February 15, 2019

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Information Technology Unit
California Regional Water Quality Control Board – Los Angeles Region
320 West Fourth Street, Suite 200
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SECOND SEMIANNUAL & ANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON CITY/COUNTY LANDFILL, SYLMAR, CALIFORNIA

Please find enclosed the Second Semiannual & Annual 2018 monitoring report for the Sunshine Canyon City/County Landfill to comply with the California Regional Water Quality Control Board – Los Angeles Region (RWQCB) Waste Discharge Requirements Order Number R4-2008-0088 and Monitoring and Reporting Program CI-2043.

This report has been prepared by Geo-Logic Associates on behalf of Browning Ferris Industries (BFI) of California. It summarizes the results of groundwater, surface water, leachate, vadose zone, liquid management, and waste disposal monitoring activities completed during the July 1 to December 31, 2018, semiannual monitoring period and also includes an annual summary.

I certify that all wastes placed at the Sunshine Canyon City/County Landfill were deposited in accordance with the RWQCB's requirements, and that no wastes were deposited outside of the limits permitted for waste disposal at this facility.

I, under penalty of perjury, do hereby state that I have personally examined and am familiar with the information submitted in this document, and to the best of my knowledge, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information contained in the attached report is true, complete, and correct.

If you have any questions regarding this report, please do not hesitate to call Mr. Josh Mills at (818) 362-2154 or email him at JMills3@RepublicServices.com.

Sincerely,

Chris Coyle
General Manager
Sunshine Canyon Landfill

SEMI-ANNUAL & ANNUAL MONITORING REPORT
SECOND SEMIANNUAL (JULY – DECEMBER) 2018

SUNSHINE CANYON LANDFILL
FACILITY WDID #L10006014618

FEBRUARY 2019
PROJECT NO. SO18.1024

PREPARED FOR:

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Sunshine Canyon Landfill
14747 San Fernando Road
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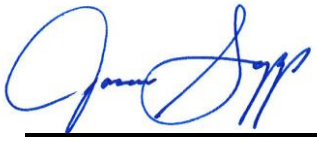
CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a Geo-Logic Associates' California Registered Professional Geologist and Certified Engineering Geologist.

February 12, 2019

Kyle Welchans — Date
California Professional Geologist #9255



February 12, 2019

Jason A. Sapp — Date
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EXECUTIVE SUMMARY

This document presents the results of environmental monitoring activities conducted at the Sunshine Canyon City/County Landfill (SCLF) during the second semiannual monitoring period of 2018 (July through December), and also presents an annual summary for the site. This report was prepared to address the site-specific reporting requirements contained in Monitoring and Reporting Program CI-2043 issued by the Los Angeles Regional Water Quality Control Board (RWQCB). A summary of principal findings of the current monitoring period are presented below.

During the first semiannual 2018 monitoring period, routine environmental monitoring was conducted on a quarterly basis in September (third quarter) and December (fourth quarter), and included: depth to water measurements; sampling and analysis of groundwater, surface water, vadose zone liquid, leachate, and treated liquids; and field monitoring of vadose zone gas, waste tonnage, water reuse, and drainage structures.

The Water Quality Protection Standard (WQPS) for this site is based on intrawell prediction limits for inorganic constituents. For organic constituents the WQPS is the analyte-specific Practical Quantitation Limit. The following table summarizes the WQPS exceedances reported for the third and fourth quarter 2018 monitoring events:

WELL	ANALYTE	QUARTER(S) OF WQPS EXCEEDANCE	RETEST RESULTS
MW-1	1,4-Dioxane	3RD & 4TH	Not Applicable
MW-5	1,4-Dioxane	3RD & 4TH	Not Applicable
	Ammonia-Nitrogen	3RD	Not Applicable
	t-Butanol	4TH	Not Applicable
MW-6	Naphthalene	4TH	*Results Pending*
MW-13R	1,4-Dioxane	3RD & 4TH	Not Applicable
	Ammonia-Nitrogen	3RD & 4TH	Not Applicable
	Potassium	3RD & 4TH	Not Applicable
DW-3	Ammonia-Nitrogen	3RD	Not Applicable
DW-5	Allyl Chloride	3RD	Not Applicable
PZ-2	Ammonia-N	3RD	*Below WQPS*

Notes: Not Applicable – Retesting is not required for analyte/well pairs in "tracking mode".

These results are generally similar to past monitoring event results, as most analyte/well pairs were previously in tracking mode. All retest results for samples collected in response to third and fourth quarter 2018 WQPS exceedances were reported at concentrations below respective intrawell standards.

Retest results to verify the fourth quarter 2018 naphthalene result for well MW-6 were pending at the time this report was prepared and will be presented in the First Semiannual 2019 Water Quality Monitoring Report.

During the second semiannual 2018 monitoring period, previously identified volatile organic compounds (VOCs) were again detected in the third and fourth quarter samples collected from Subdrain N and Combined Subdrains. These findings are consistent with historical results. Liquids collected at SCLF subdrains are conveyed to the nearby sewer system under a City of Los Angeles Bureau of Sanitation permit.

Lysimeters LY-6 and LY-7 could not be sampled during the third quarter 2018. During the fourth quarter 2018 the pumps were pulled from each lysimeter, LY-7 was re-developed and outfitted with a new pump and a sample was collected from LY-7 (LY-6 was dry). Results from LY-7 include a couple of VOCs detected historically, though fourth quarter 2018 results were at significantly lower concentrations compared to results from the most recent sample collected from LY-7. In January 2019, vibrating wireline piezometers were installed in each of the lysimeters to track the presence or absence of water in the lysimeters.

Annual leachate samples were collected at “leachate” and “LR-2R” in October 2018. Based on the results obtained, no retesting will be performed in April 2019 at these locations. New leachate monitoring point “Deep Leachate”, which represents leachate from all lined cells (composite of “leachate” and “CA-L”) was sampled in December 2018. A retest sample from “Deep Leachate” will be collected in April 2019 and analyzed for VOCs, semi-VOCs, sulfide, and metals that were detected above the practical quantitation limit in the December 2018 sample.

During the second semiannual 2018 monitoring period, methane concentrations at all perimeter gas probes were below five percent by volume (maximum concentration of 2.8 percent by volume).

In response to identified impacts to groundwater, a groundwater extraction trench has been constructed across the toe of the canyon to intercept and remove shallow groundwater. Extracted groundwater is conveyed to the sewer under a City of Los Angeles Bureau of Sanitation permit. Combined with other liquids managed by the site (subdrains, leachate, landfill gas condensate, and seep collectors), approximately 24,783,678 gallons of liquid were collected at the site and disposed to the sewer during the second semiannual 2018 monitoring period.

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1.0 INTRODUCTION

On behalf of Browning-Ferris Industries of California, Inc (BFI) and Sunshine Canyon Landfill, Geo-Logic Associates (GLA) presents this report summarizing semiannual water quality and waste intake monitoring and reporting performed for the second semiannual 2018 monitoring period (July through December) at the active Sunshine Canyon Landfill (SCLF) in the city of Sylmar, California (Figure 1). Included in this report are the field observations and measurements, and laboratory results, for samples collected from site monitoring wells, lysimeters, extraction wells, piezometers, and other SCLF monitoring stations. This report was prepared to comply with the requirements of California Regional Water Quality Control Board – Los Angeles Region (RWQCB) Waste Discharge Requirements Order No. R4-2008-0088 (WDR) and Monitoring and Reporting Program (MRP) No. CI-2043. An overview of report content required by MRP CI-2043 is summarized in Table 1.

2.0 GENERAL SITE INFORMATION

The following provides a summary of the site conditions and includes: site description, climate and surface water hydrology, hydrogeologic setting, and groundwater geochemistry.

2.1 Site Description

The SCLF is an active Class III municipal solid waste (MSW) disposal facility located at 14747 San Fernando Road in Sylmar, California. The site property includes approximately 1,030 acres within the City of Los Angeles and an unincorporated area of Los Angeles County. The "County Landfill" Disposal Phases I through V are located north of the City-County boundary, and are equipped with a composite liner and leachate collection and removal system (LCRS). The "City Landfill" includes two waste disposal areas (Unit 1 and Unit 2) that are south of the City-County boundary. City Landfill Unit 1 is a closed, unlined Class III MSW disposal unit that operated between 1958 and 1993. City Landfill Unit 2 is an active, Class III MSW disposal unit that is equipped with a composite liner system and is located generally between City Landfill Unit 1 and the County disposal phases. Cell A of City Landfill Unit 2 began operations during the third quarter of 2005, with subsequent disposal operations expanding into Cells CC-1 and CC-2. Refuse is currently being disposed of in Cells CC-4, Parts 1 and 2.

2.2 Climate and Surface Water Hydrology

SCLF is located north of the San Fernando Valley, near the junction of the Santa Susana Mountains to the west and the San Gabriel Mountains to the east. Climatic conditions in the area are semi-arid and characterized by mild winters, when most of the precipitation occurs, and warm dry summers. The average annual precipitation in the area of Sunshine Canyon is approximately 22 inches. During the period from 1941 to 1995 the maximum annual precipitation was 55.8 inches; the minimum was 10.2 inches. The maximum expected 100-year, 24-hour storm is approximately 12 inches.

The facility is located within the 900-square-mile Los Angeles River Watershed Basin. Surface water runoff originating in Sunshine Canyon exits through the mouth of the canyon, where it is conveyed in a southerly direction.

2.3 Hydrogeologic Setting

The SCLF is underlain predominantly by marine sedimentary rocks of the late Miocene to early Pliocene Towsley Formation, which is siltstone and fine-grained sandstone interbedded with lenses of coarse-grained sandstone and conglomerate. This unit is locally overlain by younger sedimentary deposits consisting of alluvium, colluvium, and/or landslide debris that consist of varying mixtures of unconsolidated sand, gravel, silt, and clay derived from the Towsley Formation. These unconsolidated materials were originally present in many of the canyon thalwegs that cross the site, but, in most instances, these materials have been removed as part of site development. Where alluvium remains, it may be up to 30 feet thick.

Groundwater beneath the site occurs in two main zones: 1) a shallow, unconfined water-bearing zone consisting of alluvial deposits and/or upper weathered portions of the bedrock, and 2) a deeper, locally confined water-bearing zone in the Towsley Formation. The hydraulic conductivity of the bedrock (including both weathered and unweathered portions) ranges from 10^{-3} to 10^{-9} centimeters per second with values generally increasing with increasing weathering and fracture density. The hydraulic conductivity of the alluvial deposits is expected to be on the order of 100 to 200 feet per day.

2.4 Groundwater Geochemistry

Previous hydrogeologic investigations conducted for the SCLF have identified significant spatial variability in groundwater chemistry beneath the site. The surrounding Santa Susana Mountains are an area of ongoing, extensive oil exploration and production, as indicated by the oil production facilities surrounding the site. The region is characterized by several east-west trending fault systems that locally serve as large-scale crude oil traps. Upward seepage of crude oil and related brines along these faults, and their subsequent contact with site groundwater, have been documented at numerous locations at the SCLF. The presence of shallow crude oil deposits coupled with the low permeability of bedrock materials has resulted in extensive areas of reduced (poorly oxygenated) groundwater beneath the facility with locally elevated concentrations of alkalinity, ammonia-nitrogen, and, in some cases, sulfide. In addition, pre-landfill monitoring has confirmed the presence of naturally occurring groundwater with locally elevated concentrations of chloride, total organic carbon (TOC), chemical oxygen demand (COD), and potassium. These constituents have also been measured at high concentrations in samples of landfill leachate.

Beneficial uses of groundwater beneath the site are limited as a result of naturally-occurring, elevated concentrations of total dissolved solids (TDS) and the low groundwater production capability for wells screened in the bedrock.

3.0 GROUNDWATER MONITORING

This section provides a summary of the water quality monitoring program for the site, as well as the monitoring activities, results, and conclusions based on data obtained during the second semiannual 2018 monitoring period.

3.1 Water Quality Monitoring Network

The Monitoring and Reporting Program CI-2043 establishes the following groundwater monitoring network for the SCLF:

MONITORING POINTS	MONITORING POINT ID	MONITORING FREQUENCY
Upgradient Monitoring Wells - Bedrock	CM-9R3, CM-10R, CM-11R	Quarterly
Downgradient Monitoring Wells – Alluvium	MW-1, MW-5, MW-6, MW-13R, MW-14	
Downgradient Monitoring Wells – Bedrock	DW-1, DW-2, DW-3, DW-5, PZ-2, PZ-4	
Corrective Action Evaluation Wells	MW-2A, MW-2B, MW-9, DW-4	
Piezometers	PZ-1, PZ-3, CM-5, MW-8	
Subdrains	Subdrain N, Combined Subdrains	
Lysimeters	LY-6, LY-7	
Leachate Monitoring Points	CA-L, LR-2R, Leachate, Deep Leachate*	Annual

Note: In November 2018 Leachate monitoring points "CA-L" and "Leachate" were plumbed together. Moving forward, a composite sample will be collected from "Deep Leachate", which reflects a mixture of leachate from all lined cells at the facility.

During the second semiannual 2018 monitoring period, groundwater monitoring was conducted between September 17 through 20 (third quarter) and between December 10 through 13 (fourth quarter). The locations of groundwater monitoring wells, piezometers, and other environmental monitoring points are shown on Figure 2.

3.2 Sampling and Laboratory Analyses

Groundwater samples collected by GLA during the third and fourth quarter 2018 monitoring events were submitted to TestAmerica Laboratories, Inc. (TA) of Irvine, California. Certified by the state of California, TA is the project laboratory under contract to BFI/Republic. During the third quarter 2018 monitoring period, samples were analyzed for the indicator parameters listed on Table 2. During the fourth quarter 2018 monitoring period, groundwater samples were analyzed for the indicator parameters and supplemental parameters. In addition to the monitoring parameters, Table 2 includes laboratory analytical methods employed for the project, and the frequency that wells and other media monitoring stations are sampled. Site groundwater monitoring wells and leachate monitoring points are sampled in accordance with the sampling and analysis procedures detailed in Appendix A.

3.3 QA/QC Results

The quality assurance/quality control (QA/QC) program completed for the second semiannual 2018 water quality monitoring period included analyses of field blanks (QCAB), trip blanks (QCTB), laboratory method blanks, and duplicate samples. Field and trip blanks were analyzed for volatile organic compounds (VOCs) by EPA Method 8260. Laboratory method blanks were analyzed for all monitoring parameters, and duplicate samples were analyzed for the same list of parameters required for its corresponding primary sample. Blank sample results are summarized in Tables 3A and 3B. Duplicate sample results are presented in Tables 4A and 4B. The results of the QA/QC sampling program are as follows:

<u>Third Quarter 2018 Monitoring Event</u>

- All analyses were completed within the recommended holding times prescribed by the respective analytical method.
- As indicated on Table 3A, no constituents were detected in blank samples.
- As shown in Table 4A, the relative percent difference (RPD) between quantifiable primary and duplicate water quality samples was six percent or less.

<u>Fourth Quarter 2018 Monitoring Event</u>

- With the exception of sulfide in many samples, all analyses were completed within the recommended holding times prescribed by the respective analytical method. Sulfide was inadvertently omitted from some of the fourth quarter chain-of-custody forms and these analyses were completed after the holding time had expired. Results with hold time exceedances are noted with a superscript "H" in tables 6B and 7B.
- As indicated on Table 3B, naphthalene was measured in field and trip blank samples at concentrations of 6.2 µg/L and 0.51 µg/L (respectively). Naphthalene was not detected in any samples collected on the day the contaminated field and trip blanks were collected/submitted to the lab. Accordingly, the presence of naphthalene in blank samples did not affect the interpretation of primary sample results. No other constituents were detected in blank samples.
- With few exceptions, the RPD for quantifiable primary and duplicate sample results was generally eight percent or less. Bromide, carbon dioxide, fluoride, and 1,4-dioxane had concentration RPDs ranging from 16 to 26 percent.

The results of the QA/QC program completed during the second semiannual 2018 monitoring period are considered acceptable and representative of water quality at the site.

3.4 Groundwater Elevations and Flow Conditions

During the second semiannual 2018 monitoring period, quarterly depth to groundwater measurements were recorded on September 18 and December 10, 2018. Between March 12 and September 18, 2018, the following changes in the groundwater elevation were measured:

WELL/PIEZOMETER	CHANGE IN ELEVATION (FEET)
MW-1	-1.23
MW-2A	-0.10
MW-2B	+0.03
MW-5	+0.15
MW-6	-0.67
MW-8	-2.25
MW-9	-7.68
MW-13R	-0.13
MW-14	+0.12
PZ-1	-0.03
PZ-2	+0.21
PZ-3	No change
PZ-4	+0.07

WELL/PIEZOMETER	CHANGE IN ELEVATION (FEET)
DW-1	No Change
DW-2	-1.44
DW-3	-0.44
DW-4	-0.09
DW-5	+0.02
CM-9R3	-3.77
CM-10R	-3.02
CM-11R	-4.54
CM-5R	Not Applicable

Between June 12 and December 10, 2018, the following changes in the groundwater elevation were measured:

WELL/PIEZOMETER	CHANGE IN ELEVATION (FEET)
MW-1	+1.35
MW-2A	-1.06
MW-2B	-1.09
MW-5	+0.54
MW-6	+0.27
MW-8	-0.35
MW-9	-1.45
MW-13R	+0.56
MW-14	+0.35
PZ-1	-0.47
PZ-2	-0.22
PZ-3	-0.88
PZ-4	-0.51

WELL/PIEZOMETER	CHANGE IN ELEVATION (FEET)
DW-1	No Change
DW-2	-2.29
DW-3	-0.74
DW-4	-0.25
DW-5	+0.01
CM-9R3	+1.29
CM-10R	-0.15
CM-11R	-2.95
CM-5R	Not Applicable

Groundwater equipotential surface contours were developed for wells screened in bedrock using third and fourth quarter 2018 groundwater elevation data (Figures 3A and 3B, respectively). As shown in these figures, groundwater flow generally mimics the canyon topography, flowing to the southeast, east, and northeast at horizontal gradients ranging from

0.11 foot per foot (ft/ft) to 0.34 ft/ft. The estimated horizontal groundwater velocity within the unweathered bedrock is approximately 1 to 10 feet per year (Geo-Logic Associates, 2009).

Comparison of groundwater elevations for wells screened in alluvium and bedrock suggest the possibility of appreciable vertical gradients may occur near the mouth of the canyon. If communication between these water-bearing zones exists, then the vertical gradient near the mouth of the canyon could range from 0.1 ft/ft near wells MW-1 and DW-5 to 0.2 near wells MW-2A and DW-4.

3.5 Groundwater Chemistry Results

Groundwater samples collected from site monitoring wells were analyzed for indicator parameters during the third quarter 2018 monitoring period, and for indicator and supplemental parameters during the fourth quarter 2018 monitoring period. Results for these sampling events are summarized on Tables 6A and 6B (respectively), and are discussed below. The field sample collection logs, laboratory data, certificates of analyses, and chain-of-custody records for the sampling program are included in Appendix B.

3.5.1 Second Quarter 2018 Retest Groundwater Chemistry Results

Groundwater monitoring results for the second quarter 2018 monitoring event included ammonia-nitrogen concentrations that exceeded Intrawell WQPS limits for wells MW-6 and MW-14. Because these constituent/well pairs are not in tracking mode, retest samples were collected on August 21, 2018. The results are summarized in the following table.

WELL	ANALYTE	UNITS	WQPS	2ND QUARTER 2018 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-6	Ammonia-N	mg/L	1.337	1.5	0.90	1.1
MW-14	Ammonia-N	mg/L	0.5703	0.73	0.40j	0.36j

Note: "j" – estimated trace concentration.

As shown in the table above, all retest samples were measured at concentrations below respective WQPS. Therefore, these constituent/well pairs will remain in detection mode.

3.5.2 Third Quarter 2018 Groundwater Chemistry Results

During the first quarter 2018 monitoring event, samples from all monitoring wells were analyzed for the indicator parameters identified in Section II.B.3(a) of the MRP. These results are presented on Table 6A. Table 7A compares third quarter 2018 monitoring results with water quality protection standards (WQPS). The following table summarizes WQPS exceedances and verification retesting results (when applicable).

WELL	ANALYTE	UNITS	WQPS	3RD QUARTER 2018 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-1	1,4-Dioxane	µg/L	0.98 (PQL)	17	TM	TM

MW-5	1,4-Dioxane	µg/L	0.99 (PQL)	13	TM	TM
	Ammonia-N	mg/L	5.714	5.9	TM	TM
MW-13R	1,4-Dioxane	µg/L	1.1 (PQL)	8.2	TM	TM
	Potassium	mg/L	27.224	30	TM	TM
	Ammonia-N	mg/L	7.732	8.7	TM	TM
DW-3	Ammonia-N	mg/L	0.7564	0.81	TM	TM
DW-5	Allyl Chloride	µg/L	1.0 (PQL)	1.6	TM	TM
PZ-2	Ammonia-N	mg/L	3.598	3.6	3.0	3.0

Notes: Retesting only performed on analytes not currently in Tracking Mode.
TM – Tracking Mode. No retesting required for analytes in Tracking Mode.
PQL - Practical Quantitation Limit.
ND –Not Detected.

Retest samples were collected from PZ-2 on December 10, 2018, to verify the initial result for ammonia-nitrogen. Retest results were measured at concentrations below the respective WQPS however, meaning the well/constituent pair (i.e., ammonia-N for PZ-2) will remain in detection mode. All other constituents exceeding respective intrawell WQPS have historically been detected and their presence confirmed in retest samples. Accordingly, these well/constituent pairs are currently in "tracking mode" and retesting is not required.

In addition to quantifiable VOCs measured in samples from the detection monitoring wells shown in the table above, trace concentrations of t-butanol (for wells MW-1 and MW-13R) and 1,4-dioxane (for PZ-2) were reported by the laboratory. With respect to corrective action evaluation monitoring wells, five VOCs (one trace and four quantifiable) were detected in the sample from well MW-9 (Table 6A).

With exception of the total dissolved solids (TDS) results for all monitoring wells, none of the analyte concentrations measured in samples collected during the third quarter 2018 monitoring period exceeded a Federal or State drinking water Maximum Contaminant Level (Table 6A).

3.5.3 Fourth Quarter 2018 Groundwater Chemistry Results

Groundwater samples obtained during the fourth quarter 2018 monitoring event were analyzed for the indicator and supplemental parameters (Table 2). Analytical results for these samples are presented on Table 6B. As summarized below, and shown in Table 7B, the following well/constituent pairs exceeded a WQPS.

WELL	ANALYTE	UNITS	WQPS	4TH QUARTER 2018 RESULT
MW-1	1,4-Dioxane	µg/L	0.98 (PQL)	5.3
MW-5	t-Butanol	µg/L	10 (PQL)	12
	1,4-Dioxane	µg/L	1.0 (PQL)	9.1
MW-6	Naphthalene	µg/L	1.0 (PQL)	1.1

WELL	ANALYTE	UNITS	WQPS	4TH QUARTER 2018 RESULT
MW-13R	1,4-Dioxane	µg/L	1.1 (PQL)	9.1
	Ammonia-N	mg/L	7.732	8.4
	Potassium	mg/L	27.224	28

Note: PQL – Practical Quantitation Limit.

Many of the well/constituent pairs listed above are currently in "tracking mode" and retesting is therefore not required. Retesting is currently scheduled however, at well MW-6 to verify the initial naphthalene result. The naphthalene retest result will be reported in the upcoming First Semiannual 2019 Monitoring Report.

In addition to quantifiable VOCs measured in samples from the detection monitoring wells shown in the table above, trace concentrations of 1,2,4-trichlorobenzene and t-butanol were reported in the samples from wells MW-6 and DW-3 (respectively). With respect to corrective action evaluation monitoring wells, five VOCs (one trace-level and four quantifiable) were detected in the sample from well MW-9 (Table 6B).

As shown on Table 6B, with respect to the routine indicator and supplemental monitoring parameters, concentrations of total dissolved solids, sulfate, fluoride, iron, and manganese exceed State of California primary (fluoride) or secondary drinking water standards in samples from many site monitoring wells, including upgradient (background) monitoring wells. Comparison of upgradient and downgradient water quality data suggests significant natural spatial variability exists at the site.

3.5.4 Tracking Mode Evaluation

No new monitoring parameters were added to "tracking mode" based on the results of verification retest results obtained during the current monitoring period. The following table summarizes the status of well/constituent pairs in "tracking mode":

WELL	PARAMETERS IN TRACKING MODE	TRACKING MODE PARAMETERS EXCEEDING WQPS DURING THE CURRENT MONITORING PERIOD	PENDING EXCEEDANCES	PLANNED ACTION
MW-1	1,4-Dioxane, t-Butanol	1,4-Dioxane,	None	Continue Quarterly Monitoring
MW-5	1,4-Dioxane, t-Butanol, Ammonia-N	1,4-Dioxane, Ammonia-N, t-butanol	None	Continue Quarterly Monitoring

MW-6	Chemical Oxygen Demand	None	Naphthalene	Retest for Napthalene; Continue Quarterly Monitoring
MW-13R	1,4-Dioxane, Potassium, Ammonia-N	1,4-Dioxane, Potassium, Ammonia-N	None	Continue Quarterly Monitoring
MW-14	Vinyl Chloride, Alkalinity, TDS	None	Ammonia-N	Retest for Ammonia-N; Continue Quarterly Monitoring
DW-1	Chloride	None	None	Continue Quarterly Monitoring
DW-3	Alkalinity, Ammonia-N	Ammonia-N	None	Continue Quarterly Monitoring
DW-5	Ammonia-N, Allyl Chloride	Allyl Chloride	None	Continue Quarterly Monitoring
PZ-4	Alkalinity, Chloromethane	None	None	Continue Quarterly Monitoring

Time-series charts depicting well-analyte pairs in tracking mode are presented in Appendix G. The following table summarizes trends in the data.

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	3RD QUARTER RESULTS	4TH QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-1: 1,4-Dioxane	PQL	**17**	**5.3**	Variable concentrations. Concentrations between 5 µg/L and 21 µg/L during the 3 years.
MW-1: t-Butanol	PQL	7.2j	ND	Variable (cyclic) concentrations typically between 8 µg/L and 22 µg/L.
MW-5: 1,4-Dioxane	PQL	**13**	**9.1**	Variable concentrations with slight increasing long-term trend; consistently measured above the PQL.
MW-5: t-Butanol	PQL	ND	**12**	Only two observations exceeding the WQPS. Intermittent detections.
MW-5: Ammonia-N	5.714 mg/L	**5.9**	5.2	Slight increasing trend over past three years.
MW-6: Chemical Oxygen Demand	75.338 mg/L	13j	ND	Two sporadic results measured over the concentration limit.
MW-13R: 1,4-Dioxane	PQL	**8.2**	**9.1**	Variable concentrations between 4 µg/L and 11 µg/L during the last four years.
MW-13R: Potassium	27.224 mg/L	**30**	**28**	Increasing trend since 2012. First measurement over WQPS in 2017.
MW-13R: Ammonia-N	7.732 mg/L	**8.7**	**8.4**	First measurement over WQPS in 2018.

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	3RD QUARTER RESULTS	4TH QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-14: Vinyl Chloride	PQL	ND	ND	Intermittent detections, generally below the WQPS. Non-detect during last 11 sampling events.
MW-14: Alkalinity	587.83	430	340	Variable concentrations typically below the WQPS.
MW-14: TDS	5128.5	3600	3000	Three results above the WQPS that are likely associated with elevated rainfall and runoff in early 2017.
DW-1: Chloride	17.737 mg/L	13	14	One anomalous result over the concentration limit. Below WQPS during last 3 years.
DW-3: Alkalinity	162.81 mg/L	160	160	Results are typically very near (both above and below) the WQPS.
DW-3: Ammonia as N	0.7564 mg/L	**0.81**	0.62	Results are typically very near (both above and below) the WQPS, except for three anomalous results in 2014, 2016, and 2018.
DW-5: Ammonia as N	0.3918 mg/L	0.30	0.27	Results are typically very near (both above and below) the WQPS, with a few outliers.
DW-5: Allyl Chloride	PQL	**1.6**	ND	Intermittent detections.
PZ-4: Alkalinity, total	341.13 mg/L	340	330	Concentrations are generally below or slightly above the WQPS.
PZ-4: Chloromethane	PQL	ND	ND	One historical detection.

Note: **Bolded Red** = Concentration Limit Exceeded.
ND = Not Detected.
j = Estimated-trace concentration.

As shown on the charts in Appendix G, VOCs in tracking mode are often detected sporadically and at variable concentrations. Concentrations of at least one VOC at wells MW-1, MW-5, and MW-13R typically exceed the respective WQPS. Constituents in tracking mode that have not exceeded a respective concentration limit in more than three years are removed from tracking mode and re-verified if detected in the future.

4.0 VADOSE ZONE MONITORING

Monitoring of the vadose zone at the SCLF is accomplished by collecting samples from the subdrains beneath composite liner systems at the site as well as from the pan lysimeters constructed beneath the leachate collection sumps for the lined portions of the landfill.

4.1 Subdrain Monitoring

Order No. R4-2008-0088 requires quarterly monitoring of landfill subdrain systems. As with groundwater, samples from each subdrain collection point are analyzed for indicator parameters on a quarterly basis and for supplemental parameters on a semiannual basis.

4.1.1 Subdrain Liquid Monitoring Points

Currently, the SCLF is equipped with four subdrain sampling points: Subdrain N, CC2-PER, CC2-5AC, and CC2-3A. Samples for CC2-PER, CC2-5AC, and CC2-3A are composited as one sample called "Combined Subdrains". Accordingly, samples obtained from locations Subdrain N and Combined Subdrains are submitted for laboratory anaylsis.

Subdrain N liquid samples are collected from a port on the influent line to the facility's water treatment system, located near San Fernando Road. This sample represents the combined flow from subdrain collection systems installed beneath County Landfill disposal Phases I through V, and Cells A and CC-1 of City Landfill Unit 2.

Subdrain CC2-5AC liquid samples are pumped from a temporary vertical riser pipe located southeast of disposal Cell CC-3A, Part 1. The CC2-5AC liquid samples represent groundwater seepage to a subdrain collection system that underlies the southwest corner of Cell CC-2 at depths of approximately 10 to 30 feet below the CC-2/CC-3A, Part 1 liner system.

Samples from Subdrain CC2-PER are collected from a temporary outlet pipe located southeast of disposal cell CC-3A, Part 1. These samples represent groundwater seepage collected beneath the western margin of disposal cell CC-2. The subdrain CC2-PER collection system is approximately 10 feet below the CC-2/CC-3A Part 1 liner system and is perforated only along the western edge of CC-2 liner system. The CC2-PER subdrain system is hydraulically separated from adjacent (and partially overlapping) portions of subdrain liquid collection system CC2-5AC.

Subdrain CC2-3A likely collects liquids from the area of unlined City Landfill Unit 1. Because of the likelihood of landfill impacts to subdrain CC2-3A liquids, this subdrain outlet was established with an angled riser and dedicated pumping system, so that liquids are collected and discharged to the sewer (City of Los Angeles Bureau of Sanitation permit W-535428). Subdrain CC2-3A liquid samples are collected from pumped discharge from this angled riser.

4.1.2 Third Quarter 2018 Subdrain Monitoring Results

During the third quarter 2018 monitoring event, samples from each subdrain monitoring point were collected on September 18, 2018. Samples were delivered to TestAmerica Labs for the indicator parameters.

As shown on Table 8A, the sample from Subdrain N contained seven VOCs with a total concentration of 23.11 μg/L. The sample from Combined Subdrains contained six VOCs with a total concentration of 20.93 μg/L. These results are generally similar to those measured during

the previous monitoring period. All VOC concentrations were measured below State and federal drinking water standards, or have no established ARAR. TDS concentrations and the field-measured pH values in both samples exceeded the state secondary drinking water standard.

4.1.3 Fourth Quarter 2018 Subdrain Monitoring Results

During the fourth quarter 2018 monitoring event, samples from subdrain monitoring points were collected on December 12 and 13, 2018. Samples were delivered to TestAmerica Labs for the analysis of indicator and supplemental parameters.

As shown on Table 8B, five VOCs were detected in the sample from Subdrain N and three VOCs were detected in the sample from Combined Subdrains, with total VOC concentrations of 118.75 µg/L and 16.20 µg/L (respectively). All VOC concentrations were measured below State and federal drinking water standards.

Concentrations of sulfate, TDS, iron, manganese, and the field-measured pH value exceeded State of California secondary drinking water standards in both second quarter 2018 subdrain samples and the field-measured turbidity values exceeded the secondary drinking water standard in the sample from combined subdrains.

Liquids discharged from subdrains at the SCLF are discharged to the sewer under City of Los Angeles Bureau of Sanitation permit W-535428.

4.2 Lysimeter Monitoring

Order No. R4-2008-0088 requires construction and monitoring of lysimeters beneath landfill liner systems. On a quarterly basis, the lysimeters are monitored for the presence of liquids, and sampled if the liquid volume is sufficient. Liquids are pumped through a discharge line from the riser pipes and grab samples are collected, and analyzed for the Order-specific list of indicator parameters (quarterly) and supplemental parameters (semiannually).

4.2.1 Lysimeter Monitoring Points

The SCLF is currently equipped with two lysimeters: LY-6 and LY-7 (Figure 2). LY-6 monitors conditions beneath the County Landfill leachate sump, and is accessed through a 600-foot-long inclined riser at the east side of the Phase V disposal area. Lysimeter LY-7 monitors the conditions between the primary and secondary liners of City Landfill Unit 2, and is accessed using a 360-foot-long inclined riser at the east side of Cell A.

4.2.2 Third Quarter 2018 Lysimeter Monitoring Results

During the third quarter 2018, samples could not be obtained from either lysimeter sampling point.

4.2.3 Fourth Quarter 2018 Lysimeter Monitoring Results

In October 2018, the pump in each lysimeter were removed and each lysimeter was video logged. It was discovered that the pump in LY-7 had failed, and lysimeter LY-6 had partially collapsed at approximately 372 feet. Although the video log of LY-6 ended at 372 feet, the lysimeter was determined to be dry by tagging the bottom of LY-6 (594 feet) with a water level meter. During the following month LY-7 was re-developed by air-lifting and was outfitted with a new pump.

A sample was collected from LY-7 on December 11, 2018. As shown on Table 8B, four VOCs were detected in the sample from LY-7. The total concentration of VOCs was 163.8 µg/L, an order of magnitude lower than recent historical results. No VOC concentrations exceeded a State or federal drinking water standard, though the concentrations of chloride, sulfate, and TDS exceeded State of California secondary (e.g., aesthetic) drinking water standards.

In January 2019 vibrating wireline piezometers were installed in each of the lysimeters. Readings collected in January 2019 indicated that both lysimeters were dry.

5.0 VADOSE ZONE GAS MONITORING

Gas monitoring of the vadose zone is conducted on a monthly basis to comply with Order No. R4-2008-0088 and South Coast Air Quality Management District Rule 1150.1. All other vadose zone gas monitoring is conducted by SCS Engineers and includes field screening for methane, carbon dioxide, oxygen, balance gases, and pressure at perimeter probes and upper subdrain termination points. The locations of vadose zone gas monitoring points are shown on Figure 4. Field reports prepared by SCS Engineers are provided in Appendix C.

