-347548		10/22/2016 03:18	1	TAL DEN	AFB
A:350.1	MB 280-349105/109		280-349105		10/31/2016 16:14	1	TAL DEN	MAS
A:350.1	MB 280-349105/150		280-349105		10/31/2016 17:36	1	TAL DEN	MAS
A:SM 2320B	MB 280-348786/31		280-348786		10/28/2016 16:52	1	TAL DEN	CCJ
A:SM 2320B	MB 280-349356/5		280-349356		11/01/2016 14:01	1	TAL DEN	MMC
A:SM 2320B	MB 280-349356/31		280-349356		11/01/2016 16:21	1	TAL DEN	MMC
A:SM 5310B	MB 280-350147/68		280-350147		11/05/2016 10:12	1	TAL DEN	CCJ
A:SM 5310B	MB 280-350631/5		280-350631		11/08/2016 16:53	1	TAL DEN	CCJ

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCS 480-328043/4		480-328043		10/27/2016 11:26	1	TAL BUF	NMD1
A:8260C SIM	LCS 480-328043/4		480-328043		10/27/2016 11:26	1	TAL BUF	NMD1
P:5030C	LCS 480-328210/4		480-328210		10/27/2016 22:38	1	TAL BUF	JWG
A:8260C SIM	LCS 480-328210/4		480-328210		10/27/2016 22:38	1	TAL BUF	JWG
P:5030C	LCS 480-328312/4		480-328312		10/28/2016 12:50	1	TAL BUF	JWG
A:8260C SIM	LCS 480-328312/4		480-328312		10/28/2016 12:50	1	TAL BUF	JWG
P:3005A	LCS 280-348353/2-A		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	LCS 280-348353/2-A		280-348946	280-348353	10/28/2016 21:21	1	TAL DEN	JM
A:300.0	LCS 280-347547/11		280-347547		10/21/2016 09:48	1	TAL DEN	AFB
A:300.0	LCS 280-347548/11		280-347548		10/21/2016 09:48	1	TAL DEN	AFB
A:300.0	LCS 280-347551/11		280-347551		10/21/2016 10:04	1	TAL DEN	AFB
A:300.0	LCS 280-347551/45		280-347551		10/22/2016 00:36	1	TAL DEN	AFB
A:300.0	LCS 280-347547/47		280-347547		10/22/2016 02:16	1	TAL DEN	AFB
A:300.0	LCS 280-347548/47		280-347548		10/22/2016 02:16	1	TAL DEN	AFB
A:350.1	LCS 280-349105/107		280-349105		10/31/2016 16:10	1	TAL DEN	MAS
A:350.1	LCS 280-349105/148		280-349105		10/31/2016 17:32	1	TAL DEN	MAS
A:SM 2320B	LCS 280-348786/30		280-348786		10/28/2016 16:48	1	TAL DEN	CCJ
A:SM 2320B	LCS 280-349356/4		280-349356		11/01/2016 13:55	1	TAL DEN	MMC
A:SM 2320B	LCS 280-349356/30		280-349356		11/01/2016 16:15	1	TAL DEN	MMC
A:SM 5310B	LCS 280-350147/67		280-350147		11/05/2016 09:54	1	TAL DEN	CCJ
A:SM 5310B	LCS 280-350631/3		280-350631		11/08/2016 16:19	1	TAL DEN	CCJ

Lab ID: LCSD **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	LCSD 480-328043/5		480-328043		10/27/2016 11:50	1	TAL BUF	NMD1
A:8260C SIM	LCSD 480-328043/5		480-328043		10/27/2016 11:50	1	TAL BUF	NMD1
P:5030C	LCSD 480-328210/5		480-328210		10/27/2016 23:02	1	TAL BUF	JWG
A:8260C SIM	LCSD 480-328210/5		480-328210		10/27/2016 23:02	1	TAL BUF	JWG
P:5030C	LCSD 480-328312/5		480-328312		10/28/2016 13:15	1	TAL BUF	JWG
A:8260C SIM	LCSD 480-328312/5		480-328312		10/28/2016 13:15	1	TAL BUF	JWG
A:300.0	LCSD 280-347547/12		280-347547		10/21/2016 10:04	1	TAL DEN	AFB
A:300.0	LCSD 280-347548/12		280-347548		10/21/2016 10:04	1	TAL DEN	AFB
A:300.0	LCSD 280-347551/12		280-347551		10/21/2016 10:24	1	TAL DEN	AFB
A:300.0	LCSD 280-347551/46		280-347551		10/22/2016 00:56	1	TAL DEN	AFB
A:300.0	LCSD 280-347547/50		280-347547		10/22/2016 03:02	1	TAL DEN	AFB
A:300.0	LCSD 280-347548/50		280-347548		10/22/2016 03:02	1	TAL DEN	AFB
A:350.1	LCSD 280-349105/108		280-349105		10/31/2016 16:12	1	TAL DEN	MAS
A:350.1	LCSD 280-349105/149		280-349105		10/31/2016 17:34	1	TAL DEN	MAS
A:SM 5310B	LCSD 280-350631/4		280-350631		11/08/2016 16:34	1	TAL DEN	CCJ

Client: SCS Engineers Job Number: 280-89784-1

Laboratory Chronicle

Lab ID: MRL **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:300.0	MRL 280-347547/10		280-347547		10/21/2016 09:33	1	TAL DEN	AFB
A:300.0	MRL 280-347548/10		280-347548		10/21/2016 09:33	1	TAL DEN	AFB
A:300.0	MRL 280-347551/10		280-347551		10/21/2016 09:44	1	TAL DEN	AFB

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 10/26/2016 11:08 Received Date/Time: 10/27/2016 01:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-108480-I-5 MS		480-328210		10/28/2016 07:07	1	TAL BUF	JWG
A:8260C SIM	480-108480-I-5 MS		480-328210		10/28/2016 07:07	1	TAL BUF	JWG
P:3005A	280-89657-B-1-C MS		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89657-B-1-C MS		280-348946	280-348353	10/28/2016 22:22	1	TAL DEN	JM
A:SM 5310B	280-89773-C-1 MS		280-350147		11/05/2016 14:03	1	TAL DEN	CCJ
A:SM 5310B	280-89675-F-2 MS		280-350631		11/08/2016 21:14	1	TAL DEN	CCJ

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 10/26/2016 11:08 Received Date/Time: 10/27/2016 01:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030C	480-108480-I-5 MSD		480-328210		10/28/2016 07:31	1	TAL BUF	JWG
A:8260C SIM	480-108480-I-5 MSD		480-328210		10/28/2016 07:31	1	TAL BUF	JWG
P:3005A	280-89657-B-1-D MSD		280-348946	280-348353	10/28/2016 15:30	1	TAL DEN	MLS
A:6020	280-89657-B-1-D MSD		280-348946	280-348353	10/28/2016 22:25	1	TAL DEN	JM
A:SM 5310B	280-89773-C-1 MSD		280-350147		11/05/2016 14:19	1	TAL DEN	CCJ
A:SM 5310B	280-89675-F-2 MSD		280-350631		11/08/2016 21:28	1	TAL DEN	CCJ

Lab ID: DU **Client ID: N/A**

Sample Date/Time: 10/18/2016 16:01 Received Date/Time: 10/19/2016 09:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2320B	280-89635-C-1 DU		280-348786		10/28/2016 17:02	1	TAL DEN	CCJ

Lab References:

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

Analytical Resources, Incorporated
Analytical Chemists and Consultants

04 November 2016

Betsy Sara
Test America, Inc.
301 Alpha Drive
Pittsburgh, PA 15238

RE: Hansville Landfill

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

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

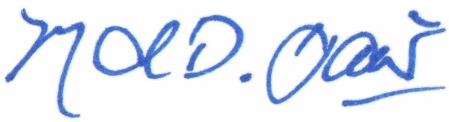
Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
16J0373	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the reqirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

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

Analytical Resources, Inc.