During the second semiannual 2018 monitoring period, screening of the permanent vadose zone monitoring locations (monthly) was conducted during the following dates: July 24-26, August 21-23, September 25-27, October 23-25, November 27-29, and December 18-20, 2018. As shown on Table 9, methane was detected at very low concentrations in a couple probes; however, no results exceeded 2.8 percent by volume (%V).

In accordance with South Coast Air Quality Management District Rule 1150.1, a bag sample was collected at probe P-205R since this probe had the highest methane concentration during the monitoring period and no results were measured above five percent by volume. Bag sample results are summarized in Table 9 and included in Appendix C.

6.0 SURFACE WATER MONITORING

This section of the report presents the results of the storm water, stream diversion, and seeps and spring monitoring activities conducted during the second semiannual 2018 monitoring period. Locations of surface water sampling points are shown on Figure 2.

6.1 NPDES Storm Water Quality Monitoring

Landfill personnel periodically monitor the quality of storm water as part of the general NPDES Permit adopted for the facility, and additional storm water monitoring is conducted as part of the SCLF waste acceptance monitoring program. Stormwater samples were collected on October 10, November 28 and 29, and December 6, 2018. Sampling results are summarized in Table 10.

6.2 Stream Diversion Monitoring

During the second semiannual 2018 monitoring period, construction activities at the facility were subject to requirements of Stream Bed Alteration Agreement #R5-2003-0005, adopted by the California Department of Fish and Game (CDF&G), though no monitoring of stream water quality was required during the current monitoring period.

6.3 Other Surface Water Monitoring

No new seeps or springs were identified during the current monitoring period.

7.0 LEACHATE MONITORING

In accordance with Order No. R4-2008-0088, leachate is to be monitored on an annual basis during the month of October. Grab samples are collected from each leachate sump and are analyzed for 40 CFR Appendix II analytes that are not already a COC for the landfill. Retesting of newly-identified 40 CFR Appendix II constituents (constituents measured at or above respective PQLs) is conducted in April. Those analytes that are present in both the primary and retest samples at concentrations equal to above respective PQLs are added to the site-specific list of COCs.

The SCLF was equipped with three discrete leachate monitoring points (Figure 2):

- A vertical riser located north of the City/County line receives leachate from County Landfill Phases I through V. This location is referred to as “Leachate”. Samples are collected by baling from the County leachate riser.
- Leachate sample location “CA-L” monitors leachate from City Landfill Unit 2. Grab samples are collected at a sample port at the site water treatment facility.
- Leachate sample location “LR-2R” monitors leachate accumulation near the base of unlined City Landfill Unit 1. Samples are collected from a vertical riser.

In November 2018, leachate from “Leachate” and “CA-L” were plumbed together and are now collected as a composite sample referred to as “Deep Leachate”. Accordingly, as of November 2018, the SCLF is equipped with two discrete leachate monitoring points (Figure 2):

- Leachate from lined cells (County Landfill Phases I through V and City Landfill Unit 2) collects to a sump and is pumped to above ground tanks before being discharged to the

sewer under City of Los Angeles Bureau of Sanitary permit W-535428. This location is referred to as "Deep Leachate". Samples are collected from a sample port on a pipe prior to the above ground tanks.

- Leachate sample location "LR-2R" monitors leachate accumulation near the base of unlined City Landfill Unit 1. Samples are collected from a vertical riser.

Annual leachate sampling was conducted at leachate monitoring locations "CA-L" and "LR-2R" on October 24, 2018. Leachate monitoring location "Leachate" could not be sampled due to a possible bend in the leachate riser at depth (Appendix A). Instead, a sample was collected from new leachate monitoring point "deep leachate" on December 12, 2018. Based on the results obtained, no new COCs were detected in samples from "CA-L" and "Leachate". Therefore, no retesting is required. A retest sample will be collected from "Deep Leachate" in April 2019 and retested for VOCs, SVOCs, sulfide, and seven metals measured above respective practical quantitation limits.

8.0 LIQUID GENERATION AND MANAGEMENT

Ongoing waste disposal operations at the SCLF result in the generation of significant volumes of liquids, including leachate, landfill gas condensate, subdrain liquids, groundwater collected at the extraction trench, groundwater sampling purge water, and seepage water. In accordance with Order No. R4-2008-0088, the volume of water collected, treated, used onsite, and discharged offsite from each source are required to be recorded on a monthly basis (Table 12).

8.1 Liquid Management

During the second semiannual 2018 monitoring period, approximately 24,783,678 gallons of liquid were collected from the SCLF and transferred to the sewer (Table 12; under City of Los Angeles Bureau of Sanitary permit W-535428). In order to supplement water needs, the site purchased approximately 33,187,264 gallons of water from the City of Los Angeles Department of Water and Power (Table 12).

9.0 DRAINAGE STRUCTURE MONITORING

Order No. R4-2008-0088 requires periodic site inspections as part of the site's current NPDES storm water permit. Between October and April of each year, inspections are to be conducted following each storm that produces significant runoff or on a monthly basis if no storm event produces significant runoff during this period. Between May and September, inspections are to be made on a quarterly basis. Each inspection is to include the following "standard observations":

- Evidence of surface water leaving or entering the site, including an estimate of the size of the affected area and the estimated flow rate;
- Presence or absence of odors, including characterization, source, and distance of travel from the source;

- Evidence of erosion and/or exposed refuse;
- Inspection of all storm water discharge locations for evidence of non-storm water discharges (during dry season) and integrity (during wet season);
- Evidence of ponded water at any point on the waste management facility (show affected areas on a map); and
- Assessment of compliance with the facility's Storm Water Pollution Prevention Plan, including proper implementation of the terms of the General NPDES Storm Water Permit.

During the second semiannual 2018 monitoring period, the required standard observations were made by site personnel. The site's NPDES certification of completion for the second semiannual 2018 monitoring period is included in Appendix D.

10.0 WASTE DISPOSAL MONITORING

During the second semiannual 2018 monitoring period, the quantity of municipal solid waste deposited at the SCLF was monitored daily. The monthly tonnages of waste deposited at the site are summarized in the following table.

MONTH	WASTE DISPOSAL TONNAGE	ESTIMATED VOLUME (CYDS)
January	184,974.98	249,966.19
February	156,275.23	211,182.74
March	176,410.21	238,392.18
April	175,119.09	236,647.42
May	187,456.37	253,319.42
June	177,992.10	240,529.86
January – June 2018 Totals:	**1,058,227.98**	**1,430,037.81**
July	193,593.11	261,612.31
August	197,917	267,455.41
September	168,624	227,870.27
October	192,791	260,528.38
November	179,338	242,348.65
December	174,565	235,898.65
July – December 2018 Totals:	**1,106,828.11**	**1,495,713.66**
2018 Annual Totals:	**2,165,227.98**	**1,430,037.81**

Note: Waste volumes were calculated using an assumed 1480 pounds per cubic yard of waste.

As summarized in the preceding table, during the second semiannual 2018 monitoring period, approximately 1,106,828.11 tons of waste were disposed at the SCLF. As of January 1, 2019, the remaining capacity at the SCL is estimated at approximately 75,221,981 cubic yards. Based on the currently approved maximum tonnage acceptance rate, the site has a remaining life of approximately 25 years.

The location of waste placement during the monitoring period is presented on a map in Appendix E.

During the second semiannual 2018 monitoring period, all waste loads accepted at the site were subjected to checking at the scale house. As certified in the transmittal letter for this report, the site allowed no unauthorized waste disposal during the current monitoring period. No wastes were deposited outside of the areas permitted to receive waste.

11.0 WASTE ACCEPTANCE

As outlined in the Amended WDRs (March 11, 2011), generators delivering contaminated soils to the SCLF are required to demonstrate that the soil chemistry meets specific requirements through a specific sampling and analysis program. All non-designated, non-hazardous contaminated soils that are brought to the site are disposed of as wastes in the lined sections of

the landfill. Accordingly, these soils are required to meet the following requirements as outlined in Section 2.2 of the Waste Acceptance Plan, Revision 1 (WAP; RMC Geosciences, Inc., 2014):

> "*Soils contaminated with TPH, VOCs, SVOCs, organochlorine pesticides, PCBs, or CAM metals may be disposed in lined cells provided the following threshold concentrations are not exceeded:*
>
> - *For petroleum hydrocarbon contaminated soils, the threshold concentrations are 1,000 mg/kg in the C4-C12 carbon chain range, 10,000 mg/kg in the C13-C22 carbon chain range, or an average TPH concentration of 50,000 mg/kg.*
> - *Threshold concentration levels for constituents other than petroleum hydrocarbons include:*
>   - *Soils with an average, contaminant-specific concentration that does not exceed a Preliminary Remediation Goal (PRG) for industrial sites established by the USEPA.*
>   - *Soils with an average, contaminant-specific concentration that does not exceed a California Human Health Screening Level (CHHSL) for industrial sites established by the Cal-EPA.*
>   - *Soils with for which a PRG or CHHSL has not been established with an average, contaminant-specific concentration that does not exceed, on a per weight basis, 100 times the MCL established by the USEPA or the State of California Department of Public Health.*
>
> *Soils with VOC, SVOCs, organochlorine pesticide, PCB, or CAM metal contaminant concentrations higher than these limits may be disposed of in lined portions of the landfill based on the results of an evaluation that shows the contaminated soils are not classified as a Designated Waste in accordance with the Central Valley Regional Water Quality Control Board <u>Designated Level Methodology for Waste Classification</u> and Cleanup Level Determination or alternative methodology approved by the Executive Officer*."

As required by the Amended WDRs and WAP, prior to delivery to the SCLF, generators are required to collect and analyze representative samples at the following frequency:

- Up to 1000 cubic yards: At least one sample for each 250 cubic yards.
- Between 1000 and 5000 cubic yards: At least 4 samples for the first 1000 cubic yards, and 1 sample for each additional 500 cubic yards.
- More than 5000 cubic yards: At least 12 samples for the first 5000 cubic yards, and 1 sample for each additional 1000 cubic yards.

Samples are required to be analyzed for potential site-specific contaminants by a certified analytical laboratory, and the results are provided to Republic for review, profile development,

and determination of acceptability. Republic may request additional sampling or analyses to ensure compliance with the Amended WDRs and WAP.

Analytical results are provided in Tables 14 through 17.

11.1 Second Semiannual 2018 Waste Acceptance Results

The contaminated soil generators, analyses performed, type of special waste, and quantity of special waste disposed of during the monitoring period are summarized in Table 13.

Constituents measured at or above the Method Detection Limit (MDL) were then compared to calculated threshold limit concentrations as detailed in the site-specific Waste Acceptance Plan, Revision 1 (RMC Geosciences, Inc., 2014), and determined to be acceptable for disposal in lined cells if the measured concentrations were below these levels. As stipulated in the Amended WDRs, wastes containing analytes that exceed PRG or CHHSL levels may be accepted if the analyte concentrations do not exceed the respective State of California Hazardous Waste levels (as listed in Title 22 of the California Code of Regulations Section 66261.24) and Total Designated Levels (as calculated following the guidelines in Section C.3 of the Amended WDRs), whichever is lower. When comparing analyte concentrations to California hazardous waste levels, the total analyte concentration must be below its respective Total Threshold Limit Concentration (TTLC) and it must be below ten times the Soluble Threshold Limit Concentration (STLC). If a total analyte concentration is more than ten times the STLC value, then the sample must be submitted for a Waste Extraction Test to determine its soluble analyte concentration. To be considered acceptable, the soluble analyte concentration must also be below its respective STLC value.

Based on the frequency of sampling and the comparison of analytical results to the waste acceptance criteria, all special wastes that were disposed of at the SCL during the second semiannual 2018 monitoring period met the waste acceptance requirements of the Amended WDRs and the site-specific WAP.

12.0 ANNUAL SUMMARY

During the 2018 monitoring year, groundwater elevations and chemistries were generally similar to past monitoring events. No evidence of a new release, or changes in existing release conditions, was identified.

During the second semiannual 2018 monitoring period, concentration limits were exceeded for VOCs at four of five shallow (alluvial) detection monitoring wells, and at one of the six deep (bedrock) detection monitoring wells. Additionally, WQPS concentration limits were exceeded for inorganic constituents at two deep, bedrock monitoring detection monitoring well and two of the shallow, alluvial detection monitoring wells. All concentration limit exceedances were for well/analyte pairs already in tracking mode (no retesting required) or retest samples did not confirm original results. Retest samples for fourth quarter 2018 results that exceeded

concentration limits that require retesting (naphthalene at well MW-6) will be collected during the first quarter 2019 and results will be presented in the January through June 2019 report.

During the second semiannual 2018 monitoring period, methane concentrations did not exceed 5%V at any landfill gas monitoring probe.

No new seeps were identified during the 2018 monitoring year.

Leachate, landfill gas condensate, groundwater extracted near the cut-off wall, and groundwater collected from subdrains at the SCLF were discharged to the Los Angeles City sanitary sewer system. Total volumes from each water source are shown in Table 12.

During the first semiannual 2018 monitoring period the following construction projects at the site were completed:

- Installation and activation of 89 new and replacement vertical gas extraction wells, 10 horizontal collectors, three liner collectors, 43 dewatering pumps in vertical gas extraction wells, and de-scalers and a grinder pump to prevent scaling and handle solids;
- Completion of upgrades to the above ground liquids collection and conveyance system, including installation of dual-wall piping, booster pumps, a chlorine injection system, cleanouts and manholes, and pH and flow meters;
- Improvements to the stormwater retention system, including water discharge skimmers and new outfall structures.

During the second semiannual 2018 monitoring period the following construction projects at the site were completed:

- Installation of an additional 18 dewatering pumps in vertical gas extraction wells (61 total in 2018);
- Completion of installation of 26 acres of Closure Turf™;
- Completion of application of 38.5 acres of Posi-Shell™;
- Completion of 58-acre vegetative cover project;
- Continued maintenance of City South Costal Sage Mitigation Area.

Planned activities for the first and second quarters of 2019 include:

- Continued activities to respond to SCAQMD Abatement Order conditions;
- CC4 Stability Buttress project;
- Additional upgrades to the liquids management system;
- Landfill gas wellfield expansion activities;
- Phase 2 Coastal Sage Scrub Pilot Mitigation Project;
- Continued maintenance of City South Coastal Sage Mitigation Project area;

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12.1 Graphical Presentation of Analytical Data

Graphs depicting constituent concentrations in site monitoring wells are presented in Appendix H.

12.2 Tabulated Analytical Data

Historical data is presented in tabular form in Appendix I. Complete data history for each monitoring well is submitted electronically to the Geotracker database.

13.0 REFERENCES

California Regional Water Quality Control Board, Los Angeles Region, 2008, "Order No. R4-2008-0088 – Corrective Action Program Waste Discharge Requirements for Browning-Ferris Industries of California, Inc. (Sunshine Canyon City/County Landfill), File No. 58-076," October 2, 2008.

California Regional Water Quality Control Board, Los Angeles Region, 2009, "Revised Monitoring and Reporting Program (No. CI-2043) for Browning-Ferris Industries of California, Inc. (Sunshine Canyon City/County Landfill), File No. 58-076," July 21, 2009.

RMC Geoscience, Inc., 2014 "Waste Acceptance Plan, Revision 1, Sunshine Canyon Landfill, Los Angeles County, California." December.

TABLES

TABLE 1
REGULATORY COMPLIANCE CHECKLIST - MONITORING AND REPORTING PROGRAM CI-2043
SUNSHINE CANYON LANDFILL

MRP SECTION	REPORTING REQUIREMENT	REPORT SECTION
I.A.1	Transmittal Letter	Republic Transmittal Letter
	Discussion of Violations	Executive Summary
	Planned Corrective Actions	Executive Summary
	Signature of Owner/Operator Principal	Republic Transmittal Letter
	Statement of validity, accuracy, and completeness	Republic Transmittal Letter
I.A.2	Summary of Non-Compliance	Executive Summary
I.A.3	Site Conditions	Section 2
I.A.4	Narrative Description	
	Monitoring Parameters	Section 3.2, Table 2
	Groundawter Monitoring	Section 3
	Water Quality Protection Standards	Section 3.5, Tables 7A, 7B
	Statistical and Non-Statistical Data Analysis	Section 3.5, Tables 7A, 7B
	Groundwater Flow Monitoring	Section 3.4
	Leachate Monitoring	Section 7.0
	Vadose Zone Liquid Monitoring	Section 4.0
	Vadose Zone Gas Monitoring	Section 5.0
	Surface Water Monitoring	Section 6.0
	On-Site Water Use Monitoring	Section 8.0
	Seep and Trench Liquid Monitoring	Section 8.0
I.A.5	Laboratory Results	
	Groundwater	Appendix B, Tables 6A and 6B
	Subdrain and Lysimeter Liquid	Appendix B, Tables 8A and 8B
	NPDES Monitoring	Table 10
	Stream Diversion	Section 6.2
	Spring Water	Section 6.3, Appendix D
	Leachate	Appendix B; Table 11
	Trench Liquid	Appendix B
	Non-Target Volatile Organic Compounds	Appendix B
	QA/QC Sample Results	Section 3.3, Tables 3A, 3B, 4A, and 4B, Appendix B
I.A.6	Summary and Certification of Standard Observation in accordance with NPDES requirements	Appendix D
I.A.7	Summary of total volumes of liquids, on a monthly basis, of landfill leachate, condensate, and subdrain water	Table 12
	Method of managing landfill-generated liquids.	Section 8.0
I.A.8.a	Table of estimated average monthly quantities of deposited waste (tons and cubic yards	Section 10.0; Appendix E
I.A.8.b	An estimate of the remaining capacity (in tons and cubic yards) and the remaining life of the site in years and months	Section 10.0
I.A.8.c	Certification that all wastes comply with RWQCB requirements and were placed within the permittied boundary	Republic Transmittal Letter
I.A.8.d	Description and estimated flow rate of seeps and springs	Appendix D
I.A.8.e	Estimated amount of water used for landscape irrigation, dust suppression, and operations	Table 12
I.A.8.f	Date, source, quantity, description, and management of unacceptable wastes received at the facility	Section 10.0
I.A.9	Map showing waste disposal locations	Appendix E
	Map showing monitoring locations	Figure 2; Figure 4
	Map showing groundwater contours	Figures 3A and 3B
I.B.1	Discussion of compliance record, monitoring system changes, construction plans, corrective action milestones, etc.	Section 12.0
I.B.2	Graphical Presentation of Analytical Data	Appendix H
I.B.3	Analytical data presented in tabular form	Appendix I

TABLE 2
ANALYTICAL PARAMETERS AND METHODS
SUNSHINE CANYON LANDFILL

Parameter	Typical USEPA Method	Frequency
Indicator Parameters		
Liquid Level	Field	Quarterly
Alkalinity, total	310.1	Quarterly
Ammonia as Nitrogen	350.2	Quarterly
Chemical oxygen demand (COD)	410.2	Quarterly
Chloride	300.0	Quarterly
Potassium, total	6010B	Quarterly
Total Organic Carbon (TOC)	415.1	Quarterly
Total Dissolved Solids (TDS)	160.1	Quarterly
Volatile Organic Compounds (Appendix I, MTBE, TBA, dichlorodifluoromethane, tetrahydrofuran, and carbon disulfide)	8260B	Quarterly
1,4-Dioxane	8270 or 8260SIM	Quarterly
Supplemental Parameters		
pH	Field	Semiannual
Electrical Conductivity (EC)	Field	Semiannual
Temperature	Field	Semiannual
Turbidity	Field	Semiannual
Bicarbonate as CaCO3	310.1	Semiannual
Boron, total	6010B	Semiannual
Bromide	300.0	Semiannual
Calcium, total	6010b	Semiannual
Carbon dioxide	SM4500-CO2	Semiannual
Fluoride	340.2	Semiannual
Iron, total	6010B	Semiannual
Magnesium, total	6010B	Semiannual
Manganese, total	6010B	Semiannual
Nitrate-N	300.0	Semiannual
Sodium, total	6010B	Semiannual
Sulfate	300.0	Semiannual
Sulfide	376.2	Semiannual
Constituents of Concern (COCs)		(Last conducted June 2016)
Antimony (dissolved)	6010B	Every Five Years
Arsenic (dissolved)	200.8	Every Five Years
Barium (dissolved)	6010B	Every Five Years
Beryllium (dissolved)	6010B	Every Five Years
Chromium (dissolved)	6010B	Every Five Years
Cobalt (dissolved)	6010B	Every Five Years
Copper (dissolved)	6010B	Every Five Years
Lead (dissolved)	6010B	Every Five Years
Mercury (dissolved)	7470	Every Five Years
Nickel (dissolved)	6010B	Every Five Years
Selenium (dissolved)	6010B	Every Five Years
Silver (dissolved)	6010B	Every Five Years
Thallium (dissolved)	6010B	Every Five Years
Tin (dissolved)	6010B	Every Five Years
Vanadium (dissolved)	6010B	Every Five Years
Zinc (dissolved)	6010B	Every Five Years
Semivolatile Organic Compounds	8270	Every Five Years
Any other pollutants that are detected in leachate	Various	Every Five Years (Next COC Sampling: Dec 2021)

TABLE 3A
SUMMARY OF BLANK SAMPLE RESULTS - THIRD QUARTER 2018
SUNSHINE CANYON LANDFILL

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
9/17/18	9/17/18	QCTB	None Detected
	9/17/18	Method Blank	None Detected
9/18/18	9/18/18	QCAB	None Detected
	9/18/18	QCTB	None Detected
	9/18/18	Method Blank	None Detected
9/19/18	9/19/18	QCAB	None Detected
	9/19/18	QCTB	None Detected
	9/19/18	Method Blank	None Detected

TABLE 3B
SUMMARY OF BLANK SAMPLE RESULTS - FOURTH QUARTER 2018
SUNSHINE CANYON LANDFILL

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
12/10/18	12/10/18	QCAB	None Detected
	12/10/18	QCTB	None Detected
	12/10/18	Method Blank	None Detected
12/11/18	12/11/18	QCAB	None Detected
	12/11/18	QCTB	None Detected
	12/11/18	Method Blank	None Detected
12/12/18	12/12/18	QCAB	Napthalene: 6.2 µg/L
	12/12/18	QCTB	Napthalene: 0.51j µg/L
	12/12/18	Method Blank	None Detected
12/12/18	12/12/18	QCAB	None Detected
	12/12/18	QCTB	None Detected
	12/12/18	Method Blank	None Detected
12/13/18	12/13/18	QCAB	None Detected
	12/13/18	QCTB	None Detected
	12/13/18	Method Blank	None Detected

j: Indicates a trace concentration (between the Method Detection Limit and Practical Quantitation Limit.

TABLE 4A
SUMMARY OF DUPLICATE SAMPLE RESULTS - THIRD QUARTER 2018
SUNSHINE CANYON LANDFILL

ANALYTE	CM-10R 9/18/2018	DUPLICATE 9/18/2018	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	570	550	4
Ammonia (as N)	12	12	0
Chemical Oxygen Demand	**17**	**18**	NC
Chloride	8.4	7.9	6
Total Dissolved Solids	2600	2500	4
Total Organic Compound	4.0	3.9	3
METALS (mg/L):			
Potassium	11	11	0
VOLATILE & SEMI-VOLATILE ORGANIC COMPOUNDS (µg/L):			
1,4-Dioxane	0.25	**0.66**	NC

TABLE 4B
SUMMARY OF DUPLICATE SAMPLE RESULTS - FOURTH QUARTER 2018
SUNSHINE CANYON LANDFILL

ANALYTE	MW-5 12/11/2018	DUPLICATE 12/11/2018	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	700	710	1
Ammonia (as N)	5.2	5.2	0
Bicarbonate alkalinity	700	710	1
Bromide	2.7	3.4	23
Carbon Dioxide	92	78	16
Chemical Oxygen Demand	99	100	1
Chloride	230	230	0
Fluoride	2.7	3.5	26
Sulfate	1400	1400	0
Total Dissolved Solids	3500	3400	3
Total Organic Carbon	26	25	4
METALS (mg/L):			
Boron	1.3	1.2	8
Calcium	400	390	3
Iron	32	31	3
Magnesium	190	180	5
Manganese	4.8	4.6	4
Potassium	29	28	4
Sodium	310	310	0
VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS (µg/L):			
1,4-Dioxane	9.1	11	19
t-Butanol	12	13	8

Notes:
Right-justified value, non-shaded box indicates a quantified concentration (above the Practical Quanitation Limit).
Right-justified, bolded value with a shaded box indicates an estimated-trace concentration.
Left-justified value, shaded box indicates not detected (method detection limit shown).
NC = Not calculated (relative percent difference only calculated for quantifiable concentrations).
Only detected constituents shown.

TABLE 5
GROUNDWATER ELEVATIONS AND SITE MONITORING WELL INFORMATION
SUNSHINE CANYON LANDFILL

Well Number	MW-1	MW-2A	MW-2B	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4
Well Casing Elevation (ft, MSL)	1344.48	1381.71	1381.98	1341.42	1347.32	1363.32	1345.78	1354.19	1351.93	1521.92	1682.54	1382.02
Approximate Well Casing Elevation (ft, MSL)*	-	1397.01	1398.68	-	-	-	-	-	-	-	-	1400.82
Total Depth of Well (ft)	29.60	26.00	54.40	26.20	23.50	26.70	27.80	28.10	205.80	72.30	256.60	116.00
Pump Depth (ft)	27.30	24.70	52.20	25.00	19.70	24.90	26.40	25.00	199.00	70.00	247.00	
Well Diameter (in)	4	4	4	2	2	4	4	4	4	4	4	4
Type of Pump (ft)	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Bladder	Drop Tube	Bladder	Bladder	Bladder
Depth to Water (ft below TOC)												
3/9/12	17.08	21.38	5.58	19.03	16.97	20.96	17.59	14.83	0.00	25.74	151.46	5.54
3/28/12	16.85	21.37	5.44	NM	16.72	20.28	16.89	14.79	0.00	NM	NM	5.52
6/22/12	17.31	21.42	5.57	19.37	17.13	15.26	17.83	15.47	0.00	26.64	151.69	5.63
9/18/12	17.56	21.74	5.81	19.70	17.09	13.36	18.10	15.08	0.00	28.38	151.68	5.79
12/17/12	17.94	21.96	5.90	19.24	16.62	12.56	17.51	14.98	0.00	27.33	151.98	5.90
3/11/13	15.88	21.60	5.73	18.84	16.34	14.81	16.57	14.48	0.00	26.88	150.31	5.94
6/25/13	16.13	21.74	5.89	19.36	16.57	16.57	17.36	14.75	0.00	27.68	151.13	6.28
9/16/13	16.95	21.88	6.04	19.71	16.85	16.95	17.71	14.92	0.00	28.78	151.82	6.35
12/16/13	16.58	21.81	5.84	19.44	16.62	17.01	17.62	14.68	0.00	29.48	152.19	6.28
3/24/14	15.92	21.89	5.70	19.82	17.16	13.05	18.00	15.42	0.00	29.42	152.53	6.21
6/9/14	16.41	21.96	7.04	19.14	16.54	12.63	17.74	14.80	0.00	30.47	152.54	6.65
9/15/14	17.16	22.38	6.76	19.67	16.82	12.01	18.04	14.79	0.00	31.82	152.72	6.87
12/15 & 23/2014	16.39	20.60	4.98	19.05	16.17	11.65	18.24	14.35	0.00	32.33	152.89	5.24
3/23/15	16.58	21.65	5.77	19.28	16.59	20.04	18.16	14.65	0.00	31.57	152.88	5.92
6/15/15	16.86	22.10	5.57	19.41	16.72	22.02	18.34	14.73	0.00	32.74	151.25	5.75
9/28/15	17.27	21.91	5.59	19.91	16.69	19.49	18.75	14.80	0.00	33.88	151.11	5.86
12/1/15	17.04	16.08	1.46	19.72	16.70	20.20	18.83	14.92	0.00	34.33	151.56	2.21
3/28/16	16.61	19.05	12.41	19.33	16.46	20.47	18.53	14.61	0.00	33.56	151.71	14.12
6/20/16	16.89	17.14	11.52	19.81	16.67	16.64	18.61	14.85	0.00	34.66	152.51	18.11
9/19/16	17.49	32.29	20.05	20.01	16.83	15.46	19.20	14.87	0.00	35.10	153.10	32.82
12/19/16	17.12	31.33	19.49	19.85	17.33	15.15	19.26	14.61	0.00	35.28	153.56	34.65
3/13/17	15.19	30.43	17.64	17.58	16.38	13.96	17.22	14.44	0.00	23.08	153.54	21.79
6/12/17	15.59	30.84	17.11	18.61	16.53	12.95	17.42	14.58	0.00	23.56	153.21	21.94
9/18/17	15.64	33.57	18.38	19.14	16.69	11.88	17.74	14.50	0.00	24.83	153.77	31.51
12/4/17	15.35	34.01	18.75	19.16	16.85	13.44	17.95	14.74	0.00	25.90	154.74	32.32
3/12/18	14.36	33.71	18.67	19.47	16.11	13.45	16.94	14.67	0.00	25.51	154.38	32.72
6/12/18	14.49	32.56	17.77	18.88	16.47	17.81	16.69	14.52	0.00	25.56	154.63	32.59
9/18/18	15.59	33.81	18.64	19.32	16.78	21.13	17.07	14.55	0.00	26.95	154.82	32.81
12/10/18	13.14	33.62	18.86	18.34	16.20	19.26	16.13	14.17	0.00	27.85	155.37	32.84
Liquid Elevation (ft, MSL)												
3/9/12	1327.40	1360.33	1376.40	1322.39	1330.35	1342.36	1328.19	1339.36	1351.93	1496.18	1531.08	1376.48
3/28/12	1327.63	1360.34	1376.54	NM	1330.60	1343.04	1328.89	1339.40	1351.93	NM	NM	1376.50
6/22/12	1327.17	1360.29	1376.41	1322.05	1330.19	1348.06	1327.95	1338.72	1351.93	1495.28	1530.85	1376.39
9/18/12	1326.92	1359.97	1376.17	1321.72	1330.23	1349.96	1327.68	1339.11	1351.93	1493.54	1530.86	1376.23
12/17/12	1326.54	1359.75	1376.08	1322.18	1330.70	1350.76	1328.27	1339.21	1351.93	1494.59	1530.56	1376.12
3/11/13	1328.60	1360.11	1376.25	1322.58	1330.98	1348.51	1329.21	1339.71	1351.93	1495.04	1532.23	1376.08
6/25/13	1328.35	1359.97	1376.09	1322.06	1330.75	1346.75	1328.42	1339.44	1351.93	1494.24	1531.41	1375.74
9/16/13	1327.53	1359.83	1375.94	1321.71	1330.47	1346.37	1328.07	1339.27	1351.93	1493.14	1530.72	1375.67
12/16/13	1327.90	1359.90	1376.14	1321.98	1330.70	1346.31	1328.16	1339.51	1351.93	1492.44	1530.35	1375.74
3/24/14	1328.56	1359.82	1376.28	1321.60	1330.16	1350.27	1327.78	1338.77	1351.93	1492.50	1530.01	1375.81
6/9/14	1328.07	1359.75	1374.94	1322.28	1330.78	1350.69	1328.04	1339.39	1351.93	1491.45	1530.00	1375.37
9/15/14	1327.32	1359.33	1375.22	1321.75	1330.50	1351.31	1327.74	1339.40	1351.93	1490.10	1529.82	1375.15
12/15 & 23/2014	1328.09	1361.11	1377.00	1322.37	1331.15	1351.67	1327.54	1339.84	1351.93	1489.59	1529.65	1376.78
3/23/2015	1327.90	1360.06	1376.21	1322.14	1330.73	1343.28	1327.62	1339.54	1351.93	1490.35	1529.66	1376.10
6/15/2015	1327.62	1359.61	1376.41	1322.01	1330.60	1341.30	1327.44	1339.46	1351.93	1489.18	1531.29	1376.27
9/28/2015	1327.21	1359.80	1376.39	1321.51	1330.63	1343.83	1327.03	1339.39	1351.93	1488.04	1531.43	1376.16
12/1/2015	1327.44	1365.63	1380.52	1321.70	1330.62	1343.12	1326.95	1339.27	1351.93	1487.59	1530.98	1379.81
3/28/2016	1327.87	1362.66	1369.57	1322.09	1330.86	1342.85	1327.25	1339.58	1351.93	1488.36	1530.83	1367.90
6/20/2016	1327.59	1364.57	1370.46	1321.61	1330.65	1346.68	1327.17	1339.34	1351.93	1487.26	1530.03	1363.91
9/19/2016	1326.99	1364.72	1378.63	1321.41	1330.49	1347.86	1326.58	1339.32	1351.93	1486.82	1529.44	1368.00
12/19/2016	1327.36	1365.68	1379.19	1321.57	1329.99	1348.17	1326.52	1339.58	1351.93	1486.64	1528.98	1366.17
3/13/2017	1329.29	1366.58	1381.04	1323.84	1330.94	1349.36	1328.56	1339.75	1351.93	1498.84	1529.00	1379.03
6/12/2017	1328.89	1366.17	1381.57	1322.81	1330.79	1350.37	1328.36	1339.61	1351.93	1498.36	1529.33	1378.88
9/18/2017	1328.84	1363.44	1380.30	1322.28	1330.63	1351.44	1328.04	1339.69	1351.93	1497.09	1528.77	1369.31
12/4/2017	1329.13	1363.00	1379.93	1322.26	1330.47	1349.88	1327.83	1339.45	1351.93	1496.02	1527.80	1368.50
3/12/18	1330.12	1363.30	1380.01	1321.95	1331.21	1349.87	1328.84	1339.52	1351.93	1496.41	1528.16	1368.10
6/12/18	1329.99	1364.45	1380.91	1322.54	1330.85	1345.51	1329.09	1339.67	1351.93	1496.36	1527.91	1368.23
9/18/18	1328.89	1363.20	1380.04	1322.10	1330.54	1342.19	1328.71	1339.64	1351.93	1494.97	1527.72	1368.01
12/10/18	1331.34	1363.39	1379.82	1323.08	1331.12	1344.06	1329.65	1340.02	1351.93	1494.07	1527.17	1367.98

Note:
MSL = Mean Sea Level
TOC = Top of Casing
BOC = Bottom of Casing
NA = Not Available
NM = Not Measured
All wells resurveyed in 2014, except for the following: PZ-1, PZ-3, & MW-8. Well CM-5R resurveyed in 201
* - Top of casing elevations are approximate. Wells MW-2A, MW-2B, and DW-4 were raised - survey pending