Mark Harris, Project Manager

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

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 16J0373	Turn-around Requested: Standard	Date: 10/20/16	
ARI Client Company: SCS Engineers	Phone: 425-289-5455	Page: 1 of 2	
Client Contact: Dan Venchiarutti		No. of Coolers:	Cooler Temps:
Client Project Name: Hansville LF			
Client Project #: 04211017.05	Samplers: Sam G. and Sam A.		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level dissolved Arsenic	Notes/Comments
SW-7	10/20/16	920	ground water	1	X	
SW-4		1010				
SW-6		1050				
SW-1		1335				
MW-7		945				
MW-14		1037				
MW-20DD		1045				
MW-6		945				
MW-5		1148				
MW-13D		1255				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Corey Hellcat	Printed Name: Brian Wann	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 10/21/16 12:00	Date & Time: 10/21/16 1700	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 16J0373	Turn-around Requested: Standard	Date: 10/20/16	
ARI Client Company: SCS Engineers	Phone: 425-289-5455	Page: 2 of 2	
Client Contact: Dan Venchiarutti		No. of Coolers:	Cooler Temps:
Client Project Name: Hansville LF			
Client Project #: 04211017.05	Samplers: Sam G. and Sam A.		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: low level dissolved Arsenic	Notes/Comments
MW-12I	10/20/16	1346	Ground water	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Logan Hellam	Printed Name: Brian Warren	Printed Name:	Printed Name:
	Company: SCS	Company: ARI	Company:	Company:
	Date & Time: 10/21/16 12:00	Date & Time: 10/21/16 1200	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SCS/Test America Project Name: Hansville LF

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 16J0373 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 0.8

Time: 1250

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00527 6

Cooler Accepted by: _____ Date: 10/21/16 Time: 1200

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

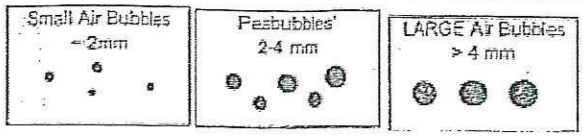
Samples Logged by: JM Date: 10-21-16 Time: 1200

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

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

WORK ORDER

16J0373

Client: Test America, Inc.	**Project Manager: Mark Harris**
Project: Hansville Landfill	**Project Number: 04211017.05**

Preservation Confirmation

Container ID	Container Type	pH	
16J0373-01 A	Miscellaneous Container	<2	pass
16J0373-02 A	Miscellaneous Container	<2	pass
16J0373-03 A	Miscellaneous Container	<2	pass
16J0373-04 A	Miscellaneous Container	<2	pass
16J0373-05 A	Miscellaneous Container	<2	pass
16J0373-06 A	Miscellaneous Container	<2	pass
16J0373-07 A	Miscellaneous Container	<2	pass
16J0373-08 A	Miscellaneous Container	<2	pass
16J0373-09 A	Miscellaneous Container	<2	pass
16J0373-10 A	Miscellaneous Container	<2	pass
16J0373-11 A	Miscellaneous Container	<2	pass

JM
Preservation Confirmed By

10-21-16
Date

JM
Reviewed By

10-21-16
Date

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-7	16J0373-01	Water	20-Oct-2016 09:20	21-Oct-2016 12:00
SW-4	16J0373-02	Water	20-Oct-2016 10:10	21-Oct-2016 12:00
SW-6	16J0373-03	Water	20-Oct-2016 10:50	21-Oct-2016 12:00
SW-1	16J0373-04	Water	20-Oct-2016 13:35	21-Oct-2016 12:00
MW-7	16J0373-05	Water	20-Oct-2016 08:45	21-Oct-2016 12:00
MW-14	16J0373-06	Water	20-Oct-2016 10:37	21-Oct-2016 12:00
MW-20DD	16J0373-07	Water	20-Oct-2016 10:45	21-Oct-2016 12:00
MW-6	16J0373-08	Water	20-Oct-2016 09:45	21-Oct-2016 12:00
MW-5	16J0373-09	Water	20-Oct-2016 11:48	21-Oct-2016 12:00
MW-13D	16J0373-10	Water	20-Oct-2016 12:55	21-Oct-2016 12:00
MW-12I	16J0373-11	Water	20-Oct-2016 13:46	21-Oct-2016 12:00

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

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

Case Narrative

CASE NARRATIVE

Client: Test America, Inc.
Project: Hansville Landfill
Workorder: 16J0373

Sample receipt

11 samples were received 21-Oct-2016 12:00 under ARI workorder 16J0373. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total Metals - EPA Method 200.8

These samples were digested and analyzed within the recommended holding times.

All initial and continuing calibrations were within method requirements.

Arsenic was not detected in the method blank above the LOQ.

The percent recovery for arsenic was within acceptable QC limits for the LCS.

A matrix spike (MS) was prepared and analyzed in conjunction with sample MW-12I. The percent recovery for arsenic was within acceptable QC limits for the MS.

A matrix duplicate (MD) was prepared and analyzed in conjunction with sample MW-12I. The RPD for arsenic was within acceptable QC limits for the MD.