TABLE 5, CONTINUED
GROUNDWATER ELEVATIONS AND SITE MONITORING WELL INFORMATION
SUNSHINE CANYON LANDFILL

Well Number	DW-5	PZ-1	PZ-2	PZ-3	PZ-4	CM-9R3	CM-10R	CM-11R	MW-8	CM-5	CM-5R
Well Casing Elevation (ft, MSL)	1347.54	1643.76	1566.52	2029.19	1795.85	1902.40	1901.20	2010.41	1362.37	1892.84	2032.00
Total Depth of Well (ft)	101.00	103.30	160.90	230.00	125.50	29.00	110.90	31.00		60.00	60
Depth of Pump (ft)					122.00	27.40	100.00	29.80			
Well Diameter (in)	4	2	2	2	2	4	4	4		2	2
Type of Pump	Bladder		Bladder		Bladder	Bladder	Bladder	Bladder	Bladder		
Depth to Water (ft below TOC)											
3/9/12	NM	89.25	NM	215.42	110.79	12.15	NM	22.44	17.89	20.46	NM
3/28/12	14.96	NM	123.22	NM	NM	10.01	NM	23.45	NM	NM	NM
6/22/12	14.73	89.33	123.14	215.69	110.73	10.81	46.85	18.26	15.68	21.60	NM
9/18/12	15.03	NM	123.18	215.78	110.92	13.82	48.31	NM	13.80	22.03	NM
12/17/12	14.90	83.27	123.27	215.90	110.80	11.42	47.37	23.11	13.62	19.86	NM
3/11/13	14.26	89.81	123.02	NM	110.11	9.89	47.57	21.02	15.32	17.39	NM
6/25/13	14.04	90.10	122.92	NM	110.23	13.29	48.70	22.62	16.41	19.16	NM
9/16/13	13.99	89.97	122.82	NM	110.10	15.30	49.13	24.31	16.46	19.50	NM
12/16/13	14.23	90.52	122.94	NM	110.18	17.09	49.36	25.56	16.44	18.62	NM
3/24/14	14.88	90.63	122.81	NM	110.38	12.58	49.81	20.88	14.41	18.08	NM
6/9/14	19.14	90.62	122.57	NM	110.37	15.41	50.26	21.90	15.23	19.34	NM
9/15/14	14.47	90.81	122.54	NM	110.46	17.95	50.69	23.54	13.39	20.61	NM
12/15 & 23/2014	14.43	90.81	122.68	NM	110.70	9.59	50.14	23.32	13.74	NM	NM
3/23/15	14.61	91.45	122.71	216.12	110.88	12.92	51.37	19.71	18.03	ABANDONED	198.53
6/15/15	14.44	91.48	122.52	216.42	110.93	16.14	51.55	22.10	18.61	ABANDONED	201.10
9/28/15	14.53	91.82	122.50	217.06	111.14	17.56	51.98	24.40	17.68	ABANDONED	202.46
12/1/15	14.78	92.05	122.67	217.53	111.30	18.87	52.38	26.09	18.18	ABANDONED	204.25
3/28/16	14.39	91.84	122.38	217.74	111.23	12.06	52.41	20.47	18.20	ABANDONED	206.39
6/20/16	14.36	91.97	122.44	218.20	111.56	15.41	52.81	22.39	18.04	ABANDONED	208.15
9/19/16	15.02	92.25	122.34	218.70	111.72	17.80	53.88	27.29	16.13	ABANDONED	210.04
12/19/16	15.06	92.39	122.61	219.13	112.01	19.91	52.94	28.54	16.03	ABANDONED	211.36
3/13/17	14.86	92.63	122.37	219.34	111.89	7.96	48.72	12.13	15.37	ABANDONED	212.49
6/12/17	14.62	92.46	122.37	219.63	111.69	10.55	49.51	15.98	14.46	ABANDONED	213.66
9/18/17	14.56	92.52	122.38	220.08	111.66	13.02	50.14	17.67	13.30	ABANDONED	214.90
12/4/17	14.82	92.92	122.54	220.37	111.81	14.34	50.76	19.66	14.32	ABANDONED	215.90
3/12/18	14.25	93.04	122.34	221.53	111.77	9.62	47.46	13.69	15.03	ABANDONED	216.91
6/12/18	14.02	92.97	122.17	221.04	111.43	11.47	49.55	16.16	16.07	ABANDONED	NM
9/18/18	14.23	93.07	122.13	221.53	111.70	13.39	50.48	18.23	17.28	ABANDONED	NM
12/10/18	14.01	93.44	122.39	221.92	111.94	10.18	49.70	19.11	16.42	ABANDONED	220.28
Liquid Elevation (ft, MSL)									.		
3/9/12	NM	1554.51	NM	1813.77	1685.06	1890.25	NM	1987.97	1344.48	1872.38	NM
3/28/12	1332.58	NM	1443.30	NM	NM	1892.39	NM	1986.96	NM	NM	NM
6/22/12	1332.81	1554.43	1443.38	1813.50	1685.12	1891.59	1854.35	1992.15	1346.69	1871.24	NM
9/18/12	1332.51	NM	1443.34	1813.41	1684.93	1888.58	1852.89	NM	1348.57	1870.81	NM
12/17/12	1332.64	1560.49	1443.25	1813.29	1685.05	1890.98	1853.83	1987.30	1348.75	1872.98	NM
3/11/13	1333.28	1553.95	1443.50	NM	1685.74	1892.51	1853.63	1989.39	1347.05	1875.45	NM
6/25/13	1333.50	1553.66	1443.60	NM	1685.62	1889.11	1852.50	1987.79	1345.96	1873.68	NM
9/16/13	1333.55	1553.79	1443.70	NM	1685.75	1887.10	1852.07	1986.10	1345.91	1873.34	NM
12/16/13	1333.31	1553.24	1443.58	NM	1685.67	1885.31	1851.84	1984.85	1345.93	1874.22	NM
3/24/14	1332.66	1553.13	1443.71	NM	1685.47	1889.82	1851.39	1989.53	1347.96	1874.76	NM
6/9/14	1328.40	1553.14	1443.95	NM	1685.48	1886.99	1850.94	1988.51	1347.14	1873.50	NM
9/15/14	1333.07	1552.95	1443.98	NM	1685.39	1884.45	1850.51	1986.87	1348.98	1872.23	NM
12/15 & 23/2014	1333.11	1552.95	1443.84	NM	1685.15	1892.81	1851.06	1987.09	1348.63	NM	NM
3/23/2015	1332.93	1552.31	1443.81	1813.07	1684.97	1889.48	1849.83	1990.70	1344.34	ABANDONED	1833.47
6/15/2015	1333.10	1552.28	1444.00	1812.77	1684.92	1886.26	1849.65	1988.31	1343.76	ABANDONED	1830.90
9/28/2015	1333.01	1551.94	1444.02	1812.13	1684.71	1884.84	1849.22	1986.01	1344.69	ABANDONED	1829.54
12/1/2015	1332.76	1551.71	1443.85	1811.66	1684.55	1883.53	1848.82	1984.32	1344.19	ABANDONED	1827.75
3/28/2016	1333.15	1551.92	1444.14	1811.45	1684.62	1890.34	1848.79	1989.94	1344.17	ABANDONED	1825.61
6/20/2016	1333.18	1551.79	1444.08	1810.99	1684.29	1886.99	1848.39	1988.02	1344.33	ABANDONED	1823.85
9/19/2016	1332.52	1551.51	1444.18	1810.49	1684.13	1884.60	1847.32	1983.12	1346.24	ABANDONED	1821.96
12/19/2016	1332.48	1551.37	1443.91	1810.06	1683.84	1882.49	1848.26	1981.87	1346.34	ABANDONED	1820.64
3/13/2017	1332.68	1551.13	1444.15	1809.85	1683.96	1894.44	1852.48	1998.28	1347.00	ABANDONED	1819.51
6/12/2017	1332.92	1551.30	1444.15	1809.56	1684.16	1891.85	1851.69	1994.43	1347.91	ABANDONED	1818.34
9/18/2017	1332.98	1551.24	1444.14	1809.11	1684.19	1889.38	1851.06	1992.74	1349.07	ABANDONED	1817.10
12/4/2017	1332.72	1550.84	1443.98	1808.82	1684.04	1888.06	1850.44	1990.75	1348.05	ABANDONED	1816.10
3/12/18	1333.29	1550.72	1444.18	1807.66	1684.08	1892.78	1853.74	1996.72	1347.34	ABANDONED	1815.09
6/12/18	1333.52	1550.79	1444.35	1808.15	1684.42	1890.93	1851.65	1994.25	1346.30	ABANDONED	NM
9/18/18	1333.31	1550.69	1444.39	1807.66	1684.15	1889.01	1850.72	1992.18	1345.09	ABANDONED	NM
12/10/18	1333.53	1550.32	1444.13	1807.27	1683.91	1892.22	1851.50	1991.30	1345.95	ABANDONED	1811.72

Note:
MSL = Mean Sea Level
TOC = Top of Casing
BOC = Bottom of Casing
NA = Not Available
NM = Not Measured
All wells resurveyed in 2014, except for the following: PZ-1, PZ-3, & MW-8. Well CM-5R resurveyed in 2015

TABLE 6A
SUMMARY OF ANALYTICAL RESULTS - THIRD QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS							DEEP MONITORING WELLS								ARAR
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		9/18/2018	9/18/2018	9/18/2018	9/18/2018	9/19/2018	9/18/2018	9/17/2018	9/18/2018	9/18/2018	9/17/2018	9/19/2018	9/20/2018	9/20/2018	9/19/2018	9/18/2018	9/19/2018	9/17/2018	9/18/2018	
Alkalinity	mg/L	150	42	570	660	360	650	430	860	790	430	560	380	160	360	970	350	380	340	NV
Ammonia-Nitrogen	mg/L	5.6	2.7	12	5.1	3.4	5.9	0.90	10	8.7	0.17	2.0	3.8	0.81	4.5	0.30	3.8	3.6	2.7	NV
Chemical Oxygen Demand	mg/L	26	10	17j	120	10	76	13j	130	290	10	10	10	10	10	10	10	10	10	NV
Chloride	mg/L	13	12	8.4	260	14	190	32	210	170	42	13	9.6	13	13	17	13	12	7.8	500(2)
Potassium, total	mg/L	13	12	11	30	5.1	28	5.4	25	30	8.0	1.6	4.2	9.1	4.3	0.99	4.3	3.0	4.2	NV
Total Dissolved Solids	mg/L	**4400**	**4200**	**2600**	**3500**	**2600**	**3300**	**2900**	**3700**	**1700**	**3600**	**3200**	**2000**	**1900**	**2900**	**1100**	**2700**	**4200**	**1200**	1000(2)
Total Organic Carbon	mg/L	6.3	4.5	4.0	37	2.3	27	4.4	57	27	4.7	3.0	1.4	0.37	1.7	7.1	1.7	2.1	1.2	NV
Allyl Chloride	µg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.6	0.50	0.50	0.50	NV
t-Butanol	µg/L	5.0	5.0	5.0	7.2j	5.0	5.0	5.0	26	8.2j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV
cis-1,2-Dichloroethene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.51	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6(1)-70(3)
1,4-Dioxane	µg/L	0.24	0.25	0.25	17	0.25	13	0.28	21	8.2	0.26	0.25	0.24	0.26	0.26	0.25	0.24	**0.47**	0.25	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.60	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	13(1)/5(2)
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	8.9j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV

Notes:
(1) State of California Primary Drinking Water Standard
(2) State of California Secondary Drinking Water Standard
(3) Federal Maximum Contaminant Level
(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.
* - Analyte also detected in a blank sample at a similar concentration
NV: No ARAR value.
ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds ARAR value.

TABLE 6B
SUMMARY OF ANALYTICAL RESULTS -FOURTH QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS							DEEP MONITORING WELLS								ARAR
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		12/10/18	12/10/18	12/11/18	12/11/18	12/12/18	12/11/18	12/10/18	12/11/18	12/11/18	12/10/18	12/11/18	12/13/18	12/13/18	12/12/18	12/11/18	12/12/18	12/10/18	12/12/18	
Inorganic Monitoring Parameters:																				
Alkalinity, total	mg/L	64	41	320	410	330	700	430	830	750	340	530	360	160	340	950	330	350	330	NV
Alkalinity, bicarbonate	mg/L	64	41	320	410	330	700	430	830	700	340	440	360	160	340	910	330	340	330	NV
Ammonia-Nitrogen	mg/L	0.60	2.5	11	3.4	2.8	5.2	0.72	11	8.4	0.11j	1.9	3.2	0.62	4.2	0.27	3.2	3.1	0.10	NV
Bromide	mg/L	2.5	2.5	0.50	0.85j	0.50	2.7	0.84j	2.8j	2.4	0.64j	2.5	0.50	0.25	0.50	0.50	0.50	0.25	0.25	NV
Carbon Dioxide, free	mg/L	120	35	30	21	45	92	40	71	26	42	2.0	16	16	14	2.0	17	2.0	19	NV
Chemical Oxygen Demand	mg/L	12j	10	19j	62	13j	99	10	130	300	10	15j	18j	15j	12j	29	36	10	16j	NV
Chloride	mg/L	18	12	11	87	14	230	31	200	190	27	14	11	15	13	19	13	12	8.4	500(2)
Fluoride	mg/L	**8.3**	**2.5j**	1.1	**1.9**	0.96j	**2.7**	1.8	2.5	0.36j	1.8	**3.6j**	0.52j	0.34j	0.50	**3.6**	1.1	2.5	1.2	2(1)-4(3)
Nitrate-Nitrogen	mg/L	9.1	0.55	0.11	0.11	0.11	0.28	0.11	0.55	0.055	0.11	0.55	0.11	0.055	0.11	0.055	0.11	0.55	0.055	10(1,3)
Sulfate	mg/L	**3200**	**2800**	**1700**	**860**	**1500**	**1400**	**1700**	**1600**	180	**1700**	**1700**	**1100**	**1200**	**1700**	0.25	**1500**	**2400**	**570**	500(2)
Sulfide, total	mg/L	0.027[H]	0.027[H]	0.061[H]	0.027[H]	0.027[H]	0.027[H]	1.2[H]	0.027[H]	150[H]	0.027[H]	2.2[H]	0.027	0.027	0.027[H]	0.027[H]	0.027[H]	0.027[H]	0.027[H]	NV
Total Dissolved Solids	mg/L	**5100**	**4300**	**3000**	**2000**	**2600**	**3500**	**2900**	**4000**	**1500**	**3000**	**3300**	**1900**	**1900**	**2900**	**1100**	**2600**	**4200**	**1200**	1000(2)
Total Organic Carbon	mg/L	9.0	4.5	2.5	19	2.2	26	4.4	40	27	3.9	2.6	1.3	0.29	1.6	6.4	1.5	2.1	0.99	NV
Metals:																				
Boron	mg/L	2.1	1.7	1.1	1.0	0.57	1.3	0.66	1.8	0.86	0.38	2.2	0.58	0.051	0.61	2.8	0.57	1.4	0.17	NV
Calcium	mg/L	430	270	290	210	200	400	320	420	74	360	2.9	100	290	180	5.6	170	17	130	NV
Iron	mg/L	**9.7**	0.15	**1.1**	**25**	**3.6**	**32**	**0.82**	52	0.087j	0.11	0.050	**1.3**	**0.57**	**1.6**	0.13	**2.0**	0.050	**0.89**	0.3(2)
Magnesium	mg/L	340	180	190	110	120	190	180	220	130	160	1.6	73	110	130	0.96	110	14	78	NV
Manganese	mg/L	**6.2**	**4.9**	**0.56**	**1.4**	**0.45**	**4.8**	**1.0**	**3.7**	0.015	**4.1**	0.015	**0.14**	**0.067**	**0.12**	**0.097**	**0.12**	0.031	**0.11**	0.05(2)
Potassium, total	mg/L	14	12	12	22	4.9	29	6.0	33	28	7.7	2.1	4.2	8.6	4.1	0.96	4.3	3.9	4.2	NV
Sodium	mg/L	400	700	230	220	370	310	270	410	190	240	1000	420	68	470	430	420	1300	99	NV
Volatile and Semivolatile Organic Compounds:																				
t-Butanol	µg/L	5.0	5.0	5.0	5.0	5.0	12	5.0	18	5.0	5.0	5.0	5.0	8.1j	5.0	5.0	5.0	5.0	5.0	NV
1,2,4-Trichlorobenzene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.49j	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	5(1)-75(3)
cis-1,2-Dichloroethene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	6(1)-70(3)
1,4-Dioxane	µg/L	0.24	0.24	0.24	5.3	0.24	9.1	0.24	18	9.1	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1.0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	13(1)/5(2)
Naphthalene	µg/L	0.40	0.40	0.40	0.40	0.40	0.40	1.1	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	NV
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.1j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV

Notes:
(1) State of California Primary Drinking Water Standard
(2) State of California Secondary Drinking Water Standard
(3) Federal Maximum Contaminant Level
(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.
NV: No ARAR value.
ND: Analyte was not detected. Detection limit is unknown.
* - Analyte also detected in a blank sample at a similar concentration.
[H] - Analyte prepped or analyzed past hold time.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds ARAR value.

TABLE 7A
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - THIRD QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS
Alkalinity	mg/L	660	844.76	650	727.34	430	571.59	790	972.24	430	587.83	560	658.76	380	410.47	160	162.81	970	1009.98	380	411.93	340	341.13
Ammonia-Nitrogen	mg/L	5.1	10.634	**5.9**	5.714	0.90	1.337	**8.7**	7.732	0.17j	0.5703	2.0	2.4	3.8	4.308	**0.81**	0.7564	0.30	0.3918	**3.6**	3.598	2.7	2.976
Chemical Oxygen Demand	mg/L	120	202.056	76	135.7	13j	75.338	290	407.58	10	54.674	10	49.801	10	52.743	10	15.206	10	76.47	10	26.386	10	24.85
Chloride	mg/L	260	408.469	190	469.603	32	70.829	170	213.802	42	88.987	13	17.737	9.6	15.462	13	17.534	17	101.838	12	16.398	7.8	11.706
Potassium, total	mg/L	30	54.763	28	34.393	5.4	10.679	**30**	27.224	8.0	12.508	1.6	3.838	4.2	6.183	9.1	12.357	0.99	5.262	3.0	4.693	4.2	5.643
Total Dissolved Solids	mg/L	3500	4495	3300	4614.2	2900	4486.5	1700	3450.9	3600	5128.5	3200	3600.2	2000	2178.3	1900	2313.1	1100	1417.3	4200	4403.2	1200	1529.5
Total Organic Carbon	mg/L	37	75.928	27	50.696	4.4	15.408	27	54.233	4.7	13.006	3.0	9.947	1.4	3.499	0.37	2.115	7.1	11.745	2.1	2.887	1.2	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
Allyl chloride	µg/L	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	**1.6**	1.0	0.50	1.0	0.50	1.0
t-Butanol	µg/L	7.2j	10	5.0	10	5.0	10	8.2j	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10
1,4-Dioxane	µg/L	**17**	0.98	**13**	0.99	0.25	1.0	**8.2**	1.1	0.24	0.97	0.25	1.0	0.25	1.0	0.25	0.98	0.25	0.98	0.47j	0.97	0.25	0.99

Notes:
(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.
ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds intrawell WQPS.

TABLE 7A
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - FOURTH QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS
Alkalinity	mg/L	410	844.76	700	727.34	430	571.59	750	972.24	340	587.83	530	658.76	360	410.47	160	162.81	950	1009.98	350	411.93	330	341.13
Ammonia-Nitrogen	mg/L	3.4	10.634	5.2	5.714	0.72	1.337	**8.4**	7.732	0.11	0.5703	1.9	2.4	3.2	4.308	0.62	0.7564	0.27	0.3918	3.1	3.598	0.10	2.976
Chemical Oxygen Demand	mg/L	62	202.056	99	135.7	10	75.338	300	407.58	10	54.674	15j	49.801	18j	52.743	15j	15.206	29	76.47	10	26.386	16j	24.85
Chloride	mg/L	87	408.469	230	469.603	31	70.829	190	213.802	27	88.987	14	17.737	11	15.462	15	17.534	19	101.838	12	16.398	8.4	11.706
Potassium, total	mg/L	22	54.763	29	34.393	6.0	10.679	**28**	27.224	7.7	12.508	2.1	3.838	4.2	6.183	8.6	12.357	0.96	5.262	3.9	4.693	4.2	5.643
Total Dissolved Solids	mg/L	2000	4495	3500	4614.2	2900	4486.5	1500	3450.9	3000	5128.5	3300	3600.2	1900	2178.3	1900	2313.1	1100	1417.3	4200	4403.2	1200	1529.5
Total Organic Carbon	mg/L	19	75.928	26	50.696	4.4	15.408	27	54.233	3.9	13.006	2.6	9.947	1.3	3.499	0.29	2.115	6.4	11.745	2.1	2.887	0.99	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
Allyl chloride	µg/L	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0
t-Butanol	µg/L	5.0	10	**12**	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	8.1j	10	5.0	10	5.0	10	5.0	10
1,4-Dioxane	µg/L	**5.3**	0.98	**9.1**	1.0	0.25	1.0	**9.1**	1.1	0.24	0.97	0.25	1.0	0.25	1.0	0.25	0.98	0.25	0.98	0.25	0.97	0.25	0.99
Naphthalene	µg/L	0.40	1.0	1.10	1.0	**1.1**	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0
1,2,4-Trichlorobenzene	µg/L	0.40	1.0	0.40	1.0	0.49j	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0

Notes:
(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.
ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

2500 Analyte concentration exceeds intrawell WQPS.

TABLE 8A
SUMMARY OF ANALYTICAL RESULTS FOR VADOSE ZONE LIQUID MONITORING POINTS
THIRD QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		9/18/2018	9/18/2018	9/18/2018	9/18/2018	
Field Parameters:						
Electrical Conductivity	mS/cm	3520	3540	Dry	NS	NV
Oxidation Reduction Potential	mV	-92	-71	Dry	NS	NV
Oxygen, dissolved	mg/L	2.20	2.56	Dry	NS	NV
pH	Units	**5.80**	**6.00**	Dry	NS	6.5-8.5(2)
Temperature	°C	19.45	24.64	Dry	NS	NV
Turbidity	NTU	0.7	3.3	Dry	NS	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	670	640	Dry	NS	NV
Ammonia-Nitrogen	mg/L	4.2	3.7	Dry	NS	NV
Chemical Oxygen Demand	mg/L	18j	56	Dry	NS	NV
Chloride	mg/L	61	61	Dry	NS	500(2)
Total Dissolved Solids	mg/L	**3100**	**3200**	Dry	NS	1000(2)
Total Organic Carbon	mg/L	25	23	Dry	NS	NV
Metals:						
Potassium	mg/L	12	12	Dry	NS	NV
Volatile and Semivolatile Organic Compounds:						
Benzene	µg/L	0.63	0.53	Dry	NS	1(1)-5(3)
Chlorobenzene	µg/L	0.28j	0.25	Dry	NS	70(1)-100(3)
t-Butanol	µg/L	12	9.6j	Dry	NS	NV
cis-1,2-Dichloroethene	µg/L	1.1	1.5	Dry	NS	6(1)-70(3)
1,4-Dichlorobenzene	µg/L	3.2	2.7	Dry	NS	5(1)-75(3)
1,4-Dioxane	µg/L	4.6	5.4	Dry	NS	NV
Methyl tert-butyl ether	µg/L	1.3	1.2	Dry	NS	13(1)/5(2)

Notes:
(1) State of California Primary Drinking Water Standard
(2) State of California Secondary Drinking Water Standard
(3) Federal Maximum Contaminant Level
(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.
NV: No ARAR value.
NS: Not Sampled.
ND: Analyte was not detected. Detection limit is unknown.
* - Analyte also detected in a blank sample at a similar concentration.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 8A
SUMMARY OF ANALYTICAL RESULTS FOR VADOSE ZONE LIQUID MONITORING POINTS
FOURTH QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		12/12/2018	12/13/2018	12/11/2018	12/11/2018	
Field Parameters:						
Electrical Conductivity	mS/cm	5430	3420	Dry	6650	NV
Oxidation Reduction Potential	mV	-105	15	Dry	-76	NV
Oxygen, dissolved	mg/L	4.71	4.27	Dry	2.39	NV
pH	Units	6.94	**6.85**	Dry	7.05	6.5-8.5(2)
Temperature	°C	23.54	13.93	Dry	31.50	NV
Turbidity	NTU	**60.7**	**561.0**	Dry	**16.9**	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	820	290	Dry	1700	NV
Alkalinity, bicarbonate	mg/L	820	290	Dry	1700	NV
Ammonia-Nitrogen	mg/L	4.3	0.92	Dry	2.1	NV
Bromide	mg/L	6.1	1.4	Dry	5.6j	NV
Carbon dioxide	mg/L	130	64	Dry	110	NV
Chemical Oxygen Demand	mg/L	18j	110	Dry	180	NV
Chloride	mg/L	440	120	Dry	**510**	500(2)
Fluoride	mg/L	2.5	1.2	Dry	5.0	4(3)
Nitrate as Nitrogen	mg/L	0.55	3.4	Dry	1.1	10(1,3)
Sulfate	mg/L	**2000**	**1600**	Dry	**1400**	500(2)
Sulfide, total	mg/L	0.027[H]	0.027[H]	Dry	0.027[H]	NV
Total Dissolved Solids	mg/L	**4800**	**2900**	Dry	**5300**	1000(2)
Total Organic Carbon	mg/L	77	18	Dry	59	NV
Metals:						
Boron	mg/L	1.7	0.56	Dry	9.2	NV
Calcium	mg/L	600	340	Dry	180	NV
Iron	mg/L	**99**	**53**	Dry	**3.2**	0.3(2)
Magnesium	mg/L	270	240	Dry	87	NV
Manganese	mg/L	**15**	**3.9**	Dry	**3.7**	0.05(2)
Potassium	mg/L	22	14	Dry	18	NV
Sodium	mg/L	350	190	Dry	1300	NV
Volatile and Semivolatile Organic Compounds:						
t-Butanol	µg/L	53	5.4j	Dry	150	NV
cis-1,2-Dichloroethene	µg/L	1.5	1.2	Dry	2.1	6(1)-70(3)
1,4-Dioxane	µg/L	48	9.6	Dry	9.6	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	Dry	2.1	13(1)/5(2)
Tetrahydrofuran	µg/L	16	5.0	Dry	5.0	NV
Trichloroethene	µg/L	0.25	0.25	Dry	0.25	5(1,3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

NV: No ARAR value.

NS: Not Sampled.

ND: Analyte was not detected. Detection limit is unknown.

* - Analyte also detected in a blank sample at a similar concentration.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 9
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	7/24/2018 - 7/26/2018	8/21/2018 - 8/23/2018	9/25/2018 - 9/27/2018	10/23/2018 - 10/25/2018	11/27/2018 - 11/29/2018	12/18/2018 - 12/20/2018
P-202	A	10-15	Removed Due to Construction					
	B	25-30						
	C	40-45						
P-203	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-205R	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	20-25	0.9	1.0	0.7	0.3	0.6	0.3
	C	33-38	1.8	1.7	1.8	1.5	1.6	1.6
	D	48-53	2.7	2.5	2.8	2.5	2.7	2.4
	E	62-67	1.8	1.7	1.6	1.3	0.6	0.7
P-206	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-207	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-208	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-210	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-213	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	23-31	0.0	0.0	0.0	0.0	0.0	0.0
	C	39-47	0.0	0.0	0.0	0.0	0.0	0.0
	D	55-62	0.0	0.0	0.0	0.0	0.0	0.0
	E	71-80	0.0	0.0	0.0	0.0	0.0	0.0
P-214	A	7-16	0.0	0.0	0.0	0.0	0.0	0.0
	B	23-32	0.0	0.1	0.0	0.0	0.0	0.0
	C	42-51	0.0	0.1	0.0	0.0	0.0	0.0
P-215	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	24-31	0.0	0.0	0.0	0.0	0.0	0.0
	C	41-48	0.0	0.0	0.0	0.0	0.0	0.0
	D	58-65	0.0	0.0	0.0	0.0	0.0	0.0
	E	75-82	0.0	0.0	0.0	0.0	0.0	0.0
P-216	A	8-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-37	0.0	0.0	0.1	0.0	0.0	0.0
	C	56-63	0.0	0.0	0.1	0.0	0.0	0.0
	D	80-87	0.0	0.0	0.1	0.0	0.0	0.0
	E	104-111	0.0	0.0	0.1	0.0	0.0	0.0
P-217R	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	16-21	0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	7/24/2018 - 7/26/2018	8/21/2018 - 8/23/2018	9/25/2018 - 9/27/2018	10/23/2018 - 10/25/2018	11/27/2018 - 11/29/2018	12/18/2018 - 12/20/2018
P-218R	A	5-8	0.0	0.1	0.1	0.0	0.0	0.0
	B		0.0	0.0	0.1	0.0	0.0	0.0
	C		0.0	0.0	0.0	0.0	0.0	0.0
P-219	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	57-66	0.0	0.0	0.0	0.0	0.0	0.0
	C	109-117	0.0	0.0	0.0	0.0	0.0	0.0
	D	158-167	0.0	0.0	0.0	0.0	0.0	0.0
	E	209-218	0.0	0.0	0.0	0.0	0.0	0.0
P-220	A	6.9-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	44-51	0.0	0.0	0.0	0.0	0.0	0.0
	C	79-88	0.0	0.0	0.0	0.0	0.0	0.0
	D	117-127	0.0	0.0	0.0	0.0	0.0	0.0
	E	150-159	0.0	0.0	0.0	0.0	0.0	0.0
P-220B	A	8-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-39	0.0	0.0	0.0	0.0	0.0	0.0
	C	56-61	0.0	0.0	0.0	0.0	0.0	0.0
	D	80-87	0.0	0.0	0.0	0.0	0.0	0.0
	E	104-111	0.0	0.0	0.0	0.0	0.0	0.0
P-221	A	5-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	49-58	0.0	0.0	0.0	0.0	0.0	0.0
	C	91-101	0.0	0.0	0.0	0.0	0.0	0.0
	D	134-143	0.0	0.0	0.0	0.0	0.0	0.0
	E	176-186	0.0	0.0	0.0	0.0	0.0	0.0
P-222	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	48-57	0.0	0.0	0.0	0.0	0.0	0.0
	C	88-98	0.0	0.0	0.0	0.0	0.0	0.0
	D	132-141	0.0	0.0	0.0	0.0	0.0	0.0
	E	173-181	0.0	0.0	0.0	0.0	0.0	0.0
P-223	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-41	0.0	0.0	0.0	0.0	0.0	0.0
	C	51-64	0.0	0.0	0.0	0.0	0.1	0.0
	D	78-88	0.0	0.0	0.0	0.0	0.1	0.0
	E	100-113	0.1	0.0	0.0	0.0	0.0	0.0
P-224	A	5-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	60-70	0.0	0.0	0.0	0.0	0.0	0.0
	C	115-125	0.0	0.0	0.0	0.0	0.0	0.0
	D	168-180	0.0	0.0	0.0	0.0	0.0	0.0
	E	223-236	0.0	0.0	0.0	0.0	0.0	0.0
P-225	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	65-73	0.0	0.0	0.0	0.0	0.0	0.0
	C	124-133	0.0	0.0	0.0	0.0	0.0	0.0
	D	184-192	0.1	0.0	0.0	0.0	0.0	0.0
	E	243-250	0.0	0.0	0.0	0.0	0.0	0.0
P-226	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	58-68	0.1	0.0	0.0	0.0	0.0	0.0
	C	108-117	0.1	0.0	0.0	0.0	0.0	0.0
	D	158-168	0.0	0.1	0.0	0.0	0.0	0.0
	E	202-209	0.0	0.1	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	7/24/2018 - 7/26/2018	8/21/2018 - 8/23/2018	9/25/2018 - 9/27/2018	10/23/2018 - 10/25/2018	11/27/2018 - 11/29/2018	12/18/2018 - 12/20/2018
P-227	A	6-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	46-55	0.0	0.0	0.0	0.0	0.0	0.0
	C	85-95	0.0	0.0	0.0	0.0	0.0	0.0
	D	126-134	0.0	0.0	0.0	0.0	0.0	0.0
	E	164-172	0.0	0.0	0.0	0.0	0.0	0.0
P-228	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	56-65	0.0	0.0	0.0	0.0	0.0	0.0
	C	107-115	0.0	0.0	0.0	0.0	0.0	0.0
	D	156-165	0.0	0.0	0.0	0.0	0.0	0.0
	E	203-214	0.0	0.0	0.0	0.0	0.0	0.0
P-229	A	4-15	0.0	0.0	0.0	0.0	0.0	0.1
	B	42-50	0.0	0.0	0.0	0.0	0.0	0.0
	C	77-86	0.0	0.0	0.0	0.0	0.0	0.0
	D	106-115	0.0	0.0	0.0	0.0	0.0	0.0
	E	150-159	0.0	0.1	0.0	0.0	0.0	0.0
P-230R	A	7-14	REMOVED DUE TO CONSTRUCTION					
	B	35						
	C	50						
P-231	A	4-14	REMOVED DUE TO CONSTRUCTION					
	B	20-27						
	C	33-40						
	D	45-53						
	E	58-67						
P-239	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	47-52	0.0	0.0	0.0	0.0	0.0	0.0
	C	78-83	0.0	0.0	0.0	0.0	0.0	0.0
	D	109-114	0.0	0.0	0.0	0.0	0.0	0.0
	E	140-145	0.0	0.0	0.0	0.0	0.0	0.0
P-240	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	69-74	0.0	0.0	0.0	0.0	0.0	0.0
	C	133-138	0.0	0.0	0.0	0.0	0.0	0.0
	D	206-211	0.0	0.0	0.0	0.0	0.0	0.0
	E	268-273	0.0	0.2	0.1	0.1	0.0	0.1
P-241	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	37-42	0.0	0.0	0.0	0.0	0.0	0.0
	C	61-66	0.0	0.0	0.0	0.0	0.0	0.0
	D	85-90	0.0	0.0	0.0	0.0	0.0	0.0
	E	109-114	0.0	0.0	0.0	0.0	0.0	0.0
P-242	C	42-47	0.0	0.0	0.0	0.0	0.0	0.0
	D	60-65	0.0	0.0	0.0	0.0	0.0	0.0
	E	78-83	0.0	0.0	0.0	0.0	0.0	0.0
P-243	A	6-11	0.2	0.1	0.1	0.0	0.2	0.2
	B	20-29	0.0	0.0	0.0	0.0	0.0	0.0
	C	33-38	0.0	0.0	0.0	0.0	0.0	0.0
P-244	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	21-26	0.0	0.0	0.0	0.0	0.0	0.1
	C	36-41	0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	7/24/2018 - 7/26/2018	8/21/2018 - 8/23/2018	9/25/2018 - 9/27/2018	10/23/2018 - 10/25/2018	11/27/2018 - 11/29/2018	12/18/2018 - 12/20/2018
P-245	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	20-25	0.1	0.0	0.0	0.0	0.1	0.1
	C	35-40	0.0	0.0	0.0	0.0	0.0	0.0
	D	50-55	0.1	0.0	0.0	0.0	0.0	0.0
	E	64-69	0.0	0.0	0.0	0.0	0.0	0.0
P-246	A	6-9						
	B	12-19						
Subdrains	P-203D		0.0	0.0	0.0	0.0	0.0	0.0
	P204D		0.0	0.0	0.0	0.0	0.0	0.0
	P-211D		0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Analyte	Units	P 205R-C	P 205R-D	P 205R-E
		10/25/2018	10/25/2018	10/25/2018
General Chemistry Parameters:				
Methane	% Vol	1.94%	2.64%	1.53%
Carbon Dioxide	% Vol	44.20%	46.40%	36.70%
Ethane	% Vol	0.00%	0.00%	0.00%
TGNMO	% Vol	0.00%	0.00%	0.00%
Hydrogen Sulfide	% Vol	0.00%	0.00%	0.00%
Volatile Organic Compounds (8260):				
Benzene	ppbv	3.87	3.57	1.57
Toluene	ppbv	<1.4	2.07	1.75
All other VOC's	ppbv	<MDL	<MDL	<MDL

Notes:

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

ND: Analyte was not detected. Detection limit is unknown.