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

SW-7

16J0373-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Instrument: ICPMS1 — Analyzed: 10/31/2016 21:07

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x — Sampled: 10/20/2016 09:20

Preparation Batch: BEJ0810 — Sample Size: 100 mL

Prepared: 27-Oct-2016 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	10	0.000400	**0.00145**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

SW-4

16J0373-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1
Analyzed: 10/31/2016 21:11

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BEJ0810 Sample Size: 100 mL
Prepared: 27-Oct-2016 Final Volume: 20 mL
Sampled: 10/20/2016 10:10

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	10	0.000400	**0.00254**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

SW-6

16J0373-03 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Instrument: ICPMS1 — Analyzed: 10/31/2016 21:16

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x — Sampled: 10/20/2016 10:50

Preparation Batch: BEJ0810 — Sample Size: 100 mL

Prepared: 27-Oct-2016 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	10	0.000400	**0.00326**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

SW-1

16J0373-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1
Analyzed: 10/31/2016 21:01

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BEJ0810 Sample Size: 100 mL
Prepared: 27-Oct-2016 Final Volume: 20 mL
Sampled: 10/20/2016 13:35

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	2	0.0000800	**0.00173**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-7

16J0373-05 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1
Analyzed: 10/31/2016 20:19

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BEJ0810 Sample Size: 100 mL
Prepared: 27-Oct-2016 Final Volume: 20 mL
Sampled: 10/20/2016 08:45

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0000400	**0.000883**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-14

16J0373-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1 — Analyzed: 10/31/2016 20:24

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x — Sampled: 10/20/2016 10:37
Preparation Batch: BEJ0810 — Sample Size: 100 mL
Prepared: 27-Oct-2016 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0000400	**0.0144**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-20DD

16J0373-07 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1
Analyzed: 10/31/2016 20:28

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BEJ0810 Sample Size: 100 mL
Prepared: 27-Oct-2016 Final Volume: 20 mL
Sampled: 10/20/2016 10:45

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0000400	**0.0130**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-6

16J0373-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Instrument: ICPMS1 — Analyzed: 11/02/2016 16:20

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x — Sampled: 10/20/2016 09:45

Preparation Batch: BEJ0810 — Sample Size: 100 mL

Prepared: 27-Oct-2016 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	5	0.000200	**0.00156**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-5

16J0373-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1
Analyzed: 10/31/2016 20:38

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BEJ0810 Sample Size: 100 mL
Prepared: 27-Oct-2016 Final Volume: 20 mL
Sampled: 10/20/2016 11:48

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0000400	**0.00167**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-13D

16J0373-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1
Analyzed: 10/31/2016 20:55

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x
Preparation Batch: BEJ0810 Sample Size: 100 mL
Prepared: 27-Oct-2016 Final Volume: 20 mL
Sampled: 10/20/2016 12:55

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0000400	**0.00400**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

MW-12I

16J0373-11 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS1 — Analyzed: 10/31/2016 20:05

Sample Preparation: Preparation Method: RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x — Sampled: 10/20/2016 13:46
Preparation Batch: BEJ0810 — Sample Size: 100 mL
Prepared: 27-Oct-2016 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0000400	**0.00226**	mg/L	

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BEJ0810 - RHN EPA 600/4-79-020 4.1.4 HNO3 matrix 5x

Instrument: ICPMS1

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BEJ0810-BLK1)				Prepared: 27-Oct-2016 Analyzed: 31-Oct-2016 19:56							
Arsenic		ND	0.0000400	mg/L							U
LCS (BEJ0810-BS1)				Prepared: 27-Oct-2016 Analyzed: 31-Oct-2016 20:14							
Arsenic	75a	0.00488	0.0000400	mg/L	0.00500		97.6	80-120			
Duplicate (BEJ0810-DUP1)		**Source: 16J0373-11**		Prepared: 27-Oct-2016 Analyzed: 31-Oct-2016 20:00							
Arsenic	75a	0.00225	0.0000400	mg/L		0.00226			0.29	20	
Matrix Spike (BEJ0810-MS1)		**Source: 16J0373-11**		Prepared: 27-Oct-2016 Analyzed: 31-Oct-2016 20:10							
Arsenic	75a	0.00636	0.0000400	mg/L	0.00500	0.00226	82.1	75-125			

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

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 UCT-KED in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	05/06/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	03/30/2017
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2017
WADOE	WA Dept of Ecology	C558	06/30/2017
WA-DW	Ecology - Drinking Water	C558	06/30/2017