<MDL	Analyte was not detected. Value listed is the Method Detection Limit.
NA	Analyte was not analyzed.
173	Analyte was detected. Value reported by laboratory.

ppbv: parts per billion by volume

VOC's shown are those that were detected in at least one probe

TGNNMO = Total gaseous non-methane organics

TABLE 10
SUMMARY OF ANALYTICAL RESULTS FOR STORMWATER SAMPLES
SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Analyte	Units	Stormwater 10/18/2018	Stormwater 11/28/2018	Stormwater 11/29/2018	Stormwater 12/6/2018
General Chemistry Parameters:					
Ammonia-Nitrogen	mg/L	2.2	1.9	1.8	1.40
Biochemical Oxygen Demand	mg/L	29	15	7.7	7.1
Chemical Oxygen Demand	mg/L	170	60	45	42
Chloride	mg/L	35	19	14	7.7
Field pH	SU	6.8	7.26	7.33	7.26
Fluoride	mg/L	1.1	0.62	0.53	0.54
Nitrate as N	mg/L	1.6	1.6	1.0	0.71
Nitrite as N	mg/L	1.0	0.092j	0.076j	0.025
Nitrate+Nitrite as N	mg/L	2.6	1.7	1.1	0.71
Oil & Grease (HEM)	mg/L	1.4	1.4	1.5	1.4
Total Suspended Solids	mg/L	7.4	15	8.7	57
Metals:					
Aluminum	mg/L	0.074	0.10	0.52	1.1
Antimony	mg/L	0.0030	0.0018j	0.00094j	0.00051j
Arsenic	mg/L	0.0034	0.0014	0.0011	0.0011
Beryllium	mg/L	0.00025	0.00025	0.00025	0.00025
Cadmium	mg/L	0.00065j	0.0010	0.0017	0.00063
Copper	mg/L	0.013	0.011	0.0064	0.0051
Iron	mg/L	0.50	0.23	1.0	2.5
Lead	mg/L	0.00050	0.00050	0.00050	0.00096j
Manganese	mg/L	1.3	1.3	2.4	0.96
Mercury	mg/L	0.0010	0.00010	0.00010	
Nickel	mg/L	0.053	0.076	0.095	0.041
Phosphorus	mg/L	0.065	0.060	0.046j	0.10
Selenium	mg/L	0.0024	0.0024	0.0027	0.0014j
Silver	mg/L	0.00050	0.00050	0.00050	0.00050
Zinc	mg/L	0.37	0.12	0.051	0.027
Volatile Organic Compounds (8260): None Detected.					
Semivolatile Organic Compounds (8270C):					
Benzoic Acid	µg/L	0.000014j	0.000010	0.000020	0.000014j
Polychlorinated Biphenyls (8082): None detected.					

Notes:

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

ND: Analyte was not detected. Detection limit is unknown.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

NA Analyte was not analyzed.

173 Analyte was detected. Value reported by laboratory.

TABLE 11
SUMMARY OF ANALYTICAL RESULTS FOR LEACHATE MONITORING POINTS - OCTOBER & DECEMBER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	LEACHATE MONITORING POINTS			ARAR
		LR-2R	CA-L	DEEP LEACHATE	
		10/24/2018	10/24/2018	12/12/2018	
General Chemistry Parameters:					
Cyanide	mg/L	0.013	NA	**0.019j**	0.15(1)-0.2(3)
Sulfide	mg/L	NA	NA	0.44	NV
Metals:					
Antiomny	mg/L	NA	NA	**0.42**	0.006(1,3)
Arsenic	mg/L	NA	NA	**0.43**	0.01(1,3)
Barium	mg/L	NA	NA	0.33	1(1)-2(3)
Beryllium	mg/L	NA	NA	**0.038**	0.004(1,3)
Cadmium	mg/L	NA	NA	0.013	0.005(1,3)
Chromium	mg/L	NA	NA	**0.73**	0.05(1)-0.1(3)
Cobalt	mg/L	NA	NA	0.025	NV
Copper	mg/L	NA	NA	0.025	1.3(1,3)-1.0(2)
Lead	mg/L	NA	NA	0.019	0.015(1,3)
Mercury	mg/L	NA	NA	**0.0037**	0.002(1,3)
Nickel	mg/L	NA	NA	0.15	0.1(1)
Selenium	mg/L	NA	NA	0.044	0.05(1,3)
Silver	mg/L	NA	NA	0.050	0.1(2)
Thallium	mg/L	NA	NA	0.040	0.002(1,3)
Tin	mg/L	NA	NA	0.250	NV
Volatile Organic Compounds (8260B):					
Acetone	µg/L	10j	8500	41000	NV
Benzene	µg/L	**3.2**	**72**	130	1(1)-5(3)
t-Butanol	µg/L	520	20000	6300	NV
2-Butanone (MEK)	µg/L	2.5	10000	47000	NV
Chlorobenzene	µg/L	20	25	130	70(1)-100(3)
1,2-Dichlorobenzene	µg/L	4.6	25	25	600(1,3)
1,3-Dichlorobenzene	µg/L	0.26j	25	130	NV
1,4-Dichlorobenzene	µg/L	**8.9**	**97**	**550**	5(1)-75(3)
Ethylbenzene	µg/L	0.53	68	**300**	300(1)-700(3)
4-Methyl-2-pentanone (MIBK)	µg/L	2.5	25	1300j	NV
Isobutyl alcohol	µg/L	13	8000	53000	NV
Methyl tert-butyl ether	µg/L	0.43j	**170**	130	5(2)-13(1)
Naphthalene	µg/L	13	93j	390j	NV
Styrene	µg/L	0.25	41j	**270**	100(1,3)
Tetrahydrofuran	µg/L	100	510j	3900j	NV
Toluene	µg/L	0.76	**150**	**280**	150(1)-1000(3)
Xylenes, o	µg/L	1.1	68	320	1750(1)-10000(3)
Xylenes, p+m	µg/L	0.67j	140	630	1750(1)-10000(3)
Semivolatile Organic Compounds (8270):					
Acenaphthalene	µg/L	1	40	87j	NV
Acetophenone	µg/L	20	200	1900j	NV
Benzoic acid	µg/L	40	3800j	800	NV
Dibenzofuran	µg/L	2.0	80	41j	NV
Diethyl Phthalate	µg/L	2.0	80	49j	NV
1,2-Dichlorobenzene	µg/L	2.7j	80	40	600(1,3)
1,4-Dichlorobenzene	µg/L	**5.5**	80	**2400**	5(1)-75(3)
1,4-Dioxane	µg/L	190	130	300	NV
3-Methylphenol + 4-Methylphenol	µg/L	10	3400	200	NV
2-Methylnapthalene	µg/L	2.4j	40	370	NV
Naphthalene	µg/L	11	20	1600	NV
Phenol	µg/L	1.0	4500	24000	NV
Organophosphorus Compounds (8141): None Detected					
Chlorinated Herbicides (8151A): None Detected					
Organochlorine Pesticides (8081): None Detected					
Polychlorinated Biphenyls (8082): None Detected					

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

(j) Indicates a trace concentration between the Method Detection Limit and the Practical Quantitation Limit.

NV: No ARAR value.

ND: Analyte was not detected. Detection limit is unknown.

* - Analyte also detected in a blank sample at a similar concentration.

0.25 Analyte was not detected. Value listed is the Method Detection Limit.

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 12
SUMMARY OF COLLECTED WATER SOURCES - SECOND SEMIANNUAL 2018 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Month	Total Purchase Water	Subdrains	Landfill Leachate	Landfill Gas Condensate	Seep Collectors	Groundwater Cutoff Wall	MONTHLY TOTALS
July	6,273,476	1,109,213	564,488	886,332	327,307	1,913,744	11,074,560
August	6,120,136	1,510,609	561,233	823,008	224,481	1,294,290	10,533,757
September	6,090,216	1,448,805	503,458	777,324	157,712	860,267	9,837,782
October	6,354,260	1,089,965	621,760	928,460	136,911	875,061	10,006,417
November	5,294,344	1,507,408	603,844	966,359	167,335	707,689	9,246,979
December	3,054,832	1,489,479	827,820	1,157,316	109,623	632,377	7,271,447
JUL-DEC 2018 TOTAL	**33,187,264**	**8,155,479**	**3,682,603**	**5,538,799**	**1,123,369**	**6,283,428**	**57,970,942**
JAN-JUN 2018 TOTAL	20,967,188	6,703,106	3,796,201	6,472,522	2,421,833	7,453,848	47,814,698
2018 ANNUAL TOTAL	**54,154,452**	**14,858,585**	**7,478,804**	**12,011,321**	**3,545,202**	**13,737,276**	**105,785,640**

TABLE 13
SUNSHINE CANYON LANDFILL
IMPORTED SOIL SAMPLING SUMMARY - SECOND SEMIANNUAL 2018 MONITORING PERIOD

GENERATOR	SAMPLER	WASTE TYPE	QUANTITY	CONSTITUENTS ANALYZED
Costco Wholesale	No Samples Taken	Food Products	15 Tons	No Samples Taken
Fresh and Ready Foods	No Samples Taken	Food Prodcuts	7.5 Tons	No Samples Taken
D.P Produce	No Samples Taken	Food Prodcuts	2.5 Tons	No Samples Taken
Times Produce Inc	No Samples Taken	Food Products	1.5 Tons	No Samples Taken
Jushi USA Fiberglass Co	No Samples Taken	Fiberglass	40 Tons	No Samples Taken
Homeland Security Investigations	No Samples Taken	Cigarettes	1 Ton	No Samples Taken
LAUSD John C Fremont Senior High	Laurie Fernandez	Soil	25 Cubic Yards	Metals, TPH, VOCs
Port of Los Angeles	No Samples Taken	Empty Paint Cans	30 Cubic Yards	MSDS included
City of Los Angeles	No Samples Taken	Weathered Wood	5 Tons	No Samples Taken
Alameda Corridor East Construction Authority	No Samples Taken	Weathered Wood	0.35 Tons	No Samples Taken
FoodPharma	No Samples Taken	Food Products	3 Tons	No Samples Taken
Corey Nursery Co	No Samples Taken	Plant Material	1.25 Tons	No Samples Taken
LA Tropicals Inc	No Samples Taken	Plant Material	0.075 Tns	No Samples Taken
Yi Bao Produce	No Samples Taken	Food Products	2.2 Tons	No Samples Taken
Case Ave LLC	No Samples Taken	Weathered Wood	3 Tons	No Samples Taken
Southern California Edison	Ryan Castillo	Non-Haz Soil	15 Tons	PCBs, TPH, Metals, VOCs
T Fresh Company	No Samples Taken	Food Products	0.5 Tons	No Samples Taken
Exotic Meat Market Inc	No Samples Taken	Food Products	100 Tons	No Samples Taken
Southern California Edison - Rosemead Solution	Ryan Castillo	Non-Haz Soil	20 Tons	PCBs, TPH, Metals, VOCs
Southern California Edison - Lakewood Station	Ryan Castillo	Non-Haz Soil	15 Tons	PCBs, TPH, Metals, VOCs
David Merriam	No Samples Taken	Weathered Wood	1 Ton	No Samples Taken
RHA Trading	No Samples Taken	Food Products	2 Tons	No Samples Taken
Costco Wholesale	No Samples Taken	Food Products	15 Tons	No Samples Taken
L.A. Garlic and Spice Inc	No Samples Taken	Food Products	0.33 Tons	No Samples Taken

Notes:
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyls
PAH: Polynuclear Aromatic Hydrocarbons
TPH: Total Petroleum Hydrocarbons
SVOC: Semivolatile Organic Compound
MSDS: Material Safety Data Sheet
*No Samples Taken: Waste previously characterized, or no characterization required (e.g. cured alphalt, treated wood, etc). Special waste decision changed/recertified to exte date, account for increases in volume estimates, or to change to ongoing disposal.
Assumptions:
Cubic Yard of Cured Asphalt = 3780 Pounds
Cubic Yard of Weathered Wood = 1134 Pounds
Cubic Yard of Cigarettes = 700 Pounds
Cubic Yard of Soil = 2000 Pounds

TABLE 14
SUNSHINE CANYON LANDFILL
GENERATOR: John C Fremont Senior High
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 25 Cubic yards

SAMPLE	COMP-A 10	COMP-B 20	COMP-C 10	COMP-D 20	COMP-E 10	COMP-F 20	Hazardous Level TTLC (mg/kg)	Lined Cell Limit (mg/kg)	Unrestricted Limit (mg/kg)
DATE SAMPLED	06/20/18	06/20/18	06/20/18	06/20/18	06/20/18	06/20/18			
TIME SAMPLED	9:02	9:35	11:24	11:56	12:18	12:33			
SAMPLED BY	Laurie Fernandez	Laurie Fernandez	Laurie Fernandez	Laurie Fernandez	Laurie Fernandez	Laurie Fernandez			
DATE ANALYZED	06/20-22/18	06/20-22/18	06/20-22/18	06/20-22/18	06/20-22/18	06/20-22/18			
METALS (mg/kg) METHOD 6010B/7471A:									
Antimony	3.0	3.0	3.0	3.0	3.0	3.0	500	380	30
Arsenic	2.0	2.0	2.0	2.0	41	11	500	500	12
Barium	130	140	130	140	130	150	10,000	10,000	5,200
Beryllium	1.0	1.0	1.0	1.0	1.0	1.0	75	75	16
Cadmium	2.0	2.0	2.0	2.0	2.0	2.0	100	100	1.7
Chromium	19	21	20	21	19	22	2,500	2,500	45
Cobalt	9.0	10	9.6	8.6	9.6	11	8,000	350	23
Copper	25	27	27	30	23	28	2,500	2,500	2,500
Lead	3.0	3.0	12	13	3.0	3.0	1,000	350	80
Mercury	0.1	0.1	0.1	0.1	0.1	0.1	20	20	9.4
Molybdenum	5.0	5.0	5.0	5.0	5.0	5.0	3,500	3,500	380
Nickel	8.8	10	9.8	10	8.6	11	2,000	2,000	1,500
Selenium	5.0	5.0	5.0	5.0	5.0	5.0	100	100	100
Thallium	2.0	2.0	2.0	2.0	2.0	2.0	700	111	0.78
Vanadium	50	56	52	52	51	57	2,400	2,400	390
Zinc	67	69	71	87	66	70	5,000	5,000	5,000
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected									
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:									
C6-C12	10	10	10	10	10	10	NS	50,000	NS
C13-C28	10	10	10	10	10	10	NS	1,000	10
C29-C40	10	10	10	62	10	10	NS	NS	500

Notes:

ND: Not Detected

TTLC: Total Threshold Limit Concentration.

NA: Not Analyzed

NS: Not Specified

*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg

Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.

Right-Justified and no shading: Qualtifiable result shown.

Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 15 Tons

SAMPLE	HA1-0.5'	HA1-2.0'	HA2-2.0'	HA3-2.0'	HA4-0.5'	HA4-2.0'	HA5-0.5'	HA5-2.0'	HA6-0.5'	Hazardous Level (mg/kg)	Lined Cell Limit	Unrestricted Limit
DATE SAMPLED	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18			
SAMPLED BY	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo			
DATE ANALYZED	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18			
METALS (mg/kg) METHOD 6010B/7471A:												
Antimony	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	500	380	30
Arsenic	17.6	10.3	2.5	2.5	25.1	2.5	32.3	2.5	7.0	500	500	12
Barium	89.2	81.7	115	111	100	114	88.9	108	87.6	10,000	10,000	5,200
Beryllium	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	75	75	16
Cadmium	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	100	100	1.7
Chromium	13.4	12.1	15.4	16.2	14.5	18.2	14.1	16.5	13.3	2,500	2,500	45
Cobalt	8.53	7.93	10.4	10.5	8.96	11.10	9.10	13.9	8.24	8,000	350	23
Copper	27.5	13.9	21.3	18.6	24.5	22.8	67.5	17.4	25.8	2,500	2,500	2,500
Lead	9.50	5.0	7.32	5.0	15.0	5.0	5.0	5.0	7.81	1,000	350	80
Mercury	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	20	20	9.4
Molybdenum	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3,500	3,500	380
Nickel	8.00	7.17	9.99	10.3	8.87	12.0	8.85	13.5	8.06	2,000	2,000	1,500
Selenium	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	100	100	100
Silver	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	500	500	380
Thallium	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	700	111	0.78
Vanadium	39.5	39.0	45.4	45.1	41.0	48.4	40.8	45.0	38.4	2,400	2,400	390
Zinc	69.0	47.7	73.5	61.5	105	67.0	72.6	78.8	73.0	5,000	5,000	5,000
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected												
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:												
TRPH (C4-C12)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	NS	50,000	NS
*TPH Diesel (13-22)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	NS	10,000	10
*TPH Heavy (23-40)	100	100	100	100	100	100	100	100	100	NS	NS	500
*TPH Diesel + Heavy (23-40)	100	100	100	100	100	100	100	100	100	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED												

Notes:

ND: Not Detected
NA: Not Analyzed
NS: Not Specified
TTLC: Total Threshold Limit Concentration.
*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg
Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.
Right-Justified and no shading: Qualtifiable result shown.
**Treated wood acceptable
Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 15 Tons

SAMPLE	HA2-0.5'	HA3-0.5'	HA7-0.5'	C1	C2	C3	C4	C5	C6	Hazardous Level (mg/kg)	Lined Cell Limit	Unrestricted Limit
DATE SAMPLED	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18	04/23/18			
SAMPLED BY	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo			
DATE ANALYZED	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18	4/24 - 5/1/18			
METALS (mg/kg) METHOD 6010B/7471A:												
Antimony	5.0	5.0	NA	NA	NA	NA	NA	NA	NA	500	380	30
Arsenic	78.8	51.1	NA	NA	NA	NA	NA	NA	NA	500	500	12
Barium	108	114	NA	NA	NA	NA	NA	NA	NA	10,000	10,000	5,200
Beryllium	2.5	2.5	NA	NA	NA	NA	NA	NA	NA	75	75	16
Cadmium	2.5	2.5	NA	NA	NA	NA	NA	NA	NA	100	100	1.7
Chromium	15.6	14.5	NA	NA	NA	NA	NA	NA	NA	2,500	2,500	45
Cobalt	9.22	8.72	NA	NA	NA	NA	NA	NA	NA	8,000	350	23
Copper	53.4	41.2	NA	NA	NA	NA	NA	NA	NA	2,500	2,500	2,500
Lead	26.8	33.5	NA	NA	NA	NA	NA	NA	NA	1,000	350	80
Mercury	0.2	0.2	NA	NA	NA	NA	NA	NA	NA	20	20	9.4
Molybdenum	5.0	5.0	NA	NA	NA	NA	NA	NA	NA	3,500	3,500	380
Nickel	9.36	9.09	NA	NA	NA	NA	NA	NA	NA	2,000	2,000	1,500
Selenium	5.0	5.0	NA	NA	NA	NA	NA	NA	NA	100	100	100
Silver	5.0	5.0	NA	NA	NA	NA	NA	NA	NA	500	500	380
Thallium	5.0	5.0	NA	NA	NA	NA	NA	NA	NA	700	111	0.78
Vanadium	43.9	40.0	NA	NA	NA	NA	NA	NA	NA	2,400	2,400	390
Zinc	116	170	NA	NA	NA	NA	NA	NA	NA	5,000	5,000	5,000
METALS (mg/kg) METHOD 6010B-STLC:												
Arsenic	3.84	2.97	NA	NA	NA	NA	NA	NA	NA	500	500	12
Lead	NA	NA	11.4	NA	NA	NA	NA	NA	NA	1,000	350	80
METALS (mg/kg) METHOD 6010/7000TCLP:												
Lead	NA	NA	0.946	NA	NA	NA	NA	NA	NA	500	500	12
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected												
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:												
TRPH (C4-C12)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	NS	50,000	NS
*TPH Diesel (13-22)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	52.4	10.0	NS	10,000	10
*TPH Heavy (23-40)	100	100	155	100	100	100	100	100	100	NS	NS	500
*TPH Diesel + Heavy (23-40)	100	100	162	100	100	100	100	105	100	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED												

Notes:

ND: Not Detected

TTLC: Total Threshold Limit Concentration.

NA: Not Analyzed

NS: Not Specified

*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg

Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.

Right-Justified and no shading: Qualtifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 15 Tons

SAMPLE	C7	C8	C9	C10	C11	C12	Hazardous Level (mg/kg)	Lined Cell Limit	Unrestricted Limit
DATE SAMPLED	**04/23/18**	**04/23/18**	**04/23/18**	**04/23/18**	**04/23/18**	**04/23/18**			
SAMPLED BY	**Ryan Castillo**	**Ryan Castillo**	**Ryan Castillo**	**Ryan Castillo**	**Ryan Castillo**	**Ryan Castillo**			
DATE ANALYZED	**4/24 - 5/1/18**	**4/24 - 5/1/18**	**4/24 - 5/1/18**	**4/24 - 5/1/18**	**4/24 - 5/1/18**	**4/24 - 5/1/18**			
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected									
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:									
TRPH (C4-C12)	10.0	10.0	10.0	10.0	10.0	10.0	NS	50,000	NS
*TPH Diesel (13-22)	10.0	10.0	10.0	10.0	10.0	10.0	NS	10,000	10
*TPH Heavy (23-40)	100	100	100	100	100	100	NS	NS	500
*TPH Diesel + Heavy (23-40)	100	100	100	100	100	100	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED									

Notes:

ND: Not Detected

NA: Not Analyzed

NS: Not Specified

TTLC: Total Threshold Limit Concentration.

*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg

Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.

Right-Justified and no shading: Qualtifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON - ROSEMEAD
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 20 Tons

SAMPLE	HA1-0.5'	HA3-0.5'	HA1-2.0'	HA2-0.5'	HA1-3.5'	HA1-5.0'	HA2-3.5'	HA2-5.0'	HA3-3.5	Hazardous Level (mg/kg)	Lined Cell Limit	Unrestricted Limit
DATE SAMPLED	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18			
SAMPLED BY	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo			
DATE ANALYZED	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18			
METALS (mg/kg) METHOD 6010B/7471A:												
Antimony	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	500	380	30
Arsenic	199.0	105.0	93.7	53.5	7.0	1.0	NA	NA	NA	500	500	12
Barium	47.1	46.7	45	49	NA	NA	NA	NA	NA	10,000	10,000	5,200
Beryllium	2.5	2.5	2.5	2.5	NA	NA	NA	NA	NA	75	75	16
Cadmium	2.5	2.5	2.5	2.5	NA	NA	NA	NA	NA	100	100	1.7
Chromium	11.5	10.1	10.2	10.3	NA	NA	NA	NA	NA	2,500	2,500	45
Cobalt	6.20	5.94	5.98	6.29	NA	NA	NA	NA	NA	8,000	350	23
Copper	14.5	22.7	13.5	15.8	NA	NA	NA	NA	NA	2,500	2,500	2,500
Lead	5.0	5.11	5.0	5.5	NA	NA	NA	NA	NA	1,000	350	80
Mercury	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	20	20	9.4
Molybdenum	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	3,500	3,500	380
Nickel	6.96	6.34	6.33	6.87	NA	NA	NA	NA	NA	2,000	2,000	1,500
Selenium	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	100	100	100
Silver	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	500	500	380
Thallium	5.0	5.0	5.0	5.0	NA	NA	NA	NA	NA	700	111	0.78
Vanadium	26.3	26.6	25.5	24.4	NA	NA	NA	NA	NA	2,400	2,400	390
Zinc	64.7	658	35.0	1440	NA	NA	NA	NA	NA	5,000	5,000	5,000
METALS (mg/kg) METHOD 6010BSCAN:												
Arsenic (STLC)	7.00	3.33	3.54	1.41	NA	NA	NA	NA	NA	1,000	350	80
Arsenic (TCLP)	0.947	0.50	NA	NA	NA	NA	NA	NA	NA			
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected												
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:												
TRPH (C4-C12)	10.0	10.0	10.0	10.0	NA	NA	NA	NA	NA	NS	50,000	NS
*TPH Diesel (13-22)	10.0	10.0	10.0	10.0	NA	NA	NA	NA	NA	NS	10,000	10
*TPH Heavy (23-40)	100	100	100	100	NA	NA	NA	NA	NA	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED												

Notes:

ND: Not Detected

TTLC: Total Threshold Limit Concentration.

NA: Not Analyzed

NS: Not Specified

*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg

Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.

Right-Justified and no shading: Qualtifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON - ROSEMEAD
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 20 Tons

SAMPLE	HA3-5.0'	HA2-2.0'	HA3-2.0'	HA4-2.0'	C1	C2	C3	C4	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	09/17/18	Level	Limit	Limit
SAMPLED BY	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	(mg/kg)		
DATE ANALYZED	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18			
METALS (mg/kg) METHOD 6010B/7471A:											
Antimony	NA	5.0	5.0	5.0	NA	NA	NA	NA	500	380	30
Arsenic	NA	24.2	32.8	41.1	NA	NA	NA	NA	500	500	12
Barium	NA	42.4	42.4	60.2	NA	NA	NA	NA	10,000	10,000	5,200
Beryllium	NA	2.5	2.5	2.5	NA	NA	NA	NA	75	75	16
Cadmium	NA	2.5	2.5	2.5	NA	NA	NA	NA	100	100	1.7
Chromium	NA	9.70	9.87	12.5	NA	NA	NA	NA	2,500	2,500	45
Cobalt	NA	5.69	5.57	7.90	NA	NA	NA	NA	8,000	350	23
Copper	NA	13.5	12.7	19.6	NA	NA	NA	NA	2,500	2,500	2,500
Lead	NA	5.0	5.0	5.0	NA	NA	NA	NA	1,000	350	80
Mercury	NA	5.0	5.0	5.0	NA	NA	NA	NA	20	20	9.4
Molybdenum	NA	5.0	5.0	5.0	NA	NA	NA	NA	3,500	3,500	380
Nickel	NA	6.33	6.25	8.41	NA	NA	NA	NA	2,000	2,000	1,500
Selenium	NA	5.0	5.0	5.0	NA	NA	NA	NA	100	100	100
Silver	NA	5.0	5.0	5.0	NA	NA	NA	NA	500	500	380
Thallium	NA	5.0	5.0	5.0	NA	NA	NA	NA	700	111	0.78
Vanadium	NA	24.0	23.1	26.8	NA	NA	NA	NA	2,400	2,400	390
Zinc	NA	459	638	43.7	NA	NA	NA	NA	5,000	5,000	5,000
METALS (mg/kg) METHOD 6010B-STLC:											
Arsenic	1.0	NA	NA	NA	NA	NA	NA	NA	500	500	12
Arsenic (STLC)	NA	NA	NA	NA	NA	NA	NA	NA	1,000	350	80
METALS (mg/kg) METHOD 6010/7000TCLP:											
Lead	NA	NA	0.946	NA	NA	NA	NA	NA	500	500	12
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected											
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:											
TRPH (C4-C12)	NA	10.0	10.0	10.0	NA	NA	NA	NA	NS	50,000	NS
*TPH Diesel (13-22)	NA	10.0	10.0	10.0	NA	NA	NA	NA	NS	10,000	10
*TPH Heavy (23-40)	NA	100	100	100	NA	NA	NA	NA	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED											

Notes:

ND: Not Detected
NA: Not Analyzed
NS: Not Specified
TTLC: Total Threshold Limit Concentration.
*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg
Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.
Right-Justified and no shading: Qualtifiable result shown.
**Treated wood acceptable
Only detected Organics are shown.

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: SOUTHERN CALIFORNIA EDISON -LAKEWOOD
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 15 Tons

SAMPLE	HA1-0.5'	HA1-2.0'	C1	C2	C3	Hazardous Level (mg/kg)	Lined Cell Limit	Unrestricted Limit
DATE SAMPLED	09/27/18	09/27/18	09/27/18	09/27/18	09/27/18			
SAMPLED BY	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo	Ryan Castillo			
DATE ANALYZED	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18	9/17-9/19-18			
METALS (mg/kg) METHOD 6010B/7471A:								
Antimony	5.0	5.0	NA	NA	NA	500	380	30
Arsenic	58.3	2.5	NA	NA	NA	500	500	12
Barium	114	115	NA	NA	NA	10,000	10,000	5,200
Beryllium	2.5	2.5	NA	NA	NA	75	75	16
Cadmium	2.5	2.5	NA	NA	NA	100	100	1.7
Chromium	18.6	17.5	NA	NA	NA	2,500	2,500	45
Cobalt	9.67	9.62	NA	NA	NA	8,000	350	23
Copper	35.8	35.5	NA	NA	NA	2,500	2,500	2,500
Lead	5.01	5.0	NA	NA	NA	1,000	350	80
Mercury	5.0	5.0	NA	NA	NA	20	20	9.4
Molybdenum	5.0	5.0	NA	NA	NA	3,500	3,500	380
Nickel	13.7	13.3	NA	NA	NA	2,000	2,000	1,500
Selenium	5.0	5.0	NA	NA	NA	100	100	100
Silver	5.0	5.0	NA	NA	NA	500	500	380
Thallium	5.0	5.0	NA	NA	NA	700	111	0.78
Vanadium	37.1	40.9	NA	NA	NA	2,400	2,400	390
Zinc	57.4	53.2	NA	NA	NA	5,000	5,000	5,000
METALS (mg/kg) METHOD 6010B-STLC:								
Arsenic (STLC)	2.8	NA	NA	NA	NA	1,000	350	80
METALS (mg/kg) METHOD 6010/7000TCLP:								
Lead	NA	NA	NA	NA	NA	500	500	12
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected								
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:								
TRPH (C4-C12)	10.0	10.0	NA	NA	NA	NS	50,000	NS
*TPH Diesel (13-22)	10.0	10.0	NA	NA	NA	NS	10,000	10
*TPH Heavy (23-40)	100	100	NA	NA	NA	NS	NS	500
*TPH Diesel + Heavy (23-40)	100	100	NA	NA	NA	NS	NS	500
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED								

Notes:

ND: Not Detected

NA: Not Analyzed

NS: Not Specified

TTLC: Total Threshold Limit Concentration.

*Threshold for average TPH for Disposal in a lined cell = 50,000 mg/kg

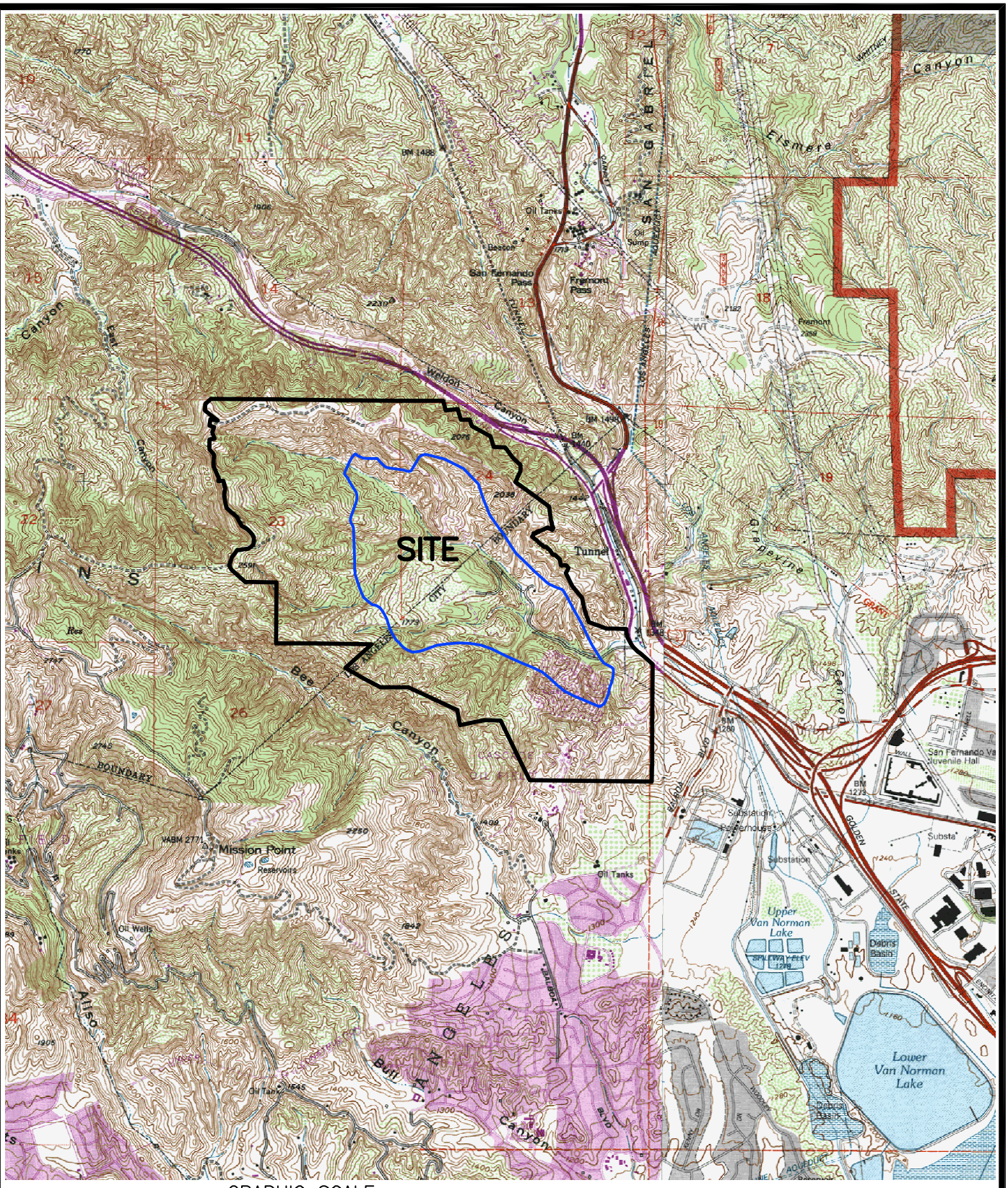
Left justified and shaded: Not detected. Value shown is Practical Quantitation Limit.

Right-Justified and no shading: Qualtifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

FIGURES



GRAPHIC SCALE

1500 0 750 1500 3000

(in feet)

FIGURE 1

SITE LOCATION MAP

SECOND SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic ASSOCIATES

DRAFTER/PM: VL/JY	DATE: FEBRUARY 2019	JOB NO. SO18.1024

REFERENCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) OAT MOUNTAIN (1969) AND SAN FERNANDO (1995) CALIFORNIA QUADRANGLES.

N

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GRAPHIC SCALE
350 0 175 350 700
(in feet)

N

EXPLANATION:

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF REFUSE
- 1650 EXISTING GRADE CONTOUR
- APPROXIMATE LOCATION OF SANTA SUSANA FAULT
- GROUNDWATER MONITORING WELL (SHALLOW)
- GROUNDWATER MONITORING WELL (BEDROCK)
- ABANDONED GROUNDWATER MONITORING WELL
- SURFACE WATER MONITORING POINT
- SUBDRAIN MONITORING POINT
- LYSIMETER MONITORING POINT
- LEACHATE MONITORING POINT
- LEACHATE SUMP

S-C
CM-9R3
CM-10
CM-10R
LY-6
CM-17
CM-17R
CM-15
CM-16R
CM-16
LEACHATE
PZ-1
CM-11R
LY-7
DEEP LEACHATE
CM-5R
CM-5
S-D
COUNTY OF LOS ANGELES
CITY OF LOS ANGELES
CA-L
LR-2
PZ-2
MW-14
DW-1
MW-9
MW-8
(PIEZOMETER)
MW-5
PZ-3
PZ-4
DW-2
DW-3
DW-4
MW-2A
SUBDRAIN-N
S-B

SCALE: 1"=100'

SCALE: 1"=100'

MW-6
S-AR
MW-13R
MW-1
DW-5

BASE TOPOGRAPHY DATED 3/01/2017

FIGURE 2

SITE MONITORING POINTS LOCATION MAP

SECOND SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic ASSOCIATES

DRAFTER/PM: VL/JY	DATE: FEBRUARY 2019	JOB NO. S018.1024

\\lad\Dwgs\2018\SO 1024-Sunshine\18-2\site mon-pnts location map.dwg

EXPLANATION:

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF REFUSE
- 1650 — EXISTING GRADE CONTOUR
- APPROXIMATE LOCATION OF SANTA SUSANA FAULT
- GROUNDWATER MONITORING WELL (SHALLOW)
- GROUNDWATER MONITORING WELL (BEDROCK)
- ABANDONED GROUNDWATER MONITORING WELL
- (1351.93) GROUNDWATER ELEVATION IN FEET ABOVE MSL
- [1342.19] DATA NOT USED TO CREATE CONTOURS
- 1600 CONTOUR LINE SHOWING APPROXIMATE GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (CONTOUR INTERVAL = 100 FEET)
- 0.17 DIRECTION AND GRADIENT OF GROUNDWATER FLOW
- (NM) NOT MEASURED

CM-9R3 (1889.01)
CM-10
(1850.72) CM-10R
CM-11R (1992.18)
(NM) CM-5R
CM-5
PZ-1 (1550.69)
PZ-2 (1444.39)
PZ-3 (1807.66)
PZ-4 (1684.15)
CM-15
CM-16
CM-16R
CM-17
CM-17R
DW-1 (1351.93)
DW-2 [1494.97]
DW-3 [1527.22]
DW-4 (1368.01)
DW-5 (1335.51)
MW-1 [1328.89]
MW-2A [1363.20]
MW-2B (1380.64)
MW-5 [1322.10]
MW-6 [1330.54]
MW-8 [1345.09]
MW-9 [1342.19]
MW-13R [1328.71]
MW-14 [1339.64]

1900 1800 1700 1600 1500 1400

0.11 0.34 0.17 0.21

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

N

GRAPHIC SCALE
350 0 175 350 700
(in feet)

BASE TOPOGRAPHY DATED 3/01/2017

FIGURE 3A

SEPTEMBER 2018 GW EQUIPOTENTIAL CONTOURS (BEDROCK)

SECOND SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic ASSOCIATES

DRAFTER/PM: VL/JY	DATE: FEBRUARY 2019	JOB NO. SO18.1024

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EXPLANATION:

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF REFUSE
- 1650 — EXISTING GRADE CONTOUR
- APPROXIMATE LOCATION OF SANTA SUSANA FAULT
- GROUNDWATER MONITORING WELL (SHALLOW)
- GROUNDWATER MONITORING WELL (BEDROCK)
- ABANDONED GROUNDWATER MONITORING WELL
- (1351.93) GROUNDWATER ELEVATION IN FEET ABOVE MSL
- [1345.95] DATA NOT USED TO CREATE CONTOURS
- 1600 — CONTOUR LINE SHOWING APPROXIMATE GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (CONTOUR INTERVAL = 100 FEET)
- 0.17 DIRECTION AND GRADIENT OF GROUNDWATER FLOW

CM-9R3 (1892.22)
CM-10
(1851.50) CM-10R
CM-17
CM-17R
CM-15
CM-16R
CM-16
PZ-1 (1550.32)
(1991.30) CM-11R
(1811.70) CM-5R
CM-5
(1807.27) PZ-3
PZ-4 (1683.91)
(1444.13) PZ-2
[1340.02] MW-14
[1331.12] MW-6
MW-13R [1329.65]
DW-5 (1335.53)
MW-5 [1323.08]
[1363.39] MW-2A
(1367.98) DW-4
MW-2B (1379.82)
(1351.93) DW-1
MW-9 [1346.90]
MW-1 [1331.34]
MW-8 [1345.95]
[1494.07] DW-2
[1527.17] DW-3

1900, 1800, 1700, 1600, 1500, 1400

0.11, 0.34, 0.17, 0.21

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

N

GRAPHIC SCALE
350 0 175 350 700
(in feet)

BASE TOPOGRAPHY DATED 3/01/2017

FIGURE 3B

DECEMBER 2018 GW EQUIPOTENTIAL CONTOURS (BEDROCK)

SECOND SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic ASSOCIATES

DRAFTER/PM: VL/JY	DATE: FEBRUARY 2019	JOB NO. SO18.1024

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P-207
PCW207
P-208
P-244
P-209
PCW211
P-210
PCW210
P-242
P-206
P-239
P-205R
P-240
PCW241D
P-241
PCW601
PCW602
PCW-603
PCW-604
PCW-605
SCALE: 1"=100'
PCW241A/B/C
PCW203
P-204
P-203D
P-245
P-213
PCW213
P-211D
PCW214B
P-214
PCW214A
P-215
P-203ABC
P-202
P-212D
COUNTY OF LOS ANGELES
CITY OF LOS ANGELES
P-216
PCW231SD
P-231
PCW113
P-217R
PCW112
P-217A
PCW111
P-230
P-218
PCW229SD
P-229
P-219
P-228
PCW43
P-227
PCW46
PCW226SD
P-226
PCW11
PCW10
P-220A
PCW56
PCW57
P-224
PCW224
P-223
P-222
P-221
PCW225SD
P-225
P-220B

EXPLANATION:

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF REFUSE
- 1650 EXISTING GRADE CONTOUR
- APPROXIMATE LOCATION OF SANTA SUSANA FAULT
- VADOSE ZONE GAS MONITORING PROBE

N

GRAPHIC SCALE
350 0 175 350 700
(in feet)

BASE TOPOGRAPHY DATED 3/01/2017

\\vad\Dwgs\2018\SO 1024-Sunshine\18-2\gas mon-pnts map.dwg

FIGURE 4

VADOSE ZONE GAS MONITORING POINT LOCATION MAP

SECOND SEMIANNUAL 2018 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic ASSOCIATES

DRAFTER/PM: VL/JY	DATE: FEBRUARY 2019	JOB NO. SO18.1024

APPENDIX A

SAMPLING AND ANALYSIS PLAN

APPENDIX A

SAMPLING AND ANALYSIS PLAN FOR THE SUNSHINE CANYON LANDFILL

Water quality monitoring and sampling for the Sunshine Canyon Landfill (SCLF) located within the jurisdiction of the Los Angeles RWQCB Region was conducted by Geo-Logic Associates (GLA). Sampling and analyses were performed in general accordance with Monitoring and Report Program No. CI-2043 of Order R4-2008-0088 issued specifically for the SCLF. A brief summary of the protocols for sample collection is presented below.

Chemical analyses were performed by TestAmerica Laboratories Inc., a state-certified laboratory. Groundwater, underdrain, leachate, and stormwater samples were analyzed for the list of parameters summarized in Table 1, which also present the laboratory analytical methods used and the sample frequency. Copies of the certificates of analyses and Chain-of-Custody records for the samples collected the current monitoring period are included in Appendix B.

GROUNDWATER SAMPLING

The sampling protocols listed below were generally followed during groundwater sampling operations:

- Upon arrival at the wellhead, each monitoring point was inspected for evidence of tampering and/or vandalism, and the well identification (I.D.) was recorded.

- With the exception of well DW-1, all of the groundwater monitoring wells at the SCLF that are currently sampled are equipped with dedicated bladder pumps. Well construction details including: well depth, depth of pump, well diameter, and top of casing elevation are summarized in Table 5.

- Well DW-1 is under artesian conditions. A drop tube has been installed in the well that allows water to discharge into sample containers under the pressure of water in the well.

- The water level was measured directly using a weighted water-level indicator (sounder) to an accuracy of 0.01 foot. Prior to measuring the water level, the sounder was decontaminated using a non-phosphate soap solution, followed by two rinses with deionized water. The wells were then sounded and the initial water level and the total depth of the well (if obtainable) were recorded on a Well Data Sheet.

Groundwater Sampling Using Low Flow Sampling Methods

- All wells at the SCLF that are equipped with bladder pumps were sampled using low flow purge and sample methods.

- A water level meter was used during low-flow purging to measure changes in water level to

permit operation of submersible pumps at discharge rates that minimized water level decline.

- Discharged water was routed through a sampling chamber equipped with probes for measuring dissolved oxygen, electrical conductivity, pH, temperature, ORP, and turbidity. When three consecutive readings of these field parameters had stabilized to within 10% of each other, with no discernible upward or downward trend, the water quality was determined to be stable and samples were collected.

- Samples were collected into approved pre-labeled containers provided by the laboratory, and each container was filled completely and immediately capped. Samples for VOC analysis were filled by pouring the sample down the sides of the container to minimize aeration, and these sample vials were capped with no airspace.

- Upon collection, samples were placed immediately in an ice-filled cooler for transport to a state-certified testing laboratory. Samples were kept chilled (at about 4ºC) until delivery.

- A completed Chain-of-Custody form, detailing sample identification numbers, date and time of collection, requested analyses, and other project information accompanied each sample to the laboratory. The Chain-of-Custody and Sample Container/Analysis Request forms are provided in Appendix B.

LYSIMETER SAMPLING

The SCLF is equipped with two pan lysimeters, LY-6 and LY-7, that are located beneath leachate sumps in the lined portions of the landfill. Lysimeters are equipped with dedicated electric submersible pumps that are activated based on liquid levels in the pan. Water is pumped to a discharge line that conveys lysimeter liquids to an onsite water treatment facility. Sampling protocols are as follows:

- Upon arrival at each lysimeter, GLA inspected the discharge line to determine if water was actively being extracted.

- The lysimeter pumps are not equipped with flow controls, so water is transferred from the discharge line to a clean 5-gallon bucket. Field parameters are recorded from the bucket.

- Lysimeter liquids are transferred from the bucket into approved pre-labeled containers provided by the laboratory, and each container was filled completely and immediately capped. Samples for VOC analysis were filled by pouring the sample down the sides of the container to minimize aeration, and these sample vials were capped with no airspace.

- As with groundwater samples, lysimeter liquid samples were placed immediately in an ice-filled cooler for transport to a state-certified testing laboratory. Samples were kept chilled (at about 4ºC) until delivery.

- A completed Chain-of-Custody form, detailing sample identification numbers, date and time of collection, requested analyses, and other project information accompanied each sample to the laboratory. The Chain-of-Custody and Sample Container/Analysis Request forms are provided in Appendix B.

SUBDRAIN AND EXTRACTION TRENCH SAMPLING

The SCLF is equipped with four subdrain sampling locations: Subdrain N, CC2-PER, CC2-3A, and CC2-5C and a groundwater extraction trench Samples from CC2-PER, CC2-3A, and CC2-5C are composited in the field as one sample "Combined Subdrains". Sample methods are as follows:

- Samples from Subdrain N and the groundwater extraction trench are collected at sampling ports near the inlet to the water treatment facility. Samples are collected by opening the port and directly filling each laboratory-supplied container.
- Subdrains CC2-3A and CC2-5C are equipped with electric submersible pumps that operate automatically based on liquid levels in the subdrain sumps. Water is discharged to a one-inch poly hose that connects to a two-inch HDPE pipeline that conveys liquids to the water treatment facility. Samples are collected by disconnecting the one-inch poly hose from the two-inch HDPE pipe and filling a clean five gallon bucket. Subdrain liquids are transferred from the bucket into laboratory-supplied containers.
- Subdrain CC2-PER is also equipped with electric submersible pumps that operates automatically based on liquid levels in the subdrain sump. Water is discharged to a two-inch camflex hose that transfers liquid into a 55-gallon carbon treatment unit, which then discharges to the water treatment facility. Samples are collected by disconnecting the camflex hose and filling a decontaminated five-gallong bucket. Field parameters are measured in the bucket, and then the subdrain liquid is transferred to laboratory-supplied containers.
- As with groundwater samples, all containers are completely filled, capped, labeled, and kept chilled at approximately 4^{o}C in a laboratory-supplied cooler. All sampling is conducted under the same chain-of-custody protocol describe above.

LEACHATE SAMPLING

Leachate at the SCLF is monitored at CA-L, Leachate, and LR-2R. During the April retest event, samples were collected at CA-L and Leachate.

- CA-L is equipped with a dedicated submersible pump that operates automatically based on liquid levels in the leachate sump. Liquids are discharge to the water treatment facility. Samples are collected at a sampling port located prior to the inlet of the water treatment facility. The port is opened to allow liquids to fill laboratory-supplied sample containers.

- Location Leachate is also equipped with a dedicated submersible pump, but the pump is not operational. Samples were collected using a new, disposable three-inch bailer lowered into the leachate sump. Liquids were transferred from the bailer into laboratory-supplied containers.
- A representative sample was collected and analyzed in the field for EC, odor, ORP, pH, temperature, turbidity, and sheen and recorded on a Well Data Sheet.
- Sample collection, preservation, and Chain-of-Custody procedures described above for groundwater were also adhered to for leachate sample collection.

QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

Quality assurance/quality control (QA/QC) sampling is performed using trip blanks, field blanks, equipment blanks (for non-dedicated equipment), and duplicate samples. For field blanks and equipment blanks, laboratory supplied water is used to collect the sample. In addition, to these field samples, the QA/QC program also included laboratory method blank analyses. Field QA/QC samples were analyzed only for volatile organic compounds EPA Test Method 8260. Laboratory method blanks were conducted for all constituents that were monitored during the monitoring period.

FIELD EQUIPMENT CALIBRATION

Proper maintenance, calibration, and operation of each field instrument will be the responsibility of the field personnel and the instrument technicians assigned to the project. All instruments and equipment used during the program will be maintained, calibrated, and operated according to the manufacturers' guidelines and recommendations.

Field equipment will be calibrated prior to use in the field as appropriate. The calibration procedures will follow standard manufacturers' instructions to ensure that the equipment is functioning within established tolerances and as required by the project. A record of field calibration of analytical instruments will be maintained in the calibration logbook by field personnel. Copies of the instrument manuals and other equipment calibration records (e.g., thermometers, sounders) will be maintained. Any notes on unusual results, changing of standards, battery charging, and operation and maintenance of the field equipment will be included in the calibration logbook.

All instruments are to be stored, transported, and handled with care to preserve equipment accuracy. Damaged instruments will be taken out of service immediately and not used again until a qualified technician repairs and recalibrates the instruments.

Calibration Procedures

Equipment calibration is performed in accordance with the manufacturer's instructions, and calibration checks will be performed each day prior to the start of work. Calibration of rental equipment will be performed by a qualified technician prior to shipment of the equipment.

Calibration standards will be used once. Spent calibration liquids will be placed in plastic bottles and transported off-site for disposal. A brief summary of the calibration procedures for field measurement equipment is provided below:

- pH: Calibration for pH is performed prior to commencement of sampling activities, using standard buffer solutions having pH values of 4, 7, and 10. Calibration checks for pH values using buffer solutions of 4, 7, and 10 will be performed daily. If the reading varies more than 0.10 of a unit between calibration checks, the meter will be recalibrated.

- Conductivity: Calibration for conductivity is performed prior to commencement of sampling activities, using potassium chloride standard solutions with conductivity values of 1,000 and 10,000 microsiemens/cm. The meter must read within one percent of full-scale to be considered calibrated. Calibration checks for conductivity will be performed daily.

- Turbidity Meter: Turbidity range calibration is performed prior to initiation of sampling activities, using turbidity gel standards of 0, 4.4, 45, and 483 NTUs. The meter is also checked daily during the sampling period with the standard most representative of the anticipated turbidity of the purged groundwater (typically 0 NTUs to 10 NTUs). If the reading varies by more than one unit between calibration checks, the meter will be recalibrated. Multiple physical conditions can cause variations in readings, including bubbles in the sampled water, wet or dirty sample containers, a wet or dirty lens, a wet or dirty optical sensor, or leakage of incidental light into the sample chamber.

- Multiple Sensor Meter (pH, Dissolved Oxygen, Conductivity, Temperature, Turbidity): A multiple sensor meter may be used for multiple parameter measurements during sampling. Calibration is performed prior to initiation of sampling activities, using manufacturer auto-calibration solution. If any of the readings are outside of the manufacturers specifications, the meter will be recalibrated for the parameter outside of the calibration range. Calibration checks will be performed daily.

Equipment not listed herein will be calibrated according to manufacturers' recommendations and/or generally accepted practice. Calibration procedures will be documented for the project file. Instruments for which calibration cannot be easily checked will be either tested against another instrument of a similar type, or will be returned to the manufacturer for appropriate calibration. If tested against another instrument capable of making the same measurements, variation between instruments must not exceed five percent. If readings vary more than five percent, the instrument will be returned to the manufacturer for calibration.

Scheduled periodic calibration of testing equipment will not relieve field personnel of the responsibility of employing properly functioning equipment. If equipment malfunction is suspected, the device will be removed from service, tagged so that it is not inadvertently used, and the appropriate personnel notified so that re-calibration can be performed or a substitute piece of equipment can be obtained.

Equipment Maintenance

Maintenance responsibilities for field equipment are coordinated through an instrument technician who is responsible for ensuring that available equipment and instrumentation are ready for use, and that returned equipment is inspected, serviced, and returned to available inventory in a timely manner. Maintenance during use is the responsibility of the field team using the equipment. Calibration logbooks contain information on instrument maintenance, calibration, and repair. A separate logbook is maintained for each instrument. The paperwork will include a detailed listing of the item that was cleaned/replaced, and the make/model/serial number for the particular piece of equipment.

APPENDIX B

FIELD SAMPLE COLLECTION LOGS
AND LABORATORY ANALYTICAL DATA REPORTS

Geo-Logic
ASSOCIATES

FIELD SAMPLE COLLECTION LOGS

Geo-Logic ASSOCIATES

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

209769

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Williams	Site Contact:	Date: 8/21/18	COC No:
Company Name: Geologic Associates	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
Address: 11415 West Bernardo Ct. Suite 200	Analysis Turnaround Time			Sampler:
City/State/Zip: San Diego CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Sunshine Canyon	☐ 1 week			
Site: Sunshine Canyon L/F	☐ 2 days			Job / SDG No.:
PO # 5018.1024	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 5502 Ammonia as N	Sample Specific Notes:
MW-6-A	8/21/18	1135		GW	1			X	
MW-6-B	8/21/18	1140		GW	1			X	
MW-14-A	8/21/18	1210		GW	1			X	
MW-14-B	8/21/18	1215		GW	1			X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:_____ Corr'd:_____		Therm ID No.:_____
Relinquished by: N. Reason	Company: GLA	Date/Time: 8-21-18/1425	Received by: Mike Rivera	Company: TA-IRV	Date/Time: 8/21/18 1425
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Geo-Logic ASSOCIATES

Geologists • Hydrogeologists • Engineers

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	SO18.1024
Well I.D.:	MW-6	Sampling Date:	8/21/18
Collected By:	NR	Purge start Time:	1043
Casing Diameter (inches):	2	Purge Stop time:	1129
Starting Water Level:	16.78	Sampling (Well Recovery) Time:	A: 1135 / B: 1140
Total Depth (feet):	23.50	Ending Water Level (feet):	17.54
Water column (feet):	6.72	Total Purged (gallons):	1½+
Screen Length (feet):	–	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/ DLLCYV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1101	½	17.27	6.59	3.53	0.0	0.00	24.03	-298
1108	¾	17.42	6.58	3.47	0.0	0.00	24.04	-312
1115	1	17.44	6.56	3.42	0.0	0.00	24.25	-324
1122	1¼	17.51	6.55	3.37	0.0	0.00	24.39	-332
1129	1½	17.54	6.54	3.34	0.0	0.00	24.53	-334

Purge Sampling Rates: 20 PSI REFILL (30) DISCHARGE (5)

Well condition: OK, WATER HAS SLIGHT BLACK TINT AND SLIGHT ODOR

Additional Info/Comments: Sunny, warm, light breeze

Name: NICHOLAS REASON Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-6 Date: 8/21/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: REQUIRED CARRYING SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE AND ALONG A PATH TO SAMPLE WELL.

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Signed — FIELD TECH Title — 8/21/18 Date

Geo-Logic ASSOCIATES

Geologists • Hydrogeologists • Engineers

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	MW-14	Sampling Date:	8/21/18
Collected By:	NR	Purge start Time:	1145
Casing Diameter (inches):	4	Purge Stop time:	1202
Starting Water Level:	15.58	Sampling (Well Recovery) Time:	A: 1210 B: 1215
Total Depth (feet):	28.10	Ending Water Level (feet):	15.81
Water column (feet):	12.52	Total Purged (gallons):	1½+
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLLC4V06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1150	½	15.81	6.65	4.13	0.0	8.41	23.10	-182
1153	¾	15.81	6.61	4.07	0.0	7.34	23.09	-184
1155	1	15.81	6.56	4.00	0.0	7.06	23.69	-185
1159	1¼	"	6.56	3.96	0.0	7.03	23.75	-187
1202	1½	"	6.55	3.97	0.0	7.01	23.66	-189

Purge Sampling Rates: 20 PSI Refill (20) Discharge(10)

Well condition: OK, water mostly clear with no odor.

Additional Info/Comments: Sunny, warm, breezy

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-14 Date: 8/21/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: REQUIRED CARRYING SAMPLING EQUIPMENT AND BOTTLES DOWN A SLOPE TO GET TO WELL.

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: _____ (Signed) FIELD TECH (Title) 8/21/18 (Date)

Geo-Logic

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE CANYON PROJECT NAME / NUMBER S018.1024

Instrument Make/Model #	HORIBA U-52 (DLLC4V06)					
Date/Time 8/21/18	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	3.86	4.50	0.3	7.10		
Calibration	4.01	4.50	0.0	8.53		
Calibration Successful? (Y/N)	Y				enter YES or NO	
Satifies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	NR				Signature or initials	
Physical Condition of Unit			Good			

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

206800

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: KYLE WELCHANS	Site Contact: JOSH MILLS	Date: 9/19/18	COC No:
Company Name: GEO-LOGIC ASSOCIATES	Tel/Fax: 858-451-1136	Lab Contact: RUSSINA	Carrier: TA	1 of 1 COCs
Address: 11415 W. BERNARDO G	Analysis Turnaround Time			Sampler: BS, NR
City/State/Zip: SAN DIEGO CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below _____			Walk-in Client:
Fax: 858-451-1087	☐ 2 weeks			Lab Sampling:
Project Name: REPUBLIC SERVICES	☐ 1 week			
Site: SUNSHINE CANYON LANDFILL	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B VOCs 40 CFR Part 258 Appendix I VOCs	Dichlorodifluoromethane, MTBE, and 1,4 Dioxane	EPA 310.1 - Total Alkalinity	EPA 350.2 - Ammonia as N	EPA 410.4 - COD	EPA 300.0 - Chloride	EPA 6010B - Total Potassium	EPA 160.1 - Total Dissolved Solids	EPA 415.1 - Total Organic Carbon	EPA 8270D 1,4 Dioxane	Sample Specific Notes:
MW-2A	9/19/18	0915	G	GW	12			X	X	X	X	X	X	X	X	X	X	
MW-2B	9/19/18	1025	G	GW	12			X	X	X	X	X	X	X	X	X	X	
DW-4	9/19/18	1120	G	GW	12			X	X	X	X	X	X	X	X	X	X	
DW-1	9/19/18	0955	G	GW	12			X	X	X	X	X	X	X	X	X	X	
QCAB	↓	—	↓	LAB BLK	4			X	X	X	X							
QCTB	↓	—	↓	"	4			X	X	X	X							
DW-2	9/20/18	0805	G	GW	12			X	X	X	X	X	X	X	X	X	X	
DW-3	9/20/18	0935	G	GW	12			X	X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Geo-Logic	9/20/18 1110	[signature]	TA-IRV	9/20/18 1110
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

144436

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	
Company Name:	GLA Republic
Address:	11415 W. Bernardo Ct.
City/State/Zip:	S. D., CA. 92127
Phone:	858-451-1136
Fax:	858-451-1087
Project Name:	Republic Services, Inc.
Site:	Sunshine Cyn. Landfill
P O #	440078 51

Project Manager: Kyle Welchons
Tel/Fax: 858-451-1136
Site Contact: Josh Mills
Lab Contact: R. Tamayo
Date: 9-18-18
Carrier: TA

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ______
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

COC No:
1 of 2 COCs
Sampler: DS, MC, NP
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B-VOCs	8270 1,4-Dioxane	Total Alkalinity	Ammonia as N	EPA 410.4-COD	EPA 300.0-Chloride	Total Potassium EPA 6010B	EPA 160.1-T.D.S.	EPA 415.1-T.O.C.	Sample Specific Notes:
PZ-4	9/18/18	1220	G	GW	12			X	X	X	X	X	X	X	X	X	
CM-9R3	↓	0932	↓	↓	12			X	X	X	X	X	X	X	X	X	
CM-10R	↓	1045	↓	↓	12			X	X	X	X	X	X	X	X	X	
CM-11R	↓	0840	↓	↓	12			X	X	X	X	X	X	X	X	X	
MW-1	↓	1300	↓	↓	12			X	X	X	X	X	X	X	X	X	
MW-5	↓	1405	↓	↓	12			X	X	X	X	X	X	X	X	X	
DW-5	↓	1150	↓	↓	12			X	X	X	X	X	X	X	X	X	
MW-9	↓	1000	↓	↓	12			X	X	X	X	X	X	X	X	X	
MW-13R	↓	0815	↓	↓	12			X	X	X	X	X	X	X	X	X	
Duplicate	↓	—	↓	↓	12			X	X	X	X	X	X	X	X	X	
Extraction Trench	↓	1120	↓	WW	12			X	X	X	X	X	X	X	X	X	
Combined Subdrains	↓	0940	↓	WW	12			X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bert [signature]	Geo-Logic	9-18-18 1415	[signature]	TA-IRV	9-18-18 1445
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
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Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

144495

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchans	Site Contact: Josh Mills	Date:	COC No:
Company Name: GLA/Republic	Tel/Fax: 858-451-1136	Lab Contact: R. Tomova	Carrier: T/A	2 of 2 COCs
Address: 11915 W. Bernardo Ct.	Analysis Turnaround Time			Sampler:
City/State/Zip: S.D., CA. 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below _____			Walk-in Client:
Fax: 858-451-1087	☐ 2 weeks			Lab Sampling:
Project Name: Republic Services, Inc.	☐ 1 week			
Site: Sunshine Cyn. Landfill	☐ 2 days			Job / SDG No.:
P O # 4400078ST	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B-VOCs	8270 1,4-Dioxane	TRPH	Alkalinity	Ammonia as N	TOC	COD	EPA 300.0-Chloride	Total Recoverable Petroleum Hydrocarbons	EPA 160.1-TDS	EPA 415.1-T.O.C	Sample Specific Notes:
Subdrain N	9/18/18	0905	G	WW	12			X	X	X	X	X	X	X	X	X	X	X	
QCAB	↓	—	↓	LABD.I	4			X											
QCTB	↓	—	↓	"	4			X											

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO-LOGIC	9/18/18/1445	[signature]	TA-IRV	9-18-18 1445
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
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Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

208856

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welches	Site Contact: Josh Mills	Date: 9/17/18	COC No:
Company Name: GeoLogic Associates	Tel/Fax: 858-451-1136	Lab Contact: Kessina	Carrier: TA	1 of 1 COCs
Address: 11415 W. Bernardo Ct	Analysis Turnaround Time			Sampler:
City/State/Zip: San Diego CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Republic Services	☐ 1 week			
Site: Sunshine Canyon Landfill	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B - VOCs	EPA 8270 1,4 Dioxane	EPA 415.1 Total Organic Carbon	EPA 160.1 Total Dissolved Solids	EPA 6010B - Total Recoverable Metals	EPA 300.0 - Chloride	EPA 410.4 - COD	EPA 350.2 Ammonia as N	EPA 310.1 Total Alkalinity	EPA 8260B - 40 CFR 258 Appendix I VOCs	258 Appendix I VOCs	Dichlorodifluoromethane	MTBE and 1,4 Dioxane	Sample Specific Notes:
MW-6	9-17-18	1345		GW	12			X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-14	9-17-18	1240		GW	12			X	X	X	X	X	X	X	X	X	X	X	X	X	
PZ-2	9-17-18	1105		GW	12			X	X	X	X	X	X	X	X	X	X	X	X	X	
QCTB	9-17-18	—		LAB H2O	6			X									X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: NO LAB GRADE H_2O AVAILABLE FOR AMBIENT BLANKS

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Corr'd: _____	Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	GLA	9.17.18/1450		TA-IRV	9.17.18/1450
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Geo-Logic
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Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
WATER LEVEL SURVEY RECORD SHEET

Site: Sunshine Cyn.
Project No.: 3018.1024
Date: 9-18-18
Field Personnel: RS, MC, NP

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			15.59	
MW-2A			33.81	
MW-2B			18.64	
MW-5			19.32	
MW-6			16.78	
MW-8			17.28	
MW-9			21.13	
MW-13R			17.07	
MW-14			14.55	
DW-1			TOC	
DW-2			26.95	
DW-3			154.82	
DW-4			32.81	
DW-5			14.23	
CM-5R			N/A	Not accessible due to Heavy Equip.
CM-9R3			13.39	
CM-10R			50.48	
CM-11R			18.23	
PZ-1			93.07	
PZ-2			122.13	

REMARKS:

Name: R. Salinas Signature: [signature]

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GROUNDWATER MONITORING PROGRAM
WATER LEVEL SURVEY RECORD SHEET

Site: Sunshine Cyn.
Project No.: 3018.1024
Date: 9-18-18
Field Personnel: BS, ~~MR~~

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
PZ-3			221.53	
PZ-4			111.70	
EW-2			22.63	
EW-3			18.13	
EW-4			17.73	
OM-3			17.70	

REMARKS:

Name: [illegible] ⇔ Signature: B. [illegible]

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	MW-1	Sampling Date:	9/18/18
Collected By:	NR	Purge start Time:	1224
Casing Diameter (inches):	4	Purge Stop time:	1244
Starting Water Level:	15.59	Sampling (Well Recovery) Time:	1300
Total Depth (feet):	29.60	Ending Water Level (feet):	15.62
Water column (feet):	14.01	Total Purged (gallons):	2¼
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/0LL4V06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms.cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
1229	½	15.62	6.40	3.69	64.5	0.00	22.49	-140
1233	1	15.62	6.39	3.81	70.3	0.00	21.70	-150
1238	1½	"	6.39	3.82	61.8	0.00	21.93	-153
1240	1¾	"	6.39	3.82	61.6	0.00	21.88	-155
1242	2	"	6.39	3.83	61.4	0.00	21.82	-156
1244	2¼	"	6.39	3.82	61.4	0.00	21.78	-157

Purge Sampling Rates: 20 PST Refill (3v) Discharge (11)

Well condition: OK water yellow color with slight odor

Additional Info/Comments: Sunny, clear, warm

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-1 Date: 9/18/18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks: CONCRETE PAD IS NOT VISABLE

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: _____ Field Tech 9/18/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	MW-2A	Sampling Date:	9-19-18
Collected By:	NR	Purge start Time:	0813
Casing Diameter (inches):	4	Purge Stop time:	0858
Starting Water Level:	33.84	Sampling (Well Recovery) Time:	0915
Total Depth (feet):	41.30	Ending Water Level (feet):	34.98
Water column (feet):	7.46	Total Purged (gallons):	1¼
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52 / DLLQV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D O mg/L	TEMPERATURE C	O R P mV
0825	1/4	34.28	5.75	3.14	3.1	1.40	23.14	-54
0835	1/2	34.44	5.77	3.12	0.0	1.27	23.35	-56
0844	3/4	34.62	5.78	3.11	0.0	1.14	23.46	-57
0851	1	34.79	5.80	3.10	0.0	1.10	23.55	-59
0858	1¼	34.98	5.82	3.09	0.0	1.06	23.67	-61

Purge Sampling Rates: 25 PSI Refill(20) Discharge(6)

Water clear with no odor

Well condition: OK, REQUIRES CARRYING SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE TO ACCESS

Additional Info/Comments: SUNNY, CLEAR, WARM

Name: NICHOLAS REASON Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-2A Date: 9/19/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Well is mid slope - Requires hiking equipment and bottles down slope to Access well

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad is buried and not visable

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/19/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No:	5018.1024
Well I.D.:	MW-2B	Sampling Date:	9/19/18
Collected By:	NR	Purge start Time:	0950
Casing Diameter (inches):	4	Purge Stop time:	1011
Starting Water Level:	18.61	Sampling (Well Recovery) Time:	1025
Total Depth (feet):	71.10	Ending Water Level (feet):	22.82
Water column (feet):	52.49	Total Purged (gallons):	2½
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/D11cyrob		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
0957	½	20.11	6.62	3.08	0.0	1.88	23.13	-162
1002	1	21.04	6.61	3.08	0.0	1.00	22.52	-153
1005	1½	21.58	6.61	3.09	0.0	0.91	22.47	-149
1008	2	22.37	6.61	3.09	0.0	0.86	22.50	-147
1011	2½	22.82	6.61	3.08	0.0	0.82	22.52	-145

Purge Sampling Rates: 40 PSI Refill (35) Discharge (13)

water has slight black tint and strong odor

Well condition: OK, requires carrying sampling equipment and bottles down slope to access

Additional Info/Comments: Sunny, clear, warm

Name: Nicholas Reuson Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-2B Date: 9/19/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Requires hiking bottles and sampling equipment down slope to access. Well is mid slope.