Test America, Inc.	Project: Hansville Landfill	
301 Alpha Drive	Project Number: 04211017.05	**Reported:**
Pittsburgh, PA 15238	Project Manager: Betsy Sara	04-Nov-2016 06:19

Notes and Definitions

U	This analyte is not detected above the applicable reporting or detection limit.
J	Estimated concentration value detected below the reporting limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S. ADLINGTON	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-23414-6845.1
Client Contact: DAN VENCHIARUTTI	Phone: (425) 445-0818	E-Mail: betsy.sara@testamericainc.com		Page: 1 of 2
Company: SCS Engineers				Job #:
Address: 2405 140th Avenue NE Suite 107	Due Date Requested: STANDARD			
City: Bellevue	TAT Requested (days):			
State, Zip: WA, 98005-1877				
Phone: (425)746-4600	PO #: Purchase Order not required			
Email:	WO #:			
Project Name: Hansville Landfill	Project #: skip sites/events 28006013 - 2Q/3Q/4Q Sampling			
Site: Washington	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/Cl/SO4/NO3/NO3(IC)	Ortho-phosphate (field filtered)	Dissolved Arsenice (Direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	D	S	N	N	D		
SW-7	10/20/16	0920	G	W	Y	N	X	X	X	X	X			Short Holds: NO3/NO2(IC), Orthophosphate (IC)
SW-4		1010												
SW-6		1050												Dissolved Arsenic subbed direct to ARI
SW-1		1335												
MW-7		0845												
MW-14		1037												
MW-20DD		1045												
MW-6		0945												
MW-5		1148												
MW-13D		1255												
MW-12I		1346												

280-89784 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	SAM ADLINGTON	10/20/16 15:00	SCS		10-21-16 1000	TTAO
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No
Custody Seal No.: 944915, 944916, 944917
Cooler Temperature(s) °C and Other Remarks: 0.4, 1.2, 0.3 IR#5 c/c Transfer RP 10-21-16

11/29/2016

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S. ADLINGTON	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-23414-6845.1
Client Contact: DAN VENCHIARUTTI	Phone: (425)495-0818	E-Mail: betsy.sara@testamericainc.com		Page: 2 of 2
Company: SCS Engineers				Job #:
Address: 2405 140th Avenue NE Suite 107	Due Date Requested: STANDARD			
City: Bellevue	TAT Requested (days):			
State, Zip: WA, 98005-1677				
Phone: (425) 746-4600	PO #: Purchase Order not required			
Email:	WO #:			
Project Name: Hansville Landfill	Project #: skip sites/events 28006013 - 2Q/3Q/4Q Sampling			
Site: Washington	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/Cl/SO4/NO3/NO3(IC)	Ortho-phosphate (field filtered)	Dissolved Arsenice (Direct sub to ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	D	S	N	N	D		
TRIP BLANK							X							Short Holds: NO3/NO2(IC), Orthophosphate (IC)
														Dissolved Arsenic subbed direct to ARI

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	SAM ADLINGTON	10/20/16 15:00	SCS	Reed Pitts	10-21-16 1000	TAD
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

11/29/2016

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-373729.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Washington		Job #: 280-89784-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 11/2/2016			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: Hansville Landfill	Project #: 28006013			
Site: Hansville	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	Total Number of Containers	Special Instructions/Note:
			Preservation Code:						
SW-7 (280-89784-1)	10/20/16	09:20 Pacific		Water			X	3	
SW-4 (280-89784-2)	10/20/16	10:10 Pacific		Water			X	3	
SW-6 (280-89784-3)	10/20/16	10:50 Pacific		Water			X	3	
SW-1 (280-89784-4)	10/20/16	13:35 Pacific		Water			X	3	
MW-7 (280-89784-5)	10/20/16	08:45 Pacific		Water			X	3	
MW-14 (280-89784-6)	10/20/16	10:37 Pacific		Water			X	3	
MW-20DD (280-89784-7)	10/20/16	10:45 Pacific		Water			X	3	
MW-6 (280-89784-8)	10/20/16	09:45 Pacific		Water			X	3	
MW-5 (280-89784-9)	10/20/16	11:48 Pacific		Water			X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/24/16 17:26		[signature]	10/25/16 0930	TAB uf.
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.0°C