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad not viable - buried

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/19/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	S018.1024
Well I.D.:	MW-5	Sampling Date:	9/18/18
Collected By:	NR	Purge start Time:	1332
Casing Diameter (inches):	2	Purge Stop time:	1351
Starting Water Level:	19.32	Sampling (Well Recovery) Time:	1405
Total Depth (feet):	26.20	Ending Water Level (feet):	19.64
Water column (feet):	6.88	Total Purged (gallons):	2 1/2
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLLCYVOB		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
1340	1	19.53	6.49	3.46	12.1	0.90	21.89	-120
1343	1 1/2	19.58	6.47	3.45	2.7	0.86	21.89	-121
1347	2	19.60	6.46	3.46	2.0	0.72	22.10	-123
1349	2 1/4	19.62	6.46	3.45	2.0	0.71	21.88	-124
1351	2 1/2	19.64	6.45	3.45	1.9	0.68	21.86	-124

Purge Sampling Rates: PSI 25 Refill (30) Discharge (15)

Well condition: OK, WATER HAS YELLOW COLOR AND SLIGHT ODOR

Additional Info/Comments: Sunny, clear, warm

Name: NICHOLAS REASON Signature: [signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-5 Date: 9/18/18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: _____ No: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks:

Concrete Pad:

Integrity: Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad is not visable

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/18/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	MW-6	Sampling Date:	9.17.18
Collected By:	NR	Purge start Time:	1256
Casing Diameter (inches):	2	Purge Stop time:	1332
Starting Water Level:	16.78	Sampling (Well Recovery) Time:	1345
Total Depth (feet):	23.50	Ending Water Level (feet):	17.77
Water column (feet):		Total Purged (gallons):	1½+
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U52/DLCQV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms.cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
1302	¼	17.20	6.95	3.56	0.0	3.94	27.07	-267
1308	½	17.34	6.94	3.58	0.0	2.62	26.12	-335
1314	¾	17.42	6.91	3.65	0.0	2.37	26.32	-344
1320	1	17.51	6.89	3.61	0.0	2.26	26.16	-348
1326	1¼	17.68	6.87	3.56	0.0	2.21	26.04	-349
1332	1½	17.77	6.86	3.51	0.0	2.19	25.98	-349

Purge Sampling Rates: PSI 20 Refill (30) Discharge (5)

Well condition: OK, WATER SLIGHTLY CLOUDY WITH STRONG ODOR

Additional Info/Comments: Sunny, clear Hot

Name: Nicholas Pearson Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-6 Date: 9-17-18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: HAD TO CARRY EQUIPMENT AND BOTTLES DOWN SLOPE AND TO WELL

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9-17-18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018.1024
Well I.D.:	MW-9	Sampling Date:	9/18/18
Collected By:	NR	Purge start Time:	0916
Casing Diameter (inches):	4	Purge Stop time:	0949
Starting Water Level:	21.13	Sampling (Well Recovery) Time:	1000
Total Depth (feet):	26.70	Ending Water Level (feet):	21.27
Water column (feet):	5.57	Total Purged (gallons):	1½+
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLLQV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms.cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
0929	½	21.25	6.15	4.44	9.4	0.00	23.82	-137
0934	¾	21.27	6.14	4.40	9.0	0.00	23.76	-141
0940	1	21.27	6.15	4.35	3.9	0.00	23.75	-144
0945	1¼	21.27	6.14	4.31	3.7	0.00	23.71	-142
0949	1½	21.27	6.13	4.33	3.7	0.00	23.72	-140

Purge Sampling Rates: 25 PSI Refill (20) Discharge (5)

Well condition: OK, WATER YELLOW COLOR

Additional Info/Comments: Sunny, clear, mild (AM)

Name: Nicholas Pearson Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-9 Date: 9/18/18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal (Flush Mount)

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/18/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.	518.1024
Well I.D.:	MW-13R	Sampling Date:	9-18-18
Collected By:	NR	Purge start Time:	0732
Casing Diameter (inches):	4	Purge Stop time:	0802
Starting Water Level:	17.07	Sampling (Well Recovery) Time:	0815
Total Depth (feet):	27.80	Ending Water Level (feet):	17.59
Water column (feet):	10.73	Total Purged (gallons):	1 3/4
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DUCYV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
0740	1/4	17.14	6.37	3.39	0.0	6.42	22.10	-370
0744	1/2	17.38	6.39	3.29	0.0	5.81	22.15	-370
0748	3/4	17.42	6.41	3.21	0.0	5.18	22.26	-371
0751	1	17.49	6.41	3.14	0.0	4.54	22.34	-371
0754	1 1/4	17.54	6.42	3.09	0.0	4.42	22.36	-370
0758	1 1/2	17.57	6.43	3.06	0.0	4.38	22.49	-370
0802	1 3/4	17.59	6.43	3.04	0.0	4.35	22.50	-371

Purge Sampling Rates: 30 PSI Refill (20) Discharge (5)

Well condition: OK, WATER MOSTLY CLEAR WITH STRONG ODOR, SLIGHT YELLOW COLOR

Additional Info/Comments: Sunny, clear, mild (AM)

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-13R Date: 9-18-18

Access:

Accessibility: Good: ____ Fair: ✓ Poor: ____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: ____

Presence of depressions or standing water around well: Yes: ____ No: ✓

Remarks: Located at corner of entrance, had to carry equipment and bottles over to well.

Concrete Pad:

Integrity: Good: ✓ Inadequate: ____

Presence of depressions or standing water around well: Yes: ____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: ____

Condition of Locking Cap: Good: ✓ Damaged: ____

Condition of Lock: Good: ✓ Damaged: ____

Condition of Weepholes: Good: ✓ Damaged: ____

Remarks: Monument heavily eroded

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: ____

Condition of Riser Cap: Good: ✓ Damaged: ____

Measurment reference point: Yes: ✓ No: ____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: ____ Missing: ____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Signed — Field Tech Title — 9/18/18 Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	MW-14	Sampling Date:	9.17.18
Collected By:	PR	Purge start Time:	1212
Casing Diameter (inches):	4	Purge Stop time:	1223
Starting Water Level:	14.55	Sampling (Well Recovery) Time:	1240
Total Depth (feet):	28.10	Ending Water Level (feet):	15.05
Water column (feet):		Total Purged (gallons):	2
Screen Length (feet):	/	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLLQYV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms.cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE C	O.R.P. mV
1216	1/2	14.88	6.89	3.91	36.1	7.57	24.03	-100
1219	1	14.99	6.80	3.84	12.2	6.80	23.81	-81
1221	1 1/2	15.02	6.76	3.84	0.7	6.72	23.22	-72
1222	1 3/4	15.04	6.74	3.83	0.6	6.63	23.14	-70
1223	2	15.05	6.73	3.83	0.5	6.58	23.19	-70

Purge Sampling Rates: 20 PSI Refill (20) Discharge (10)

WATER CLEAR with no odor

Well condition: OK

Additional Info/Comments: Sunny, clear, WARM

Name: Nicholas Reeyon Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-14 Date: 9.17.18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Required carrying equipment and bottles down slope to well

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/17/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No	5018.1024
Well I.D.:	PZ-2	Sampling Date:	9/17/18
Collected By:	NR	Purge start Time:	1007
Casing Diameter (inches):	2	Purge Stop time:	1051
Starting Water Level:	122.13	Sampling (Well Recovery) Time:	1105
Total Depth (feet):	160.90	Ending Water Level (feet):	128.76
Water column (feet):	38.77	Total Purged (gallons):	2¼+
Screen Length (feet):	—	Duplicate Sample:	YES (NC)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLCCYV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O R P mV
1018	½	123.92	7.92	5.53	19.7	0.27	26.35	-175
1033	1	125.39	8.19	5.53	0.1	0.00	26.59	-129
1040	1½	126.72	8.23	5.51	2.9	0.00	25.56	-137
1043	1¾	127.49	8.24	5.50	7.1	3.62	25.50	-145
1047	2	128.11	8.25	5.51	7.3	3.51	25.42	-149
1051	2¼	128.76	8.25	5.51	7.2	3.44	25.41	-149

Purge Sampling Rates: 80 PSI Refill (30) Discharge (22)

Well condition: OK, HAD TO CARRY EQUIPMENT ACCROSS CONCRETE CHANNEL

Additional Info/Comments: SUNNY, CLEAR, WARM

Name: NICHOLAS REASON Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: PZ-2 Date: 9/17/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: CARRIED SAMPLING EQUIPMENT AND BOTTLES ACCROSS CONCRETE CHANNEL

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: X

Remarks: NO CONCRETE PAD

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: _____ Field Tech 9.17.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	501B.1024
Well I.D.:	P2-4	Sampling Date:	9-18-16
Collected By:	MC	Purge start Time:	11:36
Casing Diameter (inches):	2	Purge Stop time:	12:10
Starting Water Level:	111.70	Sampling (Well Recovery) Time:	12:20
Total Depth (feet):	125.15	Ending Water Level (feet):	114.04
Water column (feet):	13.45	Total Purged (gallons):	2.25
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W514 BDC		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
11:46	.5	112.63	6.93	1.49	29.1	1.11	24.09	-72
11:53	1.0	113.11	6.97	1.50	9.8	.70	23.79	-77
11:56	1.25	113.29	7.02	1.51	8.9	.64	23.71	-78
12:00	1.5	113.54	7.06	1.52	9.9	.60	23.59	-76
12:03	1.75	113.71	7.08	1.54	7.6	.57	23.63	-72
12:07	2.0	113.88	7.06	1.54	4.1	.53	23.55	-70
12:10	2.25	114.04	7.08	1.54	3.9	.51	23.56	-69

Purge Sampling Rates: 80 psi ref. 11 40, discharge 16

water is clear with no odor

Well condition: OK

Additional Info/Comments: clear, hot, breeze

Name: Mike Campbell Signature: Mike Campbell

C-2

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Gym Well ID: PZ-4 Date: 9-18-18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Flushmount

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: NA Damaged: _____

Condition of Lock: Good: NA Damaged: _____

Condition of Weepholes: Good: NA Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Coghill (Signed) Field Tech (Title) 9-18-18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn.	**Project No.:**	5018.1824
Well I.D.:	DW-1	**Sampling Date:**	9-19-18
Collected By:	RZS	**Purge start Time:**	/
Casing Diameter (inches):	4	**Purge Stop time:**	/
Starting Water Level:	TOC	**Sampling (Well Recovery) Time:**	0955
Total Depth (feet):	/	**Ending Water Level (feet):**	/
Water column (feet):	/	**Total Purged (gallons):**	/
Screen Length (feet):	—	**Duplicate Sample:**	YES (NO)
Sample Method:	Micro Purge Low Flow		
Horiba Model S/N:	R8JS49UH		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0938	Grab	—	8.48	4.53	1.9	3.56	24.10	-188

Purge Sampling Rates: took a grab sample, strong odor clear water

Well condition: OK

Additional Info/Comments: Sunny, warm

Name: B. Salinas **Signature:**

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: DW-1 Date: 9-19-18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: _____ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks: Metal riser is corroded

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: _____ No: ✓

Remarks:

Dedicated Pump: Type: Drop Tube

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] GW Manager 9-19-18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No:	5018.1024
Well I.D:	DW-2	Sampling Date:	9/20/18
Collected By:	NR	Purge start Time:	0728
Casing Diameter (inches):	4	Purge Stop time:	0752
Starting Water Level:	26.92	Sampling (Well Recovery) Time:	0805
Total Depth (feet):	71.00	Ending Water Level (feet):	30.62
Water column (feet):	44.08	Total Purged (gallons):	3*
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52 / DLCQV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O R P mV
0735	1/2	28.31	6.53	2.61	0.0	0.00	18.96	-141
0738	1	28.84	6.64	2.60	0.0	0.00	18.95	-147
0742	1 1/2	29.36	6.69	2.59	0.0	0.00	18.96	-148
0745	2	29.79	6.72	2.59	0.0	0.00	18.94	-149
0749	2 1/2	30.21	6.74	2.59	0.0	0.00	18.94	-149
0752	3	30.62	6.74	2.58	0.0	0.00	18.95	-149

Purge Sampling Rates: PSI 45 REFILL (35) DISCHARGE (17)

Well condition: OK, WATER CLEAR WITH NO ODOR

Additional Info/Comments: SUNNY, CLEAR, MILD

Name: Nicholas Pearson Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: DW-2 Date: 9/20/18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: _____ No: ✓

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/20/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Canyon
Well I.D.: DW-3
Collected By: NR
Casing Diameter (inches): 4
Starting Water Level: 154.84
Total Depth (feet): 256.60
Water column (feet): 101.76
Screen Length (feet): -
Sample Method: (Micro Purge) Low Flow
Horiba Model S/N: U52/Duc4V06

Project No.: 5018.1024
Sampling Date: 9/20/18
Purge start Time: 0900
Purge Stop time: 0922
Sampling (Well Recovery) Time: 0935
Ending Water Level (feet): 158.76
Total Purged (gallons): 2½
Duplicate Sample: YES (NO)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE C	O.R.P. mV
0912	1	157.03	6.68	2.03	0.0	6.42	20.87	-85
0914	1½	157.46	6.69	2.03	0.0	6.11	20.82	-89
0918	2	158.02	6.70	2.03	0.0	5.66	20.88	-92
0920	2¼	158.30	6.70	2.02	0.0	5.53	20.87	-94
0922	2½	158.76	6.71	2.03	0.0	5.48	20.87	-94

Purge Sampling Rates: PSI 100 Refill(35) Discharge(20)

Well condition: OK WATER CLEAR WITH NO ODOR

Additional Info/Comments: Sunny, clear, mild

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Gym Well ID: MW-3 Date: 9/20/18

Access:

Accessibility: Good: ✓ Fair: ____ Poor: ____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: ____

Presence of depressions or standing water around well: Yes: ____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: ____

Presence of depressions or standing water around well: Yes: ____ No: ✓

Remarks:

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: ____

Condition of Locking Cap: Good: ✓ Damaged: ____

Condition of Lock: Good: ✓ Damaged: ____

Condition of Weepholes: Good: ✓ Damaged: ____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: ____

Condition of Riser Cap: Good: ✓ Damaged: ____

Measurment reference point: Yes: ✓ No: ____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: ____ Missing: ____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/20/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No	5018.1024
Well I.D:	DW-4	Sampling Date:	9/19/18
Collected By:	NR	Purge start Time:	1048
Casing Diameter (inches):	4	Purge Stop time:	1108
Starting Water Level:	32.78	Sampling (Well Recovery) Time:	1120
Total Depth (feet):	134.80	Ending Water Level (feet):	35.42
Water column (feet):	102.02	Total Purged (gallons):	2½
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52 / DELCY 006		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O mg L	TEMPERATURE C	O R P mV
1053	½	33.69	6.85	3.35	0.0	0.00	22.48	-257
1057	1	34.11	6.84	3.33	0.0	0.00	22.19	-243
1101	1½	34.54	6.83	3.33	0.0	0.00	22.07	-240
1104	2	34.96	6.82	3.30	0.0	0.00	22.04	-236
1106	2¼	35.21	6.82	3.30	0.0	0.00	22.00	-236
1108	2½	35.42	6.82	3.29	0.0	0.00	21.94	-235

Purge Sampling Rates: 75 PSI Refill (3.1) Discharge (16)

WATER HAS SLIGHT BLACK TINT with mild odor

Well condition: OK

Additional Info/Comments: Sunny, clear, warm, light wind

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: DW-4 Date: 9/19/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Requires hiking equipment and bottles down slope to access. Well is mid slope

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad is buried and not visable

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/19/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	DW-5	Sampling Date:	9/18/18
Collected By:	NR	Purge start Time:	1110
Casing Diameter (inches):	4	Purge Stop time:	1189
Starting Water Level:	14.23	Sampling (Well Recovery) Time	1150
Total Depth (feet):	101.00	Ending Water Level (feet):	~~2½~~ (NR) 17.89
Water column (feet):	86.77	Total Purged (gallons):	2½+
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLCqn06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
1124	1	15.98	7.69	1.62	2.4	0.96	21.12	-182
1130	1½	16.57	7.64	1.62	3.0	0.64	21.09	-188
1135	2	17.37	7.61	1.62	0.7	0.22	21.05	-191
1137	2¼	17.73	7.61	1.61	0.1	0.00	21.05	-193
1139	2½	17.89	7.61	1.61	0.0	0.00	21.30	-194

Purge Sampling Rates: 65 PSI Refill (30) Discharge (20)

Well condition: OK, WATER HAS YELLOW COLOR AND NO ODOR

Additional Info/Comments: Sunny, clear, warm

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: DW-5 Date: 9/18/18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks: PAD NOT VISABLE. BROKEN CONCRETE / RUBBLE AROUND WELL MONUMENT

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] Field Tech 9/18/18.

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: CM-9R3
Collected By: MC
Casing Diameter (inches): 4
Starting Water Level: 13.39
Total Depth (feet): 29.00
Water column (feet): 15.61
Screen Length (feet):
Sample Method: (Micro Purge) Low Flow
Horiba Model S/N: U-52 / WQ4 in BOD

Project No.: 5018.1024
Sampling Date: 9-18-18
Purge start Time: 8:59
Purge Stop time: 9:22
Sampling (Well Recovery) Time: 9:32
Ending Water Level (feet): 14.66
Total Purged (gallons): 2.0 +
Duplicate Sample: YES (NO)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
9:05	.5	13.96	6.20	4.84	114	3.10	17.49	-7
9:11	1.0	14.21	6.15	4.72	37.5	2.41	17.48	1
9:14	1.25	14.38	6.10	4.67	25.2	1.78	17.48	6
9:16	1.5	14.52	6.09	4.66	24.2	1.63	17.48	8
9:19	1.75	14.59	6.09	4.64	24.6	1.59	17.49	8
9:22	2.0	14.66	6.10	4.62	25.4	1.56	17.48	10

Purge Sampling Rates: 25 psi ref. 30 discharge 7
water is cloudy with no odor
water centered redish brown color

Well condition:
Heavy vegetation on path to well

Additional Info/Comments: clear/ tact
Pump depth 27.4 ft

Name: Mike Campbell Signature: Mike Campbell

C-2

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-9R3 Date: 9-18-18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Heavy vegetation and ruts on road to well

Concrete Pad:

Integrity: NA Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad not visible

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Cargill Field Tech 9-18-18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: CM. 10R
Collected By: MC
Casing Diameter (inches): 4
Starting Water Level: 50.48
Total Depth (feet): 110.90
Water column (feet): 60.42
Screen Length (feet):
Sample Method: (Micro Purge) Low Flow
Horiba Model S/N: U-52/WSYIWBOD

Project No.: 5018.1024
Sampling Date: 9.18.18
Purge start Time: 10:10
Purge Stop time: 10:35
Sampling (Well Recovery) Time: 10:45
Ending Water Level (feet): 50.65
Total Purged (gallons): 2.5 +
Duplicate Sample: (YES) NO

Duplicate sample taken at this well

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
10:20	1.0	50.65	6.77	2.82	0.0	3.78	21.17	-227
10:25	1.5	"	6.78	2.84	0.0	3.53	21.16	-241
10:28	1.75	"	6.79	2.86	0.0	2.66	21.05	-243
10:30	2.0	"	6.79	2.88	0.0	2.50	21.03	-247
10:32	2.25	"	6.79	2.85	0.0	2.46	21.05	-247
10:35	2.50	"	6.77	2.83	0.0	2.43	21.01	-240

Purge Sampling Rates: 50 psi ref. 11 40 discharge 13
water is clear w. ~~strong~~ odor

Well condition: OK

Additional Info/Comments: Clear hot, breezy

Name: M. McCampbell Signature: M. McCampbell

C-2

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-10R Date: 9.18.18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: [signature] Field Tech 9.18.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018-1024
Well I.D.:	CM-11R	Sampling Date:	9.18.18
Collected By:	MC	Purge start Time:	7:40
Casing Diameter (inches):	4	Purge Stop time:	8:19
Starting Water Level:	18.23	Sampling (Well Recovery) Time:	8:40
Total Depth (feet):	31.00	Ending Water Level (feet):	19.28
Water column (feet):	12.77	Total Purged (gallons):	1.5 +
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52 / W54WBDD		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
7:48	.25	18.49	5.38	4.62	2.7	2.13	16.96	229
7:55	.50	18.64	5.42	4.62	6.8	1.90	16.85	233
8:01	.75	18.82	5.53	4.60	1.5	1.52	16.84	236
8:07	1.0	18.99	5.42	4.62	2.6	1.46	16.85	243
8:13	1.25	19.14	5.40	4.61	1.8	1.45	16.82	245
8:19	1.50	19.28	5.43	4.63	1.4	1.42	16.81	246

Purge Sampling Rates: 30psi ref.11 25, discharge 4

Water is clear with no odor

Well condition: OK

Additional Info/Comments: clear, hot

Pump depth 29.8ft

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-11R Date: 9-18-18

Access:

Accessibility: Good: _____ Fair: √ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: √ No: _____

Presence of depressions or standing water around well: Yes: _____ No: √

Remarks: Backed truck up concrete channel to access well

Concrete Pad:

Integrity: Good: √ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: √ Damaged: _____

Condition of Locking Cap: Good: √ Damaged: _____

Condition of Lock: Good: √ Damaged: _____

Condition of Weepholes: Good: √ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: √ Damaged: _____

Condition of Riser Cap: Good: √ Damaged: _____

Measurment reference point: Yes: √ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: √ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA (check if electrical problems suspected)

Remarks: Low yield

Field Certification: Mike Caplette Field Tech 9-18-18

Signed Title Date

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Can. **Project No.:** 3018.1024

Station I.D.: Extraction Trench **Sampling Date:** 9-18-18

Collected By: BS **Sampling Time:** 1120

Horiba Model S/N: 28JS494H **Duplicate Sample:** YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Yellowish	yes	6.24	5.40	63.5	3.91	26.01	-115

Leachate sampling station conditions: Samples taken @ Filter units.

Additional Info/Comments: Clear, Sunny

Name: M. Salinas Signature: [signature]

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine **Project No.:** 5018.1024

Station I.D.: combined subdrains **Sampling Date:** 9-18-18
Collected By: BS **Sampling Time:** 0940
Horiba Model S/N: R8JS4GMH **Duplicate Sample:** YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Clear	Yes	6.00	3.54	3.3	2.56	24.64	-71

Leachate sampling station conditions: Samples taken @ filter units.

Additional Info/Comments: Sunny, clear

Name: B. Sarbinoy Signature: B Sarbinoy

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine **Project No.:** 5018-1824

Station I.D.: Subdrain N **Sampling Date:** 9-18-18

Collected By: BS **Sampling Time:** 0905

Horiba Model S/N: RF55494W **Duplicate Sample:** YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Clear	yes	5.80	3.52	0.7	2.20	19.48	-92

Leachate sampling station conditions: Samples taken in filter unit. Found all valves closed. Open one valve to get the samples. Then left it as I found it.

Additional Info/Comments: Clear, sunny

12 cans filled.

QCAB taken here.

Name: B. Salinas Signature: [signature]

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine **PROJECT NAME / NUMBER** _____

Instrument Make/Model # RBJS494H						
Date/Time 9-18-18 0750	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	4.23	4,41	0.6	13.03		
Calibration	4.00	4.48	<	8.64		
Calibration Successful? (Y/N)	Yes	→	→	→	enter YES or NO	
Satifies Protocol?	Yes	→	→	→	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by					Signature or initials	
Physical Condition of Unit	Good					

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Canyon PROJECT NAME / NUMBER 5018.1024

Instrument Make/Model # Horiba U-52 (DLLCYVD6)

Date/Time 9-17-14 0915	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	3.88	4.52	0.3	8.97		
Calibration	4.01	4.51	0.0	9.06		
Calibration Successful? (Y/N)	Y				enter YES or NO	
Satifies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	NR				Signature or initials	[signature]

Physical Condition of Unit Good

GeoLogic Associates

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Canyon **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model #	HORIBA U-52 (DLLCY/VOL)					
Date/Time 9-18-18 0710	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	4.24	4.51	2.0	8.15		
Calibration	4.00	4.50	0.1	8.61		
Calibration Successful? (Y/N)	Y				enter YES or NO	
Satifies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	NR				Signature or initials	
Physical Condition of Unit	Good					

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model # U-52 / W5Y4-BDO						
Date/Time 9-18-18 6:30	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	4.11	4.55	0.0	8.87		
Calibration	3.99	4.49	0.0	8.65		
Calibration Successful? (Y/N)	YES				enter YES or NO	
Satifies Protocol?	YES				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	~~~				Signature or initials	Michael Cook
Physical Condition of Unit	Good					

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Canyon **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model #	HORIBA U-52 (DLLCYV06)					
Date/Time 9/19/18 0730	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	4.12	4.33	0.2	8.46		
Calibration	4.00	4.49	0.0	9.57		
Calibration Successful? (Y/N)	Y				enter YES or NO	
Satifies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (**Y** or **N**)	
Calibration by	NR				Signature or initials	
Physical Condition of Unit	Good					

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Canyon **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model #	HORIBA U-52 (DLLGV06)					
Date/Time 9/20/18 0715	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	3.80	4.52	2.6	9.67		
Calibration	4.00	4.51	0.0	8.73		
Calibration Successful? (Y/N)	Y				enter YES or NO	
Satifies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	NR				Signature or initials	
Physical Condition of Unit	Good					

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

201044

TestAmerica
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TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		
Company Name: CA Republic	Project Manager: Kyle Welch	Site Contact: Josh Mills
Address: 1415 W. Bernardo Dr.	Tel/Fax: 858-451-1136	Lab Contact: Rossiter
City/State/Zip: S.D., CA 92127	Analysis Turnaround Time	Date:
Phone: 858-451-1136	☐ CALENDAR DAYS ☐ WORKING DAYS	Carrier:
Fax: 858-451-1087	TAT if different from Below ______	
Project Name: Republic Services	☐ 2 weeks	
Site: Sunshine Cyn.	☐ 1 week	
P O #	☐ 2 days	
	☐ 1 day	

COC No: 1 of 1 COCs
Sampler: BS
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

(1) EPA 8260B: Aromatics; (2) Acrolein & Acrylonitrile; (3) EPA 8270C [illegible]; (4) EPA 8270C SIM; (5) and 1,4-Dioxane; (6) EPA 8081A Organochlorine; (7) Pesticides; (8) EPA 8082 - PCBs; (9) Organophosphorus (EPA; (10) Pesticides 8141A); (11) EPA 8151A; (12) Chlorinated Herbicides; (13) (Cl x II); (14) Cyanide (EPA 335.1)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Sample Specific Notes:
Composite CA-C	10/24/18	1125	G	WW	14			X	X	X	X	X	X	X	X	X	X	X	X	X		
LR-2R	↓	0850	G	WW	16			X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank		—		LAB H2O	4			X	X	X												
Trip Blank		—			6			X	X	X												
Equip. Blank	↓	—	↓	↓	4			X	X	X												

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:______ Corr'd:______ Therm ID No.:______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Geo-Logic	10-24-18 1313	[signature]	TA-IRV	10.24.18 1313
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Cyn. L/F Project No.: 5018.1024

Station I.D.: LF-2R Sampling Date: 10-24-18
Collected By: BS Sampling Time: 0850
Horiba Model S/N: R8J5494W Duplicate Sample: YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Dark/Blk	Yes Strong	6.23	11.0	80.6	2.09	28.07	-88

Leachate sampling station conditions: Hiked down to Riser to collect the samples. Used a 3" disposable bailer to collect the samples

Blanks taken (Field/Equip.)

Additional Info/Comments: Clear, Sunny, Cool

16 Cont. filled

Bert Salinas / [illegible]

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Can. Project No.: S018.1024

Station I.D.: Composite CA-L / Cut off Wall Sampling Date: 10-24-18

Collected By: RS Sampling Time: ~~1050~~ (RS) 1125

Horiba Model S/N: R8JS49HH Duplicate Sample: YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Black	Yes	6.45	16.2	OR	1.28	27.75	-194

Leachate sampling station conditions: Samples taken ~~[illegible]~~ filters. RS
The composite shack / lower area where leachate and cut off wall mix. Ok'd per TW with Republic.

Labeled as composite CA-L

Additional Info/Comments: Sunny, cool, light winds

1L cont. filled

Bert Salinas | [signature]

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Cyn. (LCRS-2)
Project No.: S018.1024

Station I.D.: Leachate
Collected By: BS
Horiba Model S/N: N/A

Sampling Date: 10-24-18
Sampling Time: N/A
Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
			N/A				

Leachate sampling station conditions: The leachate location was not able to sample it. The casing is still damaged @ aprox. 59 ft. No repairs have been made per "TCI" with Republic Services

Checked made an attempt, but unsuccessful.

Additional Info/Comments: Clear, warm

Bert Salinas / Bert Salin

Geo-Logic ASSOCIATES

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn. **PROJECT NAME / NUMBER** 508.1024

Instrument Make/Model # R8554944						
Date/Time 10/24/18 0745	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	3.91	4.58	0.6	13.39		
Calibration	4.00	4.49	←	8.62		
Calibration Successful? (Y/N)	Yes	→	→	→	enter YES or NO	
Satifies Protocol?	Yes	→	→	→	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	[signature]	[signature]			Signature or initials	
Physical Condition of Unit			Good			

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

209416

TestAmerica
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TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: Geo-Logic Associates	Project Manager: Kyle Welchans	Site Contact: Josh Miller	Date: 12-13-18
Address: 11415 W. Bernardo Ct suite 200	Tel/Fax: 858-451-1136	Lab Contact: Rossine	Carrier: T/A
City/State/Zip: San Diego, Ca 92127	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS		
Phone: 858-451-1136	TAT if different from Below ____		
Fax:	☒ 2 weeks		
Project Name: Republic Services	☐ 1 week		
Site: Sunshine Canyon Landfill	☐ 2 days		
P O #	☐ 1 day		

COC No: ___ 1 of 1 COCs
Sampler: BS, mc
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.: 5018 1024

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8260B-VOC	EPA 310.1 Total Alkalinity Bicarbonate	SM Ammonia N	EPA 410.4-COD	EPA 300.0 Chloride/Bromide/Nitrate/Sulfate	EPA 6010B-Total B, Ca, Fe, Mg, Mn, K, Na	EPA 160.1 Total Dissolved Solids	EPA 415.1 Total Organic Carbon	EPA Fluoride	EPA 376.2 Sulfide	SM-4500-CO2C-Carbon Dioxide	EPA 8270 1,4-Dioxane	Sample Specific Notes
DW-2	12/13/18	0815	G	GW	13	N	N	X	X	X	X	X	X	X	X	X	X	X	X	
DW-3	12/13/18	0935	G	GW	13	N	N	X	X	X	X	X	X	X	X	X	X	X	X	
Combined Subdrains	12/13/18	0920	G	WW	13			X	X	X	X	X	X	X	X	X	X	X	X	
Extraction Trench	12/13/18	1020	G	WW	13			X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank	12/13/18	—	G	H2O	4			X												
Trip Blank	12/13/18	—	G	H2O	3			X												

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Geo-Logic	12-13-18 1130	[signature]	TA IRV	12.13.18 1130
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
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Phone: 949.261.1022 Fax:

Chain of Custody Record

208043

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TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		
Company Name: GLA / Republic	Project Manager: Kyle Welchew	Site Contact: T. Mills
Address: 4415 W. Bernardo Ct.	Tel/Fax: 858-451-1136	Lab Contact: R. Tomas
City/State/Zip: S.D., CA 92127	Analysis Turnaround Time	Date: 12-11-18
Phone: 858-451-1136	☐ CALENDAR DAYS ☐ WORKING DAYS	Carrier: T/A
Fax: 858-451-1087	TAT if different from Below ____	COC No:
Project Name: Republic Services	☐ 2 weeks	____ of ____ COCs
Site: Sunshine Cyn. Landfill	☐ 1 week	Sampler: BS, MC
P O #	☐ 2 days	For Lab Use Only: Walk-in Client: Lab Sampling:
	☐ 1 day	Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 8260B VOCs / App IX	VOCs, MTBE, 1,4-Dioxane	Dichlorodifluoromethane	Methane	Total Alkalinity	Ammonia / Nitrate	Nitrite / Phosphate	Chloride, Bromide, Sulfate	6010/6020 Metals	TDS, COD, TOC	Fluoride (340.2)	Sulfide (376.2)	SM-4500-CO2C	Carbon Dioxide	EPA 8270 1,4-Dioxane	Sample Specific Notes
MW-1	12/11/18	0944	G	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-5		1120			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-9		1350			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-13R		0943			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CM-10R		0755			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
DW-1		1250			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
DW-5		1240			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Duplicate		—			13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
LY-7		1100		WW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank		—		LAB H2O	4			X	X	X	X												Only VOC's analysis on the blanks
Trip Blank	↓	—	↓	"	4			X	X	X	X												

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Geo-Logic	12-11-18 1425	[signature]	TA IRV	12.11.18 1425
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
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Chain of Custody Record 206792

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	
Company Name:	Geologic Associates
Address:	1415 W. Bernardo Ct
City/State/Zip:	San Diego CA 92127
Phone:	858-451-1136
Fax:	
Project Name:	Republic Services
Site:	Sunshine Canyon Landfill
P O #	

Project Manager: Kyle Williams
Tel/Fax: 858-451-1136

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ______
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Josh Mills
Lab Contact: Rossino
Date: 12/11/18
Carrier: TAS

COC No: 1 of 1 COCs
Sampler: [illegible]
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Analysis columns: (1) EPA 8260B VOCs - incl.; (2) 40 CFR Part 258 Appx I VOCs; (3) Dibromofluoromethane, MTBE; (4) 1,4-Dioxane; (5) EPA 8270 1,4 Dioxane; (6) EPA 310.1 - Total Alkalinity; (7) and Bicarbonate; (8) EPA 350.2 - Ammonia as N; (9) EPA 410.4 - COD; (10) EPA 300.0 - Chloride, Bromide; (11) Nitrate-N, Sulfate; (12) EPA 160.1 - TDS; (13) EPA 415.1 - Total Organic Carbon; (14) EPA 340.2 - Fluoride; (15) EPA 376.2 - Sulfide; (16) SM-4500-CO2C - Carbon Dioxide; (17) EPA 6010B - Total B, Ca, Fe, Mg, Mn, K, Na

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Sample Specific Notes
MW-6	12/11/18	1400	G	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-14	12/11/18	1255	↓	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PZ-2	12/11/18	1055	↓	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CM-9R3	↓	1530	↓	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CM-11R	↓	1415	↓	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank	↓	—	↓	Lab H2O	6			X																	
Trip Blank	↓	—	↓	"	6			X																	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______

Relinquished by: [signature]	Company: Geo-Logic	Date/Time: 12-11-18 1410	Received by: [signature]	Company: TA IRV	Date/Time: 12.11.18 1410
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

206791

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchans	Site Contact: Josh Mills	Date: 12/10/18	COC No:
Company Name: Geologic Associates	Tel/Fax: 858-451-1136	Lab Contact: Russian	Carrier: TA	____ of ____ COCs
Address: 11445 W. Bernardo Ct	Analysis Turnaround Time			Sampler:
City/State/Zip: San Diego CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Republic Services	☐ 1 week			
Site: Sunshine Canyon Landfill	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 350.2 - Ammonia																	Sample Specific Notes:
PZ-2A	12/10/18	1045	G	GW	1			X	Y																
PZ-2B	12/10/18	1045	G	GW	1			X	Y																

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	GLA	12/10/18 1500		TA IRV	12.11.18 1407
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

209411 See note #1 on GLA bottle order for all VOCs 8260

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	
Company Name:	Geo-Logic Associates
Address:	11915 W. Bernardo Ct Suite 200
City/State/Zip:	San Diego, CA 92127
Phone:	858-451-1136
Fax:	
Project Name:	Republic Services
Site:	Sunshine Canyon Landfill
PO #	

Project Manager: Kyle Welchons
Tel/Fax: 858-451-1136

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____
☒ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Josh Mills
Lab Contact: Rossio (?)
Date: 12-12-18
Carrier: T/A

COC No: 1 of 1 COCs
Sampler: BS, MC
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.: SOIB.1024

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8260B VOCs	EPA 310.1-Total Alkalinity and Bicarbonate	EPA 350.2 Ammonia N	EPA 410.4 COD	EPA 300.0-Chloride, Bromide, Nitrate-N, Sulfate	EPA 6010B-Total B, Ca, Fe, Mg, Mn, K, Na	EPA 160.1-Total Dissolved Solids	EPA 415.1 Total Organic Carbon	EPA 340.2 Fluoride	EPA 376.2 Sulfide	SM4500-CO2C-Carbon Dioxide	EPA 8270 1,4 Dioxane	Sample Specific Notes: Metals are not field filtered
MW-2A	12.12.18	1010	G	GW	13	N	N	X	X	X	X	X	X	X	X	X	X	X	X	
MW-2B	〃	0850	〃	〃	〃	〃	〃	X	X	X	X	X	X	X	X	X	X	X	X	
DW-4	〃	0759	〃	〃	〃	〃	〃	X	X	X	X	X	X	X	X	X	X	X	X	
PZ-4	〃	1157	〃	〃	〃	〃	〃	X	X	X	X	X	X	X	X	X	X	X	X	
Subdrain (N)	12.12.18	1400	G	WW	13			X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank	↓	—	↓	[illegible]	4			X												
Trip Blank	↓	—	↓	〃	3			X												

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:______ Corr'd:______ Therm ID No.:______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GLA	12-13-18	[signature]	TA-IRV	12/13/18 [illegible]
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record 208044

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: GLA / Republic	Project Manager: Kyle [illegible]	Site Contact: J. Mills	Date: 12-12-18
Address: 1[illegible] W. Bernardo Ct.	Tel/Fax: 858-451-1136	Lab Contact: [illegible]	Carrier: TA
City/State/Zip: S.D., CA 92127	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS		COC No: 1 of 1 COCs
Phone: 858-451-1136	TAT if different from Below ______		Sampler: [illegible]
Fax: 858-451-1067	☐ 2 weeks		For Lab Use Only:
Project Name: Republic Services	☐ 1 week		Walk-in Client:
Site: Sunshine Cyn. Landfill	☐ 2 days		Lab Sampling:
PO #	☐ 1 day		Job / SDG No.:

Analyses (handwritten column headings): Filtered Sample (Y / N); Perform MS / MSD (Y / N); 8260B - Appdx I & II; 8031 Acrolein, Acrylonitrile; 8015B - TPH [illegible]; [illegible]; Ni, Se, As, Tl, Sb; Cyanide (335.1); Sulfide (376.2); 8270C - Appdx I; [illegible]; 8081A - Organochlorine; 8082 - PCBs (Appdx II); 8141A - Organophosphorus Pesticides; 8151A - Chlorinated herbicides (Appdx II)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Analyses marked	Sample Specific Notes
Deep Leachate	12/12/18	0850	G	[illegible]	21	X in all analysis columns	Metals are not field filtered.
Field Blank	↓	—	↓	[illegible]	4	X, X (first two analyses)	
Trip Blank	↓	—	↓	H2O	4	X, X (first two analyses)	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: ____ Corr'd: ____	Therm ID No.: ____
Relinquished by: [signature]	Company: Geo-Logic	Date/Time: 12-13-18	Received by: [signature]	Company: TA	Date/Time: 12/13/18 1435
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Geo-Logic ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WATER LEVEL SURVEY RECORD SHEET

SITE NAME: Sunshine Cyn.
PROJECT NO.: 5015.1024
FIELD PERSONNEL: BS, MC
WATER LEVEL MAKE/MODEL: Solinst 101

12/10/15

WELL ID	CONSTRUCTION TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			13.14	
MW-2A			33.62	
MW-2B			18.86	
MW-5			18.34	
MW-6			16.20	
MW-8			16.42	Installed a new Republic lock
MW-9			19.26	
MW-13R			16.13	
MW-14			14.17	
DW-1			TOC	
DW-2			27.85	
DW-3			155.37	
DW-4			32.84	
DW-5			14.01	
CM-5R			220.28	
CM-9R3			10.18	
CM-10R			49.70	
CM-11R			19.11	
PZ-1			93.44	Installed a new Republic lock
PZ-2			122.39	
PZ-3			221.92	Installed a new Republic lock
PZ-4			111.94	
EW-2			22.42	
EW-3			18.01	
EW-4			17.53	
OM-3			18.15	

REMARKS:

SIGNATURE:

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
SURFACE WATER DATA SHEET

Site Name: Sunshine Cyn.
Project No.: 3018.1024

Station I.D.: Subdrain (N)
Collected By: BJ
Horiba Model S/N: R8SS494H

Sampling Date: 12-12-18
Sampling Time: 1400
Duplicate Sample: YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
light yellow tint	yes	6.94	5.43	60.7	9.71	23.54	-105

Surface water conditions (including stream flow rate, stream depth): Collect samples @ subdrain (N) location well @ panel. Need to install a sample port near location.

Field Blank taken

Additional Info/Comments: Sunny, cool

Name: B. Salinas

Signature: [signature]

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Cyn. Project No.: SCH8.1024

Station I.D.: Deep leachate Sampling Date: 12/12/18
Collected By: BJ Sampling Time: 0850
Horiba Model S/N: [illegible] Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Very Dark	Yes Strong	6.62	26.4	OR	8.77	17.66	-46

Leachate sampling station conditions: Collect sample @ Inlet Split to the north.

Additional Info/Comments: Cloudy, cold

2 containers filled

BJ

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
SURFACE WATER DATA SHEET

Site Name: Sunshine **Project No.:** 2018.1024

Station I.D.: Extraction Trench **Sampling Date:** 12-13-14

Collected By: BS **Sampling Time:** 1020

Horiba Model S/N: R8J5494(H **Duplicate Sample:** YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Cloudy	Yes	6.96	5.34	22.8	4.64	17.46	-130

Surface water conditions (including stream flow rate, stream depth): Samples collected @ Filter element. Containment was standing rain water. Notified TU with Republic

Additional Info/Comments: Clear, windy, cool

Name: B. Salinas Signature: Brent Salinas

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM
SURFACE WATER DATA SHEET

Site Name: Sunshine **Project No.:** SN18.1024

Station I.D.: Combined Subdrains **Sampling Date:** 12-13-18

Collected By: BJ **Sampling Time:** 0920

Horiba Model S/N: R853494147 **Duplicate Sample:** YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Rusty	Yes	6.85	3.42	561	4.27	13.93	15

Surface water conditions (including stream flow rate, stream depth): Hard to install a new sample port. Pipe has been modified.

Blanks Taken here

Additional Info/Comments: Clear, sunny, cool, windy

Name: B. Salinas Signature: [signature]

Geo-Logic
ASSOCIATES
Geologists • Hydrogeologists • Engineers

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn.	Project No.:	3018.1024
Well I.D.:	MW-1	Sampling Date:	12-11-18
Collected By:	BS	Purge start Time:	0921
Casing Diameter (inches):	4	Purge Stop time:	0937
Starting Water Level:	13.11	Sampling (Well Recovery) Time:	0944
Total Depth (feet):	29.60	Ending Water Level (feet):	13.15
Water column (feet):	16.49	Total Purged (gallons):	1.75
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	R8554941t		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0924	1/4	13.13	6.70	4.21	14.7	4.60	19.33	-107
0926	1/2	13.15	6.82	4.18	8.5	2.46	20.26	-131
0928	3/4	13.15	6.85	4.16	7.4	2.04	20.19	-135
0930	1	13.14	6.88	4.15	7.2	1.77	20.19	-136
0933	1 1/4	13.15	6.91	4.13	7.6	1.74	20.24	-132
0935	1 1/2	13.16	6.92	4.13	8.1	1.68	20.28	-132
0937	1 3/4	13.16	6.93	4.12	7.8	1.64	20.32	-132

Purge Sampling Rates: PSI set @ 20 R:30/D:10. Water has a yellowish tint.

Well condition: OK

Additional Info/Comments: Clear, Sunny, Mild wind. *Splits samples taken with LACRWQB Dr. Wen, Yang took extra time to sample. LACRWQB took an MS/MSD here.

Name: Bert Salinas

Signature: [signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: MW-1 Date: 12-11-18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks: Concrete pad is not visible

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: [signature] GW Manager 12-11-18

Signed Title Date

Geo-Logic
ASSOCIATES

Geologists • Hydrogeologists • Engineers

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018.1024
Well I.D.:	MW-2A	Sampling Date:	12-12-18
Collected By:	MC	Purge start Time:	9:08
Casing Diameter (inches):	4	Purge Stop time:	9:52
Starting Water Level:	33.67	Sampling (Well Recovery) Time:	10:10
Total Depth (feet):	41.30	Ending Water Level (feet):	34.69
Water column (feet):	7.65	Total Purged (gallons):	1.25
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W51W600		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
9:16	.25	34.05	6.85	3.20	0.0	1.50	20.50	-58
9:26	.50	34.20	6.85	3.19	0.0	.84	20.65	-60
9:36	.75	34.36	6.86	3.19	0.0	.75	20.73	-60
9:44	1.0	34.52	6.86	3.19	0.0	.69	20.77	-61
9:52	1.25	34.69	6.88	3.18	0.0	.66	20.81	-62

Purge Sampling Rates: 25 psi ref. 11 20 discharge 5

Water is clear with no odor

Well condition: OK

Additional Info/Comments: Partly cloudy, mild, breezy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-2A Date: 12.12.18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: _____ No: ✓

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Required carrying equipment and sample bottle down slope to well heavy erosion in vicinity of well

Concrete Pad:

Integrity: Good: _____ Inadequate: ✓

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad is burried

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Campbell Field Tech 12.12.18

Signed Title Date

Geo-Logic
ASSOCIATES

Geologists • Hydrogeologists • Engineers

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018-1024
Well I.D.:	MW-2B	Sampling Date:	12-12-18
Collected By:	MC	Purge start Time:	8:16
Casing Diameter (inches):	4	Purge Stop time:	8:41
Starting Water Level:	18.93	Sampling (Well Recovery) Time:	8:50
Total Depth (feet):	71.10	Ending Water Level (feet):	22.82
Water column (feet):	52.27	Total Purged (gallons):	2.5+
Screen Length (feet):		Duplicate Sample:	YES NO (C)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W541WBOD		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
8:28	1.0	21.31	7.50	3.29	0.0	.95	20.30	-194
8:32	1.5	21.86	7.50	3.27	0.0	.80	20.40	-192
8:34	1.75	22.09	7.50	3.27	0.0	.71	20.42	-191
8:36	2.0	22.36	7.52	3.27	0.6	.69	20.43	-190
8:39	2.25	22.60	7.53	3.27	0.7	.65	20.40	-189
8:41	2.50	22.82	7.54	3.26	0.9	.63	20.45	-189

Purge Sampling Rates: 40 psi refill 35 discharge 11

Water contains slight blackish tint with a strong odor

Well condition: OK

Additional Info/Comments: Mostly clear, mild to warm, with a breeze increasing clouds

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-2B Date: 12.12.18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Required carrying equipment and sample bottle

Concrete Pad:

Integrity: Good: _____ Inadequate: ✓

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Half of concrete pad is burried

Protective Outer Casing: Material: metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NP Current (Hz): NP

Remarks:

Field Certification: Nicole Cuff Field Tech 12.12.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	SC18.1024
Well I.D.:	MW-5	Sampling Date:	12.11.18
Collected By:	MC	Purge start Time:	10:59
Casing Diameter (inches):	2	Purge Stop time:	11:19
Starting Water Level:	18.37	Sampling (Well Recovery) Time:	11:30
Total Depth (feet):	26.20	Ending Water Level (feet):	18.71
Water column (feet):	7.83	Total Purged (gallons):	2.5
Screen Length (feet):		Duplicate Sample:	(YES) NO
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W54/M BR	Duplicate taken at this well	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
11:07	1.0	18.58	7.25	4.47	37.9	1.12	20.43	-181
11:11	1.5	18.63	7.24	4.26	38.0	.85	20.61	-183
11:13	1.75	18.65	7.26	4.18	38.0	.72	20.77	-186
11:15	2.0	18.67	7.26	4.17	38.2	.70	20.69	-187
11:17	2.25	18.69	7.25	4.16	38.2	.70	20.70	-187
11:19	2.50	18.71	7.26	4.15	38.2	.68	20.71	-188

Purge Sampling Rates: 25 psi refill 30 discharge 10

water contains yellowish tint with an odor

Well condition: OK

Additional Info/Comments: clear, cool, windy

Name: Mikel Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-5 Date: 12.11.18

Access:

Accessibility: Good: _____ Fair: V Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: _____ No: V

Presence of depressions or standing water around well: Yes: _____ No: V

Remarks:

Concrete Pad: N/A

Integrity: Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: V

Remarks: Concrete pad not visible

Protective Outer Casing: Material: metal

Condition of Protective Casing: Good: V Damaged: _____

Condition of Locking Cap: Good: V Damaged: _____

Condition of Lock: Good: V Damaged: _____

Condition of Weepholes: Good: V Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: V Damaged: _____

Condition of Riser Cap: Good: V Damaged: _____

Measurment reference point: Yes: V No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: V Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: [signature] Field Tech 12.11.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No.:	5018.1024
Well I.D.:	MW-6	Sampling Date:	12/10/18
Collected By:	NR	Purge start Time:	1315
Casing Diameter (inches):	2	Purge Stop time:	1349
Starting Water Level:	16.20	Sampling (Well Recovery) Time:	1400
Total Depth (feet):	23.50	Ending Water Level (feet):	17.10
Water column (feet):	7.30	Total Purged (gallons):	1¼+
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow	* Blanks collected *	
Horiba Model S/N:	U-52/DLLQYV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
1328	¼	16.83	7.20	3.78	0.0	0.00	23.48	-303
1335	½	16.91	7.15	3.84	0.0	0.00	23.52	-333
1340	¾	16.99	7.13	3.78	0.0	0.00	23.54	-340
1345	1	17.06	7.11	3.74	0.0	0.00	23.55	-341
1349	1¼	17.10	7.10	3.72	0.0	0.00	23.56	-342

Purge Sampling Rates: 20 PSI Refill (30) Discharge (5)

Well condition: OK, WATER CLEAR with strong odor.

Additional Info/Comments: Sunny, clouds, breezy

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-6 Date: 12/10/18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: _____ No: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks: HAD TO CARRY EQUIPMENT AND BOTTLES OVER TO WELL

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: _____ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: _____ FIELD TECH 12/10/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5012.1024
Well I.D.:	MW-9	Sampling Date:	12.11.12
Collected By:	MC	Purge start Time:	13:04
Casing Diameter (inches):	4	Purge Stop time:	13:35
Starting Water Level:	19.31	Sampling (Well Recovery) Time:	13:50
Total Depth (feet):	26.70	Ending Water Level (feet):	19.42
Water column (feet):	7.39	Total Purged (gallons):	1.5
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W541W800		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
13:17	.5	19.39	7.02	4.59	42.5	.61	22.85	-121
13:22	.75	19.41	7.03	4.57	42.4	.51	22.96	-124
13:27	1.0	19.42	7.04	4.56	42.9	.47	23.05	-126
13:31	1.25	"	7.05	4.55	42.6	.45	23.07	-127
13:35	1.5	"	7.05	4.55	42.7	.44	23.10	-127

Purge Sampling Rates: 25 psi refill 20 discharge
water containg yellowish tint

Well condition: OK carried equipment and bottles to wet standing water in well box

Additional Info/Comments: Cloudy mild windy
Flushmount

Name: M. de Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-9 Date: 12.11.18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Carried equipment and sample bottles to well

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Standing water in well box

Protective Outer Casing: Material: Metal Flushmount

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks: Flushmount standing in well box

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks: -

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Nate Campbell Field Tech 12.11.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: MW-13R
Collected By: MC
Casing Diameter (inches): 4
Starting Water Level: 16.09
Total Depth (feet): 27.80
Water column (feet): 11.71
Screen Length (feet):
Sample Method: (Micro Purge) ~~Low Flow~~
Horiba Model S/N: U-52 | W5YLWBDA

Project No.: 5018.1024
Sampling Date: 12.11.16
Purge start Time: 9:03
Purge Stop time: 9:28
Sampling (Well Recovery) Time: 9:43
Ending Water Level (feet): 16.58
Total Purged (gallons): 1.75
Duplicate Sample: YES (NO)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
9:12	.5	16.38	7.55	2.86	0.0	4.81	21.38	-346
9:15	.75	16.46	7.56	2.85	10.0	4.94	21.56	-352
9:18	1.0	16.49	7.57	2.83	0.0	4.53	21.65	-357
9:21	1.25	16.53	7.57	2.79	0.0	4.48	21.71	-360
9:25	1.5	16:56	7.58	2.77	0.0	4.44	21.74	-358
9:28	1.75	16.58	7.59	2.77	0.0	4.41	21.75	-359
	split sample taken at this well							

Purge Sampling Rates: 30 psi ref.11 30 discharge 5
water is mostly clear with a strong odor
water contains blackish tint
Well condition: OK

Additional Info/Comments: Partly cloudy, cool, windy. Heavy traffic

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-13R Date: 12.11.18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Located at corner of the entrance to landfill had to carry equipment and sample bottles, level

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks: Monument heavily corroded

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Campbell (Signed) Field Tech (Title) 12.11.18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Canyon	Project No:	5018.1024
Well I.D.:	MW-14	Sampling Date:	12/10/18
Collected By:	NR	Purge start Time:	1231
Casing Diameter (inches):	4	Purge Stop time:	1241
Starting Water Level:	14.17	Sampling (Well Recovery) Time:	1255
Total Depth (feet):	28.10	Ending Water Level (feet):	14.78
Water column (feet):	13.93	Total Purged (gallons):	2½+
Screen Length (feet):	—	Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/DLLQYV06		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE C	O R P mV
1235	1	14.71	7.16	3.94	0.0	3.44	22.06	-82
1237	1½	14.78	7.07	3.87	0.4	2.64	22.18	-69
1239	2	14.78	7.03	3.84	0.4	2.58	22.20	-61
1240	2¼	14.78	7.01	3.83	0.6	2.51	22.24	-59
1241	2½	14.78	7.01	3.82	0.5	2.47	22.21	-57

Purge Sampling Rates: 20 PSI Refill(2) Discharge(2)

Well condition: OK, WATER CLEAR WITH NO ODOR.

Additional Info/Comments: Sunny, cool, breezy

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-14 Date: 12/10/18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: _____ Field Tech 12/10/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018-1024
Well I.D.:	CM-9R3	Sampling Date:	12.10.18
Collected By:	MC	Purge start Time:	14:55
Casing Diameter (inches):	4	Purge Stop time:	15:19
Starting Water Level:	10.18	Sampling (Well Recovery) Time:	15:30
Total Depth (feet):	29.00	Ending Water Level (feet):	11.35
Water column (feet):	18.82	Total Purged (gallons):	2.0
Screen Length (feet):		Duplicate Sample:	YES NO (C)
Sample Method:	Micro Purge (Low Flow)		
Horiba Model S/N:	U-52 / W541WBDP		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
15:01	.5	10.75	5.97	4.85	1190	1.41	17.26	145
15:07	1.0	11.00	5.97	4.86	662	.97	17.30	141
15:10	1.25	11:17	5.98	4.86	381	.74	17.33	140
15:13	1.5	11:21	5.99	4.86	34.8	.71	17.34	140
15:16	1.75	11.28	5.99	4.86	33.1	.68	17.36	140
15:19	2.0	11:35	5.99	4.86	32.6	.65	17.38	141

Purge Sampling Rates: 25 psi refill 30 discharge

Well condition: OK

Additional Info/Comments: cloudy, mild

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-9R3 Date: 12.10.18

Access:

Accessibility: Good: _____ Fair: J Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Heavy vegetation and ruts on the path to well

Concrete Pad:

Integrity: NA Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Concrete pad not visible

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: J Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: J No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: [signature] Field Tech 12.10.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Cyn

Well I.D.: CM-10R

Collected By: MC

Casing Diameter (inches): 4

Starting Water Level: 49.68

Total Depth (feet): 110.90

Water column (feet): 61.22

Screen Length (feet):

Sample Method: (Micro Purge) Low Flow

Horiba Model S/N: U-52/W5Y1WBOD

Project No.: 5018 1024

Sampling Date: 12-11-18

Purge start Time: 7:21

Purge Stop time: 7:46

Sampling (Well Recovery) Time: 7:55

Ending Water Level (feet): 49.87

Total Purged (gallons): 2.51

Duplicate Sample: YES (NO)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms.cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
7:31	1.0	49.87	6.95	3.18	0.0	1.61	19.84	-129
7:36	1.5	"	7.00	3.12	0.0	1.25	19.74	-138
7:39	1.75	"	7.02	3.18	0.0	1.30	19.66	-141
7:41	2.0	"	7.03	3.17	0.0	1.24	19.62	-142
7:43	2.25	"	7.03	3.14	0.0	1.21	19.63	-148
7:46	2.50	"	7.02	3.16	0.0	1.19	19.60	-145

Purge Sampling Rates: 50 psi refill 40 discharge 12
water is clear with a strong odor

Well condition: OK

Additional Info/Comments: Partly cloudy, cold, windy

Name: Mike Campbell

Signature: [signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-10R Date: 12.11.18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: M Le Caylell (Signed) Field Tech (Title) 12-11-18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: CM-11R
Collected By: MC
Casing Diameter (inches): 4
Starting Water Level: 19.13
Total Depth (feet): 31.00
Water column (feet): 11.87
Screen Length (feet):
Sample Method: Micro Purge (Low Flow)
Horiba Model S/N: U-52/W541WBDO

Project No.: 5018-1024
Sampling Date: 12-10-18
Purge start Time: 13:14
Purge Stop time: 13:56
Sampling (Well Recovery) Time: 14:15
Ending Water Level (feet): 20.19
Total Purged (gallons): 1.5
Duplicate Sample: YES (NO) C

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
13:23	.25	19.41	6.09	4.85	1.1	1.58	16.38	140
13:30	.50	19.57	6.02	4.81	1.1	1.34	16.39	159
13:36	.75	19.73	6.03	4.81	1.8	1.31	16.39	164
13:42	1.0	19.90	6.00	4.80	1.2	1.28	16.40	167
13:48	1.25	20.05	5.98	4.79	1.4	1.26	16.40	171
13:56	1.50	20.19	6.00	4.78	1.8	1.24	16.41	174

Purge Sampling Rates: 30 psi refill 25, discharge 4
water is clear with no odor

Well condition: ok

Additional Info/Comments: Partly cloudy, mild, slight breeze

Name: Mike Compkell Signature: Mike Compkell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-11R Date: 12-10-18

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Backed truck up concrete drainage channel to access the well

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks:

Protective Outer Casing: Material: metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: [signature] Field Tech 12-10-18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn.	**Project No.:**	5018.1024
Well I.D.:	DW-1	**Sampling Date:**	12-11-18
Collected By:	BS	**Purge start Time:**	/
Casing Diameter (inches):	4	**Purge Stop time:**	/
Starting Water Level:	TOC	**Sampling (Well Recovery) Time:**	1250
Total Depth (feet):	/	**Ending Water Level (feet):**	/
Water column (feet):	/	**Total Purged (gallons):**	/
Screen Length (feet):	—	**Duplicate Sample:**	YES (NO)
Sample Method:	Micro Purge Low Flow		
Horiba Model S/N:	R8JSYQMH		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
	Grab	—	9.03	4.45	1.1	4.32	18.81	-154

Purge Sampling Rates: Collect a grab sample from the discharge tube. Clear water with an odor.

Well condition: OK

GCAB taken here.

Additional Info/Comments: Sunny, cool

Difficult to access due to running water and mud.

Name: Bert Salinas **Signature:** Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn. Well ID: DW-1 Date: 12-11-18

Access:

Accessibility: Good: ____ Fair: ____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ____ No: ✓

Presence of depressions or standing water around well: Yes: ✓ No: ____

Remarks: Accumulated soil around well and flowing water

Concrete Pad:

Integrity: Good: ✓ Inadequate: ____

Presence of depressions or standing water around well: Yes: ____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ____ Damaged: ____

Condition of Locking Cap: Good: ✓ Damaged: ____

Condition of Lock: Good: ✓ Damaged: ____

Condition of Weepholes: Good: ✓ Damaged: ____

Remarks: Metal stove pipe is corroding,

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: ____

Condition of Riser Cap: Good: ✓ Damaged: ____

Measurment reference point: Yes: ____ No: ✓

Remarks:

Dedicated Pump: Type: Drape tube

Condition: Good: ✓ Damaged: ____ Missing: ____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: Mark Slims (Signed) GW Manager (Title) 12-11-18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018.1024
Well I.D.:	DW-2	Sampling Date:	12-13-18
Collected By:	MC	Purge start Time:	7:40
Casing Diameter (inches):	4	Purge Stop time:	8:05
Starting Water Level:	27.87	Sampling (Well Recovery) Time:	8:15
Total Depth (feet):	71.00	Ending Water Level (feet):	31.25
Water column (feet):	43.13	Total Purged (gallons):	2.5
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W541KBDD		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
7:47	.5	29.30	7.47	2.74	0.0	1.45	17.95	-104
7:53	1.0	29.85	7.53	2.72	0.0	.92	17.98	-108
7:57	1.5	30.38	7.55	2.72	0.5	.74	18.02	-112
8:01	2.0	30.79	7.62	2.72	0.2	.72	18.02	-115
8:03	2.25	31.03	7.63	2.72	0.4	.68	18.03	-115
8:05	2.50	31.25	7.64	2.72	0.5	.66	18.02	-116

Purge Sampling Rates: 45 psi refill 35 decrease 10
water is clear with no oder

Well condition: OK
Heavy vegetation around well
Additional Info/Comments: clear, mild, windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-2 Date: 12.13.18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: _____ No: ✓

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Heavy vegetation on path to well and around monument

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Campbell Field Tech 12.13.18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: DW-3
Collected By: MC
Casing Diameter (inches): 4"
Starting Water Level: 155.41 (MC 12.13.18) ~~155.4~~
Total Depth (feet): 256.60
Water column (feet): 101.19
Screen Length (feet):
Sample Method: (Micro Purge) Low Flow
Horiba Model S/N: U-52/W5Y1WGOD

Project No.: 5018.1024
Sampling Date: 12.13.18
Purge start Time: 9:01
Purge Stop time: 9:26
Sampling (Well Recovery) Time: 9:35
Ending Water Level (feet): 158.83
Total Purged (gallons): 2.5
Duplicate Sample: YES (NO)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
9:12	1.0	157.52	7.60	2.19	0.0	1.51	19.45	-67
9:17	1.5	157.93	7.59	2.19	0.0	1.06	19.42	-73
9:19	1.75	158.14	7.61	2.19	0.0	.98	19.42	-77
9:21	2.0	158.38	7.62	2.19	0.1	.93	19.44	-80
9:24	2.25	158.60	7.62	2.19	0.0	.90	19.46	-82
9:26	2.50	158.83	7.63	2.19	0.0	.89	19.46	-82

Purge Sampling Rates: 100 psi rot. 11 35 discharge 1B
water is clear with no odor

Well condition: OK

Additional Info/Comments: clear/ warm/ windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Gym Well ID: DW-3 Date: 12.13.18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: _____

Remarks:

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Capshill (Signed) Field Tech (Title) 12.13.18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Gym	Project No.:	5018 1024
Well I.D.:	DW-4	Sampling Date:	12.12.18
Collected By:	MC	Purge start Time:	7:31
Casing Diameter (inches):	4	Purge Stop time:	7:49
Starting Water Level:	32.82	Sampling (Well Recovery) Time:	7:59
Total Depth (feet):	134.80	Ending Water Level (feet):	34.39
Water column (feet):	101.98	Total Purged (gallons):	2.5+
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/W541WBDP		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
7:40	1.0	34.07	7.49	3.53	0.6	1.32	19.22	-250
7:44	1.5	34.49	7.53	3.57	0.0	1.04	19.33	-248
7:42	1.75	34.75	7.53	3.53	0.0	.83	19.36	-247
7:44	2.0	34.98	7.54	3.52	0.0	.75	19.36	-246
7:47	2.25	34.19	7.55	3.52	0.0	.72	19.38	-249
7:49	2.50	34.39	7.56	3.52	0.0	.70	19.40	-251

Purge Sampling Rates: 75 psi refill 30 discharge 16

Water has ~~slight~~ black tint with an odor

Well condition: OK concrete pad, burried

Additional Info/Comments: Had to carry equipment and sample bottle down slope to well, clear, cool, slight breeze

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-4 Date: 12.12.18

Access:

Accessibility: Good: _____ Fair: _____ Poor: √

Vicinity of well clear of weeds and/or debris: Yes: _____ No: √

Presence of depressions or standing water around well: Yes: _____ No: √

Remarks: Required hiking equipment and bottle down a slope to well. Heavy erosion around monument Tumble weeds around the monument

Concrete Pad:

Integrity: NA Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: √

Remarks: Concrete pad is burried

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: √ Damaged: _____

Condition of Locking Cap: Good: U Damaged: _____

Condition of Lock: Good: √ Damaged: _____

Condition of Weepholes: Good: U Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: U Damaged: _____

Condition of Riser Cap: Good: U Damaged: _____

Measurment reference point: Yes: U No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: U Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Cargill (Signed) Field Tech (Title) 12.12.18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018.1024
Well I.D.:	DW-5	Sampling Date:	12-11-18
Collected By:	MC	Purge start Time:	12:05
Casing Diameter (inches):	4	Purge Stop time:	12:33
Starting Water Level:	14.04	Sampling (Well Recovery) Time:	12:40
Total Depth (feet):	101.00	Ending Water Level (feet):	17.70
Water column (feet):	86.96	Total Purged (gallons):	
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52 / W541WBDN		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
12:18	1.0	15.80	8.53	1.74	131.0	.91	19.11	-179
12:24	1.5	16:36	8.45	1.73	208.0	.65	19.12	-190
12:29	2.0	17.15	8.48	1.74	221.0	.59	19.13	-195
12:31	2.5	17:53	8.50	1.73	206.0	.57	19.14	-199
12:33	2.5	17.70	8.52	1.72	215.0	.56	19.15	-201

Purge Sampling Rates: 65 psi refill 30 discharge 18
water has yellowish tint and an odor

Well condition: OK

Additional Info/Comments: Clear, cool, windy

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-5 Date: 12.11.18

Access:

Accessibility: Good: ✓ Fair: _____ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks:

Concrete Pad:

Integrity: NA Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Broken concrete and rubble around monument

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Mike Campbell (Signed) Field Tech (Title) 12.11.18 (Date)

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name: Sunshine Canyon

Well I.D.: PZ-2

Collected By: NR

Casing Diameter (inches): 2

Starting Water Level: 122.39

Total Depth (feet): 160.90

Water column (feet): 38.51

Screen Length (feet): —

Sample Method: (Micro Purge) Low Flow

Horiba Model S/N: U-52/DLCYV06

Project No.: S018.1024

Sampling Date: 12/10/18

Purge start Time: 1000

Purge Stop time: 1038

Sampling (Well Recovery) Time: Retest: 1045 / 1055

Ending Water Level (feet): 128.97

Total Purged (gallons): 2 1/4

Duplicate Sample: YES (NO)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE C	O R P mV
1012	1/2	124.71	8.26	5.71	0.0	0.00	23.39	-163
1020	1	126.15	8.47	5.71	0.0	0.00	23.34	-134
1027	1 1/2	127.33	8.52	5.71	0.0	0.00	23.34	-125
1031	1 3/4	128.04	8.54	5.71	0.0	0.00	23.37	-122
1034	2	128.58	8.56	5.71	0.0	0.00	23.38	-121
1038	2 1/4	128.97	8.57	5.71	0.0	0.00	23.36	-120

Purge Sampling Rates: 80 PSI Refill (30) Discharge (22)

Well condition: OK, WATER CLEAR WITH

Additional Info/Comments: A regular & resample was collected. Cloudy, cool, windy

Name: Nicholas Reason Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: PZ-2 Date: 12/10/18

Access:

Accessibility: Good: _____ Fair: _____ Poor: ✓

Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: CARRIED SAMPLING EQUIPMENT AND BOTTLES ACCROSS CONCRETE CHANNEL

Concrete Pad:

Integrity: N/A Good: _____ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: X

Remarks: NO CONCRETE PAD

Protective Outer Casing: Material: METAL

Condition of Protective Casing: Good: X Damaged: _____

Condition of Locking Cap: Good: X Damaged: _____

Condition of Lock: Good: X Damaged: _____

Condition of Weepholes: Good: X Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: X Damaged: _____

Condition of Riser Cap: Good: X Damaged: _____

Measurment reference point: Yes: X No: _____

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: X Damaged: _____ Missing: _____

Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification: _____ FIELD TECH 12/10/18

Signed Title Date

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GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

Site Name:	Sunshine Cyn	Project No.:	5018.1024
Well I.D.:	PZ-4	Sampling Date:	12.12.18
Collected By:	MC	Purge start Time:	11:13
Casing Diameter (inches):	2	Purge Stop time:	11:47
Starting Water Level:	111.89	Sampling (Well Recovery) Time:	11:57
Total Depth (feet):	125.15	Ending Water Level (feet):	114.27
Water column (feet):	13.26	Total Purged (gallons):	2.25
Screen Length (feet):		Duplicate Sample:	YES (NO)
Sample Method:	(Micro Purge) Low Flow		
Horiba Model S/N:	U-52/WS41MB0N		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P mV
11:23	.5	112.83	7.40	1.52	40.8	1.61	22.32	-74
11:30	1.0	113.33	7.36	1.51	10.0	.89	22.26	-88
11:33	1.25	113.51	7.42	1.55	10.3	.71	22.23	-84
11:37	1.5	113.76	7.39	1.56	4.1	.66	22.24	-82
11:40	1.75	113.94	7.44	1.56	1.0	.63	22.23	-84
11:44	2.0	114.11	7.46	1.56	0.0	.61	22.21	-86
11:47	2.25	114.27	7.45	1.56	0.0	.60	22.19	-87

Purge Sampling Rates: 80 psi ref. 11 40, discharge 16
water is clear with no odor

Well condition: OK

Additional Info/Comments: Partly cloudy, mild, slight breeze

Name: Mike Campbell Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: PZ-4 Date: 12.12.16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____

Vicinity of well clear of weeds and/or debris: Yes: _____ No: ✓

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Had to remove an abundant amount of tumble weeds to open gate to well

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____

Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Flushmount

Protective Outer Casing: Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____

Condition of Locking Cap: Good: ✓ Damaged: _____

Condition of Lock: Good: ✓ Damaged: _____

Condition of Weepholes: Good: ✓ Damaged: _____

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: ✓ Damaged: _____

Condition of Riser Cap: Good: ✓ Damaged: _____

Measurment reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump: Type: Bladder

Condition: Good: ✓ Damaged: _____ Missing: _____

Pumping Rate (gpm): NA Current (Hz): NA

Remarks:

Field Certification: Nate Campbell (Signed) Field Tech (Title) 12.12.16 (Date)

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model # U-52/WS41WB00						
Date/Time 12.10.18 12:38	**pH**	**Electrical Conductivity (µMhos/cm)**	**Turbidity (NTU)**	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	4.21	4.48	0.0	13.06		
Calibration	3.99	4.49	0.0	10.02		
Calibration Successful? (Y/N)	YES				enter YES or NO	
Satifies Protocol?	YES				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	--				Signature or initials	[signature]
Physical Condition of Unit	Good					

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Canyon L/F **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model #	Horiba U-52 (DLLCYV06)					
Date/Time 12-10-18 0915	**pH**	**Electrical Conductivity** (µMhos/cm) (4.49 mg/Kg)	**Turbidity** (NTU) (0)	**DO** (mg/L or %)	**Guidance Remarks**	**Comments**
Pre Cal	3.37	4.33	0.0	9.89		
Calibration	4.00	4.49	0.0	10.02		
Calibration Successful? (Y/N)	Y				enter YES or NO	
Satifies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	NR				Signature or initials	
Physical Condition of Unit	Good					

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GROUNDWATER MONITORING PROGRAM
LEACHATE DATA SHEET

Site: Sunshine Cyn. **Project No.:** 5018.1024

Station I.D.: LY-7 **Sampling Date:** 12-11-18

Collected By: BS **Sampling Time:** 1100

Horiba Model S/N: R855494H **Duplicate Sample:** YES (NO)

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Yellowish	Yes	7.05	6.65	16.9	2.39	31.50	-76

Leachate sampling station conditions: Clear, sunny, light winds
Picture taken.
Warm liquid.