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-373729.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: betsy.sara@testamericainc.com	State of Origin: Washington	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Washington		Job #: 280-89784-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 11/2/2016			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: Hansville Landfill	Project #: 28006013			
Site: Hansville	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-13D (280-89784-10)	10/20/16	12:55 Pacific		Water			X	3	
MW-12I (280-89784-11)	10/20/16	13:46 Pacific		Water			X	3	
TRIP BLANK (280-89784-12)	10/20/16	Pacific		Water			X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/24/16 17:20		[signature]	10/25/16 0930	TARL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.0°C

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 280-89784-1

Login Number: 89784
List Number: 1
Creator: Pottruff, Reed W

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	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.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 280-89784-1

Login Number: 89784
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 10/25/16 03:24 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0 #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 G

Kitsap Public Health District
2016 Landfill Inspection Reports

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KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

March 1, 2016

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

RE: 2016 1st QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 1st quarter inspection of 2016 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on February 24, 2016 at approximately 12:00 a.m.

The following items were noted or discussed during the inspection:

- Landfill site conditions were excellent
- No signs of trespass or disturbance to the landfill was noted
- A copy of the inspection form is attached.

If you have any questions or comments please feel free to contact me at (360) 337-5607.

Sincerely,

Daydra Denson, R.S.
Environmental Health Specialist
Solid and Hazardous Waste Program

cc: Project file

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

SOLID WASTE FACILITY INSPECTION FORM

Facility Name: Hansville Landfill **Operator:** Kitsap Co. Public Works **Phone #:** 360-674-2404

Location of Facility: 7791 Ecology Road, Kingston WA 98346

Inspector: D.Denson **Date:** 02/24/2016 **Time:** 1200

Type of Inspection Checklist Used: SW Facility **Facility Representative Present:** A.Mckinnon

Reason for Inspection	Type of Inspection	Results	Sample Taken?
_X_ Scheduled ___ Return ___ Complaint ___ Permit Investigation ___ Sample ___ By Request ___ Other	_X_Full Quarterly ___ Brief ___ No Entry ___ Consultation ___ Plan Review ___ Site Review ___ Other	_X_Compliant ___ Non-Compliant ___ Approved ___ Disapproved ___ Other	___ Yes _X_ No _____ **Attachments? (photos, etc.)** ___ Yes ___ No Type: __photo log___ _____

Item #	Description (see attached checklist for complete list of items)	Correction Date

Comments: No signs of trespassing or disruption to the landfill cap. KCPW contacted tribal authorities to request measures be taken to prevent future trespass. No other apparent concerns were noted during the time of inspection.

Signatures: A.M Kinnon
Facility Representative

D Denson
KPHD Inspector

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

February 1, 2017

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

RE: 2016 2nd QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 2nd quarter inspection of 2016 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on June 27, 2016 at approximately 9:00 a.m.

The following items were noted or discussed during the inspection:

- No apparent problems

If you have any questions or comments please feel free to contact me at (360) 337-5608.

Sincerely,

RC Bazzell

Richard Bazzell, RS
Environmental Health Specialist
Solid and Hazardous Waste Program

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

SOLID WASTE FACILITY INSPECTION FORM

Facility Name: Hansville Landfill **Operator:** Kitsap Co. Public Works **Phone #:** 360-674-2404

Location of Facility: 7791 Ecology Road, Kingston WA 98346

Inspector: R.Bazzell, G. Holdcroft **Date:** 06/27/2016 **Time:** 0900

Type of Inspection Checklist Used: SW Facility **Facility Representative Present:** A.Mckinnon

Reason for Inspection	Type of Inspection	Results	Sample Taken?
_X_ Scheduled ___ Return ___ Complaint ___ Permit Investigation ___ Sample ___ By Request ___ Other	_X_Full Quarterly ___ Brief ___ No Entry ___ Consultation ___ Plan Review ___ Site Review ___ Other	_X_Compliant ___ Non-Compliant ___ Approved ___ Disapproved ___ Other	___ Yes _X_ No **Attachments? (photos, etc.)** ___ Yes ___ No Type: __photo log___

Item #	Description (see attached checklist for complete list of items)	Correction Date
	No apparent problems	

Comments:

Signatures: _____ _____

Environmental Health Specialist Facility Representative

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

SOLID WASTE FACILITY INSPECTION FORM

Facility Name: Hansville Landfill **Operator:** Kitsap Co. Public Works **Phone #:** 360-674-2404

Location of Facility: 7791 Ecology Road, Kingston WA 98346

Inspector: R.Bazzell, G. Holdcroft **Date:** 08/30/2016 **Time:** 1500

Type of Inspection Checklist Used: SW Facility **Facility Representative Present:** A.Mckinnon, P.Campbell

Reason for Inspection	Type of Inspection	Results	Sample Taken?
_X_ Scheduled ___ Return ___ Complaint ___ Permit Investigation ___ Sample ___ By Request ___ Other	_X_ Full Quarterly ___ Brief ___ No Entry ___ Consultation ___ Plan Review ___ Site Review ___ Other	_X_ Compliant ___ Non-Compliant ___ Approved ___ Disapproved ___ Other	___ Yes _X_ No **Attachments? (photos, etc.)** ___ Yes ___ No Type: __photo log___

Item #	Description (see attached checklist for complete list of items)	Correction Date

Comments: Inspection/tour with 5 year review meeting attendees. Improvements noted to manifolds. No other apparent concerns were noted during the time of inspection.

Signatures: _____ _____

Environmental Health Specialist

Facility Representative

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

October 7, 2016

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

RE: 2016 3rd QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 3rd quarter inspection of 2016 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on August 30, 2016 at approximately 3:00 p.m.

The following items were noted or discussed during the inspection:

- Landfill site conditions were excellent
- No signs of trespass or disturbance to the landfill was noted
- Improvements to manifolds were noted.
- A copy of the inspection form is attached.

If you have any questions or comments please feel free to contact me at (360) 337-5607.

Sincerely,

Richard Bazzell, R.S.
Environmental Health Specialist
Solid and Hazardous Waste Program

cc: Project file

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

January 18, 2016

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

RE: 2016 4th QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 4th quarter inspection of 2016 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on December 20, 2016 at approximately 2:00 p.m.

The following items were noted or discussed:

- Landfill site conditions were excellent.
- Monitoring well decommissioned in December.
- Improvements to manifolds are 60% complete.
- Maintenance completed on flare igniter in October.
- Aspect Consulting will take over managing landfill gas effective January 1, 2016.
- A copy of the inspection form is attached.

If you have any questions or comments please feel free to contact me at (360) 728-2308.

Sincerely,

Richard Bazzell, R.S.
Environmental Health Specialist
Solid and Hazardous Waste Program

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

January 18, 2017

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

RE: 2016 4th QUARTER HANSVILLE LANDFILL INSPECTION

Dear Ms. McKinnon:

The Kitsap Public Health District (Health District) is writing to relay the results of the 4th quarter inspection of 2016 at the Hansville Landfill. Enclosed please find a copy of the inspection checklist/report for the quarterly inspection conducted on December 20, 2016 at approximately 2:00 p.m.

The following items were noted or discussed:

- Landfill site conditions were excellent.
- Monitoring well decommissioned in December.
- Improvements to manifolds are 60% complete.
- Maintenance completed on flare igniter in October.
- Aspect Consulting will take over managing landfill gas effective January 1, 2017.
- A copy of the inspection form is attached.

If you have any questions or comments please feel free to contact me at (360) 728-2308.

Sincerely,

Richard Bazzell, R.S.
Environmental Health Specialist
Solid and Hazardous Waste Program

KITSAP PUBLIC
HEALTH DISTRICT

345 6th Street, Suite 300
Bremerton, WA 98337
360-337-5235

SOLID WASTE FACILITY INSPECTION FORM

Facility Name: Hansville Landfill **Operator:** Kitsap Co. Public Works **Phone #:** 360-674-2404

Location of Facility: 7791 Ecology Road, Kingston WA 98346

Inspector: R.Bazzell, **Date:** 12/20/2016 **Time:** 1400

Type of Inspection Checklist Used: SW Facility **Facility Representative Present:** A.Mckinnon

Reason for Inspection	Type of Inspection	Results	Sample Taken?
_X_ Scheduled ___ Return ___ Complaint ___ Permit Investigation ___ Sample ___ By Request ___ Other	_X_Full Quarterly ___ Brief ___ No Entry ___ Consultation ___ Plan Review ___ Site Review ___ Other	_X_Compliant ___ Non-Compliant ___ Approved ___ Disapproved ___ Other	___ Yes _X_ No **Attachments? (photos, etc.)** ___ Yes ___ No Type: __photo log___

Item #	Description (see attached checklist for complete list of items)	Correction Date

Comments: Inspection was limited as observations were made from behind locked gate. Follow up phone call with A.Mckinnon after brief inspection.

Signatures: _____ _____

Environmental Health Specialist Facility Representative