Additional Info/Comments: Samples taken @ E/B side / Sample here from the lysimeter 1"in HDPE pipe.

Name: B. Salinas Signature: Bert Salinas

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn **PROJECT NAME / NUMBER** SCIE 1024

Instrument Make/Model # U-52/w5Y1w80n						
Date/Time 12.11.18 6.48	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	3.98	4.45	0.8	9.89		
Calibration	4.00	4.48	0.1	965		
Calibration Successful? (Y/N)	Yes				enter YES or NO	
Satifies Protocol?	Yes				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	—				Signature or initials	Michael Cargill
Physical Condition of Unit	Good					

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine **PROJECT NAME / NUMBER** Sol 8, 1824

Instrument Make/Model #	Horiba / U-52 R8554941t					
Date/Time 12-11-18 0831	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	3.28	4.40	0	13.12		
Calibration	4.00	4.50	0	9.58		
Calibration Successful? (Y/N)	Yes	→	→	→	enter YES or NO	
Satifies Protocol?	Yes	→	→	→	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	[signature]	[signature]			Signature or initials	
Physical Condition of Unit			Good			

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model # 4-52/W541WB00						
Date/Time 12-12-10 6:50	**pH**	**Electrical Conductivity (µMhos/cm)**	**Turbidity (NTU)**	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	4.10	4.64	11.0	11.26		
Calibration	3.99	4.50	0.0	10.41		
Calibration Successful? (Y/N)	yes				enter YES or NO	
Satifies Protocol?	yes				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	[signature]				Signature or initials	[signature]
Physical Condition of Unit		Good				

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine **PROJECT NAME / NUMBER** 508.1024

Instrument Make/Model # RE5549411						
Date/Time 12/12/18 0650	**pH**	**Electrical Conductivity (µMhos/cm)** (4.49 mg/Kg)	**Turbidity (NTU)** (0)	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	3.91	4.58	0.9	13.28		
Calibration	4.00	4.440	←	9.52		
Calibration Successful? (Y/N)	Yes	→	→	→	enter YES or NO	
Satifies Protocol?	Yes	→	→	→	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by					Signature or initials	
Physical Condition of Unit	Good					

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine **PROJECT NAME / NUMBER** SUN. 1024

Instrument Make/Model # R855494H						
Date/Time 12/13/14 0752	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	3.94	4.52	0.5	12.44		
Calibration	4.00	4.49	0	8.58		
Calibration Successful? (Y/N)	Yes	→	→	→	enter YES or NO	
Satifies Protocol?	Yes	→	→	→	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	[signature]	[signature]	[signature]		Signature or initials	
Physical Condition of Unit			Good			

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FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn **PROJECT NAME / NUMBER** 5018.1024

Instrument Make/Model # U-52/WSYIMBOD						
Date/Time 12.13.18 6:40	**pH**	**Electrical Conductivity (µMhos/cm)**	**Turbidity (NTU)**	**DO (mg/L or %)**	**Guidance Remarks**	**Comments**
Pre. Cal	4.04	4.42	0.0	11.03		
Calibration	3.99	4.49	0.1	9.53		
Calibration Successful? (Y/N)	Yes				enter YES or NO	
Satifies Protocol?	Yes				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	m				Signature or initials	Michael Capell
Physical Condition of Unit	Good					

LABORATORY ANALYTICAL DATA REPORTS

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-218537-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
8/31/2018 10:08:56 AM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-218537-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-218537-1	MW-6-A	Water	08/21/18 11:35	08/21/18 15:25
440-218537-2	MW-6-B	Water	08/21/18 11:40	08/21/18 15:25
440-218537-3	MW-14-A	Water	08/21/18 12:10	08/21/18 15:25
440-218537-4	MW-14-B	Water	08/21/18 12:15	08/21/18 15:25

Job ID: 440-218537-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-218537-1

Comments
No additional comments.

Receipt
The samples were received on 8/21/2018 3:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9º C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

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

Client Sample ID: MW-6-A

Lab Sample ID: 440-218537-1

Date Collected: 08/21/18 11:35

Matrix: Water

Date Received: 08/21/18 15:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.90		0.50	0.10	mg/L		08/31/18 04:00	08/31/18 07:30	1

Client Sample ID: MW-6-B

Lab Sample ID: 440-218537-2

Date Collected: 08/21/18 11:40

Matrix: Water

Date Received: 08/21/18 15:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.1		0.50	0.10	mg/L		08/31/18 04:00	08/31/18 07:30	1

Client Sample ID: MW-14-A

Lab Sample ID: 440-218537-3

Date Collected: 08/21/18 12:10

Matrix: Water

Date Received: 08/21/18 15:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.40	J	0.50	0.10	mg/L		08/31/18 04:00	08/31/18 07:30	1

Client Sample ID: MW-14-B

Lab Sample ID: 440-218537-4

Date Collected: 08/21/18 12:15

Matrix: Water

Date Received: 08/21/18 15:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.36	J	0.50	0.10	mg/L		08/31/18 04:00	08/31/18 07:30	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-218537-1

Method	Method Description	Protocol	Laboratory
SM 4500 NH3 D	Ammonia	SM	TAL IRV
SM 4500 NH3 B	Distillation, Ammonia	SM	TAL IRV

Protocol References:

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

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-218537-1

Client Sample ID: MW-6-A

Lab Sample ID: 440-218537-1

Date Collected: 08/21/18 11:35

Matrix: Water

Date Received: 08/21/18 15:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	496729	08/31/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			496745	08/31/18 07:30	YZ	TAL IRV

Client Sample ID: MW-6-B

Lab Sample ID: 440-218537-2

Date Collected: 08/21/18 11:40

Matrix: Water

Date Received: 08/21/18 15:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	496729	08/31/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			496745	08/31/18 07:30	YZ	TAL IRV

Client Sample ID: MW-14-A

Lab Sample ID: 440-218537-3

Date Collected: 08/21/18 12:10

Matrix: Water

Date Received: 08/21/18 15:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	496729	08/31/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			496745	08/31/18 07:30	YZ	TAL IRV

Client Sample ID: MW-14-B

Lab Sample ID: 440-218537-4

Date Collected: 08/21/18 12:15

Matrix: Water

Date Received: 08/21/18 15:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	496729	08/31/18 04:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			496745	08/31/18 07:30	YZ	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-218537-1

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-496729/2-A
Matrix: Water
Analysis Batch: 496745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 496729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		08/31/18 04:00	08/31/18 07:30	1

Lab Sample ID: LCS 440-496729/1-A
Matrix: Water
Analysis Batch: 496745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 496729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.27		mg/L		91	85 - 115

Lab Sample ID: 440-218537-3 MS
Matrix: Water
Analysis Batch: 496745

Client Sample ID: MW-14-A
Prep Type: Total/NA
Prep Batch: 496729

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.40	J	2.50	2.80		mg/L		96	75 - 125

Lab Sample ID: 440-218537-3 MSD
Matrix: Water
Analysis Batch: 496745

Client Sample ID: MW-14-A
Prep Type: Total/NA
Prep Batch: 496729

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.40	J	2.50	2.71		mg/L		92	75 - 125	4	15

General Chemistry

Prep Batch: 496729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218537-1	MW-6-A	Total/NA	Water	SM 4500 NH3 B	
440-218537-2	MW-6-B	Total/NA	Water	SM 4500 NH3 B	
440-218537-3	MW-14-A	Total/NA	Water	SM 4500 NH3 B	
440-218537-4	MW-14-B	Total/NA	Water	SM 4500 NH3 B	
MB 440-496729/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-496729/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-218537-3 MS	MW-14-A	Total/NA	Water	SM 4500 NH3 B	
440-218537-3 MSD	MW-14-A	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 496745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-218537-1	MW-6-A	Total/NA	Water	SM 4500 NH3 D	496729
440-218537-2	MW-6-B	Total/NA	Water	SM 4500 NH3 D	496729
440-218537-3	MW-14-A	Total/NA	Water	SM 4500 NH3 D	496729
440-218537-4	MW-14-B	Total/NA	Water	SM 4500 NH3 D	496729
MB 440-496729/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	496729
LCS 440-496729/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	496729
440-218537-3 MS	MW-14-A	Total/NA	Water	SM 4500 NH3 D	496729
440-218537-3 MSD	MW-14-A	Total/NA	Water	SM 4500 NH3 D	496729

Qualifiers

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-218537-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

209769

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchans	Site Contact:	Date: 8/21/18	COC No
Company Name: GeoLogic Associates	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
Address: 11415 West Bernardo Ct, Suite 2a	Analysis Turnaround Time			Sampler:
City/State/Zip: San Diego CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone 858-451-1136	TAT if different from Below _____			Walk-in Client
Fax:	☐ 2 weeks			Lab Sampling
Project Name: Sunshine Canyon	☐ 1 week			
Site: Sunshine Canyon L/F	☐ 2 days			Job / SDG No :
PO # 5018.1024	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 350.2 Ammonia as N	Sample Specific Notes:
MW-6-A	8/21/18	1135		GW	1			X	
MW-6-B	8/21/18	1140		GW	1			X	
MW-14-A	8/21/18	1210		GW	1			X	
MW-14-B	8/21/18	1215		GW	1			X	

440-218537 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.. | Cooler Temp. (°C): Obs'd _____ Corr'd _____ Therm ID No _____

Relinquished by:	Company	Date/Time:	Received by:	Company:	Date/Time
N. Reason	GLA	8.21.18/1425	Will. Reiva	TA-IRV	8/21/18 1425
Relinquished by: Will. Reiva	Company: TA-IRV	Date/Time: 8/21/18 1525	Received by	Company	Date/Time:
Relinquished by:	Company	Date/Time.	Received in Laboratory by: Teresa Cruz	Company. TAIRV	Date/Time: 8/21/18 1525

1.8/1.9 #88

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8/31/2018

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-218537-1

Login Number: 218537

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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?	False	The Field Sampler was not listed on the Chain of Custody.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-220258-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
9/28/2018 10:54:05 AM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-220258-1	MW-6	Water	09/17/18 13:45	09/17/18 17:00
440-220258-2	MW-14	Water	09/17/18 12:40	09/17/18 17:00
440-220258-3	PZ-2	Water	09/17/18 11:05	09/17/18 17:00
440-220258-4	QCTB	Water	09/17/18 00:01	09/17/18 17:00

Job ID: 440-220258-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-220258-1

Comments
No additional comments.

Receipt
The samples were received on 9/17/2018 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-501329 recovered above the upper control limit for Methylacrylonitrile. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-6 (440-220258-1), MW-14 (440-220258-2), PZ-2 (440-220258-3), QCTB (440-220258-4) and (CCV 440-501329/3).

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-501329 recovered above the upper control limit for Isobutyl alcohol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-6 (440-220258-1), MW-14 (440-220258-2), PZ-2 (440-220258-3), QCTB (440-220258-4) and (CCVIS 440-501329/7).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-501329 recovered outside control limits for the following analyte: Isobutyl alcohol. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

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

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

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-SIM-1,4-DXNpreparation batch 440-500622.

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

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

Client Sample ID: MW-6
Date Collected: 09/17/18 13:45
Date Received: 09/17/18 17:00

Lab Sample ID: 440-220258-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 01:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Acrolein	ND		50	2.5	ug/L			09/22/18 02:08	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 02:08	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 01:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 01:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 01:21	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 01:21	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 01:21	1
Acetone	ND		20	10	ug/L			09/27/18 01:21	1
Acetonitrile	ND		20	10	ug/L			09/27/18 01:21	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 01:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 01:21	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 01:21	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 01:21	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 01:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 01:21	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 01:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 01:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 01:21	1
Isobutyl alcohol	ND	*	25	13	ug/L			09/27/18 01:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 01:21	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 01:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 01:21	1

Client Sample ID: MW-6
Date Collected: 09/17/18 13:45
Date Received: 09/17/18 17:00

Lab Sample ID: 440-220258-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/27/18 01:21	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 01:21	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Propionitrile	ND		20	10	ug/L			09/27/18 01:21	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 01:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 01:21	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/27/18 01:21	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 01:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 01:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 01:21	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 01:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 01:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 01:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*18*	*T J*	*ug/L*		*1.76*			*09/27/18 01:21*	*1*
Unknown	*1600*	*T J*	*ug/L*		*1.87*			*09/27/18 01:21*	*1*
Unknown	*11*	*T J*	*ug/L*		*5.97*			*09/27/18 01:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 128*		*09/22/18 02:08*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*09/22/18 02:08*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*09/27/18 01:21*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/27/18 01:21*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/22/18 02:08*	*1*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*09/27/18 01:21*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/23/18 14:16	09/25/18 20:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*30 - 120*	*09/23/18 14:16*	*09/25/18 20:43*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**32**		25	13	mg/L			09/19/18 00:24	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**5.4**		0.50	0.25	mg/L		09/20/18 10:55	09/20/18 20:22	1

Client Sample ID: MW-6

Lab Sample ID: 440-220258-1

Date Collected: 09/17/18 13:45

Matrix: Water

Date Received: 09/17/18 17:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.90		0.20	0.10	mg/L			09/21/18 20:36	1
Chemical Oxygen Demand	13	J	20	10	mg/L			09/25/18 14:53	1
Total Dissolved Solids	2900		20	10	mg/L			09/21/18 12:51	1
Total Organic Carbon	4.4		0.10	0.050	mg/L			09/18/18 18:59	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		4.0	4.0	mg/L			09/20/18 08:44	1

Client Sample ID: MW-14

Lab Sample ID: 440-220258-2

Date Collected: 09/17/18 12:40

Matrix: Water

Date Received: 09/17/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 01:51	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Acrolein	ND		50	2.5	ug/L			09/22/18 02:35	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 02:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 01:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 01:51	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 01:51	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 01:51	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 01:51	1
Acetone	ND		20	10	ug/L			09/27/18 01:51	1
Acetonitrile	ND		20	10	ug/L			09/27/18 01:51	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 01:51	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 01:51	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 01:51	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 01:51	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 01:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 01:51	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1

Client Sample ID: MW-14
Date Collected: 09/17/18 12:40
Date Received: 09/17/18 17:00

Lab Sample ID: 440-220258-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 01:51	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 01:51	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 01:51	1
Isobutyl alcohol	ND	*	25	13	ug/L			09/27/18 01:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 01:51	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 01:51	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 01:51	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/27/18 01:51	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 01:51	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Propionitrile	ND		20	10	ug/L			09/27/18 01:51	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 01:51	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 01:51	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/27/18 01:51	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 01:51	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 01:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 01:51	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 01:51	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 01:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 01:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*17*	*T J*	*ug/L*		*1.76*			*09/27/18 01:51*	*1*
Unknown	*1200*	*T J*	*ug/L*		*1.87*			*09/27/18 01:51*	*1*
Unknown	*11*	*T J*	*ug/L*		*5.97*			*09/27/18 01:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 128*		*09/22/18 02:35*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/22/18 02:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/27/18 01:51*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*09/27/18 01:51*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*09/22/18 02:35*	*1*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*09/27/18 01:51*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		09/23/18 14:16	09/26/18 14:49	1

Client Sample ID: MW-14

Lab Sample ID: 440-220258-2

Date Collected: 09/17/18 12:40

Matrix: Water

Date Received: 09/17/18 17:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*61*		*30 - 120*	*09/23/18 14:16*	*09/26/18 14:49*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**42**		25	13	mg/L			09/19/18 00:43	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**8.0**		0.50	0.25	mg/L		09/20/18 10:55	09/20/18 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**0.17**	**J**	0.20	0.10	mg/L			09/21/18 20:41	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/25/18 14:53	1
Total Dissolved Solids	**3600**		20	10	mg/L			09/21/18 12:51	1
Total Organic Carbon	**4.7**		0.10	0.050	mg/L			09/18/18 19:13	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**430**		4.0	4.0	mg/L			09/20/18 08:54	1

Client Sample ID: PZ-2

Lab Sample ID: 440-220258-3

Date Collected: 09/17/18 11:05

Matrix: Water

Date Received: 09/17/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/18 22:27	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Acrolein	ND		50	2.5	ug/L			09/22/18 03:02	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 03:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/18 22:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/18 22:27	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/18 22:27	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/18 22:27	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/18 22:27	1
Acetone	ND		20	10	ug/L			09/26/18 22:27	1
Acetonitrile	ND		20	10	ug/L			09/26/18 22:27	1
Acrolein	ND		5.0	2.5	ug/L			09/26/18 22:27	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/18 22:27	1
Benzene	ND		0.50	0.25	ug/L			09/26/18 22:27	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Client Sample ID: PZ-2
Date Collected: 09/17/18 11:05
Date Received: 09/17/18 17:00

Lab Sample ID: 440-220258-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			09/26/18 22:27	1
Bromoform	ND		1.0	0.40	ug/L			09/26/18 22:27	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/18 22:27	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/18 22:27	1
Chloroform	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/18 22:27	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/18 22:27	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/18 22:27	1
Isobutyl alcohol	ND	F1 *	25	13	ug/L			09/26/18 22:27	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/18 22:27	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/26/18 22:27	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/18 22:27	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/26/18 22:27	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/18 22:27	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Propionitrile	ND		20	10	ug/L			09/26/18 22:27	1
Styrene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
t-Butanol	ND		10	5.0	ug/L			09/26/18 22:27	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/18 22:27	1
Toluene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/18 22:27	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/18 22:27	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/18 22:27	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/18 22:27	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/18 22:27	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/18 22:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/18 22:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*240*	*T J*	*ug/L*		*1.82*			*09/26/18 22:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 128*		*09/22/18 03:02*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/22/18 03:02*	*1*

Client Sample ID: PZ-2

Lab Sample ID: 440-220258-3

Date Collected: 09/17/18 11:05

Matrix: Water

Date Received: 09/17/18 17:00

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 128*		*09/26/18 22:27*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/26/18 22:27*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/22/18 03:02*	*1*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*09/26/18 22:27*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.47**	**J**	0.97	0.24	ug/L		09/23/18 14:16	09/26/18 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*30 - 120*	*09/23/18 14:16*	*09/26/18 15:12*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12**		5.0	2.5	mg/L			09/19/18 19:05	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**3.0**		0.50	0.25	mg/L		09/20/18 10:56	09/20/18 20:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**3.6**		0.20	0.10	mg/L			09/21/18 20:46	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/25/18 14:53	1
Total Dissolved Solids	**4200**		100	50	mg/L			09/21/18 12:51	1
Total Organic Carbon	**2.1**		0.10	0.050	mg/L			09/18/18 19:26	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**380**		4.0	4.0	mg/L			09/20/18 09:05	1

Client Sample ID: QCTB

Lab Sample ID: 440-220258-4

Date Collected: 09/17/18 00:01

Matrix: Water

Date Received: 09/17/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 02:19	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Acrolein	ND		50	2.5	ug/L			09/22/18 03:29	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 03:29	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 02:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 02:19	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 02:19	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Client Sample ID: QCTB
Date Collected: 09/17/18 00:01
Date Received: 09/17/18 17:00

Lab Sample ID: 440-220258-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 02:19	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 02:19	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 02:19	1
Acetone	ND		20	10	ug/L			09/27/18 02:19	1
Acetonitrile	ND		20	10	ug/L			09/27/18 02:19	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 02:19	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 02:19	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 02:19	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 02:19	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 02:19	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 02:19	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 02:19	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 02:19	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 02:19	1
Isobutyl alcohol	ND	*	25	13	ug/L			09/27/18 02:19	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 02:19	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 02:19	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 02:19	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/27/18 02:19	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 02:19	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Propionitrile	ND		20	10	ug/L			09/27/18 02:19	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 02:19	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 02:19	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/27/18 02:19	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 02:19	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 02:19	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Client Sample ID: QCTB
Date Collected: 09/17/18 00:01
Date Received: 09/17/18 17:00

Lab Sample ID: 440-220258-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 02:19	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 02:19	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 02:19	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 02:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 02:19	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*17*	*T J*	*ug/L*		*1.76*			*09/27/18 02:19*	*1*
Unknown	*170*	*T J*	*ug/L*		*1.82*			*09/27/18 02:19*	*1*
Unknown	*12*	*T J*	*ug/L*		*5.97*			*09/27/18 02:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 128*		*09/22/18 03:29*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/22/18 03:29*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/27/18 02:19*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/27/18 02:19*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/22/18 03:29*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*09/27/18 02:19*	*1*

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV
410.4	COD	MCAWW	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV
SM 5310C	TOC	SM	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol 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.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Client Sample ID: MW-6

Lab Sample ID: 440-220258-1

Date Collected: 09/17/18 13:45

Matrix: Water

Date Received: 09/17/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 02:08	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501329	09/27/18 01:21	OH1	TAL IRV
Total/NA	Prep	3520C			995 mL	1.0 mL	500622	09/23/18 14:16	JS1	TAL IRV
Total/NA	Analysis	8270C		1			500930	09/25/18 20:43	HN	TAL IRV
Total/NA	Analysis	300.0		50			499605	09/19/18 00:24	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500148	09/20/18 10:55	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500339	09/20/18 20:22	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	500504	09/21/18 20:36	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501034	09/25/18 14:53	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 08:44	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500356	09/21/18 12:51	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	499795	09/18/18 18:59	YZ	TAL IRV

Client Sample ID: MW-14

Lab Sample ID: 440-220258-2

Date Collected: 09/17/18 12:40

Matrix: Water

Date Received: 09/17/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 02:35	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501329	09/27/18 01:51	OH1	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	500622	09/23/18 14:16	JS1	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 14:49	HN	TAL IRV
Total/NA	Analysis	300.0		50			499605	09/19/18 00:43	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500148	09/20/18 10:55	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500339	09/20/18 20:47	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	500504	09/21/18 20:41	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501034	09/25/18 14:53	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 08:54	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500356	09/21/18 12:51	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	499795	09/18/18 19:13	YZ	TAL IRV

Client Sample ID: PZ-2

Lab Sample ID: 440-220258-3

Date Collected: 09/17/18 11:05

Matrix: Water

Date Received: 09/17/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 03:02	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501329	09/26/18 22:27	OH1	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	500622	09/23/18 14:16	JS1	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 15:12	HN	TAL IRV
Total/NA	Analysis	300.0		10			499860	09/19/18 19:05	NTN	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Client Sample ID: PZ-2

Lab Sample ID: 440-220258-3

Date Collected: 09/17/18 11:05
Date Received: 09/17/18 17:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			25 mL	25 mL	500148	09/20/18 10:56	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500339	09/20/18 20:53	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	500504	09/21/18 20:46	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501034	09/25/18 14:53	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 09:05	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	500356	09/21/18 12:51	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	499795	09/18/18 19:26	YZ	TAL IRV

Client Sample ID: QCTB

Lab Sample ID: 440-220258-4

Date Collected: 09/17/18 00:01
Date Received: 09/17/18 17:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 03:29	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501329	09/27/18 02:19	OH1	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-500475/3
Matrix: Water
Analysis Batch: 500475

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/21/18 19:01	1
Acrylonitrile	ND		50	1.0	ug/L			09/21/18 19:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 128*		*09/21/18 19:01*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/21/18 19:01*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*09/21/18 19:01*	*1*

Lab Sample ID: LCS 440-500475/4
Matrix: Water
Analysis Batch: 500475

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	26.5	J	ug/L		106	10 - 145		
Acrylonitrile			250	179		ug/L		72	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*89*		*80 - 128*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*

Lab Sample ID: 320-43063-B-2 MS
Matrix: Water
Analysis Batch: 500475

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND		25.0	26.2	J	ug/L		105	10 - 147		
Acrylonitrile	ND		250	192		ug/L		77	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 128*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*

Lab Sample ID: 320-43063-B-2 MSD
Matrix: Water
Analysis Batch: 500475

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	25.5	J	ug/L		102	10 - 147	2	40
Acrylonitrile	ND		250	197		ug/L		79	38 - 144	3	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*90*		*80 - 128*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*

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

Lab Sample ID: MB 440-501329/4
Matrix: Water
Analysis Batch: 501329

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/18 21:00	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/18 21:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/18 21:00	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/18 21:00	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/18 21:00	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/18 21:00	1
Acetone	ND		20	10	ug/L			09/26/18 21:00	1
Acetonitrile	ND		20	10	ug/L			09/26/18 21:00	1
Acrolein	ND		5.0	2.5	ug/L			09/26/18 21:00	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/18 21:00	1
Benzene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/18 21:00	1
Bromoform	ND		1.0	0.40	ug/L			09/26/18 21:00	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/18 21:00	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/18 21:00	1
Chloroform	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/18 21:00	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/18 21:00	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/18 21:00	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/18 21:00	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/18 21:00	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/26/18 21:00	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/18 21:00	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/26/18 21:00	1

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

Lab Sample ID: MB 440-501329/4
Matrix: Water
Analysis Batch: 501329

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/18 21:00	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Propionitrile	ND		20	10	ug/L			09/26/18 21:00	1
Styrene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
t-Butanol	ND		10	5.0	ug/L			09/26/18 21:00	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/18 21:00	1
Toluene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/18 21:00	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/18 21:00	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/18 21:00	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/18 21:00	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/18 21:00	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/18 21:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/18 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*09/26/18 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/26/18 21:00*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/26/18 21:00*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*09/26/18 21:00*	*1*

Lab Sample ID: LCS 440-501329/5
Matrix: Water
Analysis Batch: 501329

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	19.5		ug/L		78	63 - 130
1,1,1,2-Tetrachloroethane	25.0	24.6		ug/L		99	60 - 141
1,1,1-Trichloroethane	25.0	22.8		ug/L		91	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	28.4		ug/L		113	70 - 130
1,1-Dichloroethane	25.0	24.4		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	22.7		ug/L		91	70 - 130
1,1-Dichloropropene	25.0	23.0		ug/L		92	70 - 130
1,2,4-Trichlorobenzene	25.0	26.2		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	19.4		ug/L		77	52 - 140
1,2-Dichlorobenzene	25.0	25.4		ug/L		101	70 - 130
1,2-Dichloroethane	25.0	23.4		ug/L		93	57 - 138
1,2-Dichloropropane	25.0	26.9		ug/L		108	67 - 130
1,3-Dichlorobenzene	25.0	24.5		ug/L		98	70 - 130

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

Lab Sample ID: LCS 440-501329/5
Matrix: Water
Analysis Batch: 501329

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	26.2		ug/L		105	70 - 130
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130
2,2-Dichloropropane	25.0	22.5		ug/L		90	68 - 141
2-Hexanone	25.0	26.3		ug/L		105	10 - 150
Acetone	25.0	23.7		ug/L		95	10 - 150
Acrolein	25.0	30.7		ug/L		123	10 - 145
Acrylonitrile	250	249		ug/L		99	48 - 140
Benzene	25.0	24.9		ug/L		100	68 - 130
Bromoform	25.0	23.0		ug/L		92	60 - 148
Bromomethane	25.0	18.3		ug/L		73	64 - 139
Carbon disulfide	25.0	23.1		ug/L		93	52 - 136
Carbon tetrachloride	25.0	22.3		ug/L		89	60 - 150
Chlorobenzene	25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	25.0	22.9		ug/L		92	70 - 130
Chloroethane	25.0	19.8		ug/L		79	64 - 135
Chloroform	25.0	24.2		ug/L		97	70 - 130
Chloromethane	25.0	23.1		ug/L		92	47 - 140
cis-1,2-Dichloroethene	25.0	23.7		ug/L		95	70 - 133
cis-1,3-Dichloropropene	25.0	28.3		ug/L		113	70 - 133
Dibromochloromethane	25.0	24.9		ug/L		99	69 - 145
Dibromomethane	25.0	22.3		ug/L		89	70 - 130
Bromodichloromethane	25.0	23.5		ug/L		94	70 - 132
Dichlorodifluoromethane	25.0	15.3		ug/L		61	29 - 150
Ethylbenzene	25.0	26.1		ug/L		104	70 - 130
m,p-Xylene	25.0	27.4		ug/L		110	70 - 130
Methylene Chloride	25.0	24.7		ug/L		99	52 - 130
Methyl tert-butyl ether	25.0	23.6		ug/L		94	63 - 131
Naphthalene	25.0	26.4		ug/L		106	60 - 140
o-Xylene	25.0	27.3		ug/L		109	70 - 130
Styrene	25.0	24.7		ug/L		99	70 - 134
t-Butanol	250	277		ug/L		111	70 - 130
Tetrachloroethene	25.0	24.6		ug/L		98	70 - 130
Toluene	25.0	26.2		ug/L		105	70 - 130
trans-1,2-Dichloroethene	25.0	23.4		ug/L		94	70 - 130
trans-1,3-Dichloropropene	25.0	25.9		ug/L		104	70 - 132
Trichloroethene	25.0	24.3		ug/L		97	70 - 130
Trichlorofluoromethane	25.0	19.6		ug/L		79	60 - 150
Vinyl acetate	25.0	27.4		ug/L		110	48 - 140
Vinyl chloride	25.0	20.5		ug/L		82	59 - 133
1,2-Dibromoethane (EDB)	25.0	25.4		ug/L		102	70 - 130
2-Butanone (MEK)	25.0	21.6		ug/L		86	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	27.9		ug/L		112	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 128*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*

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

Lab Sample ID: 440-220258-3 MS
Matrix: Water
Analysis Batch: 501329

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	19.0		ug/L		76	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	24.0		ug/L		96	60 - 149
1,1,1-Trichloroethane	ND		25.0	22.9		ug/L		91	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	23.8		ug/L		95	63 - 130
1,1,2-Trichloroethane	ND		25.0	28.5		ug/L		114	70 - 130
1,1-Dichloroethane	ND		25.0	24.4		ug/L		98	65 - 130
1,1-Dichloroethene	ND		25.0	23.7		ug/L		95	70 - 130
1,1-Dichloropropene	ND		25.0	23.4		ug/L		94	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.1		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	19.6		ug/L		78	48 - 140
1,2-Dichlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
1,2-Dichloroethane	ND		25.0	23.2		ug/L		93	56 - 146
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130
1,3-Dichlorobenzene	ND		25.0	24.4		ug/L		98	70 - 130
1,3-Dichloropropane	ND		25.0	26.9		ug/L		108	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130
2,2-Dichloropropane	ND		25.0	23.4		ug/L		94	69 - 138
2-Hexanone	ND		25.0	26.2		ug/L		105	10 - 150
Acetone	ND		25.0	24.2		ug/L		97	10 - 150
Acrolein	ND		25.0	29.7		ug/L		119	10 - 147
Acrylonitrile	ND		250	240		ug/L		96	38 - 144
Benzene	ND		25.0	24.4		ug/L		98	66 - 130
Bromoform	ND		25.0	22.3		ug/L		89	59 - 150
Bromomethane	ND		25.0	18.5		ug/L		74	62 - 131
Carbon disulfide	ND		25.0	23.2		ug/L		93	49 - 140
Carbon tetrachloride	ND		25.0	22.3		ug/L		89	60 - 150
Chlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	22.7		ug/L		91	70 - 130
Chloroethane	ND		25.0	19.5		ug/L		78	68 - 130
Chloroform	ND		25.0	23.7		ug/L		95	70 - 130
Chloromethane	ND		25.0	22.6		ug/L		90	39 - 144
cis-1,2-Dichloroethene	ND		25.0	23.0		ug/L		92	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.9		ug/L		112	70 - 133
Dibromochloromethane	ND		25.0	24.9		ug/L		100	70 - 148
Dibromomethane	ND		25.0	22.9		ug/L		92	70 - 130
Bromodichloromethane	ND		25.0	23.0		ug/L		92	70 - 138
Dichlorodifluoromethane	ND		25.0	15.0		ug/L		60	25 - 142
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
m,p-Xylene	ND		25.0	27.3		ug/L		109	70 - 133
Methylene Chloride	ND		25.0	24.0		ug/L		96	52 - 130
Methyl tert-butyl ether	ND		25.0	22.9		ug/L		92	70 - 130
Naphthalene	ND		25.0	25.6		ug/L		102	60 - 140
o-Xylene	ND		25.0	27.5		ug/L		110	70 - 133
Styrene	ND		25.0	24.1		ug/L		96	29 - 150
t-Butanol	ND		250	275		ug/L		110	70 - 130
Tetrachloroethene	ND		25.0	24.2		ug/L		97	70 - 137
Toluene	ND		25.0	26.5		ug/L		106	70 - 130
trans-1,2-Dichloroethene	ND		25.0	23.6		ug/L		94	70 - 130

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

Lab Sample ID: 440-220258-3 MS
Matrix: Water
Analysis Batch: 501329

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	25.9		ug/L		104	70 - 138
Trichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
Trichlorofluoromethane	ND		25.0	19.9		ug/L		80	60 - 150
Vinyl acetate	ND		25.0	26.4		ug/L		106	23 - 150
Vinyl chloride	ND		25.0	20.6		ug/L		83	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	25.3		ug/L		101	70 - 131
2-Butanone (MEK)	ND		25.0	22.5		ug/L		90	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.4		ug/L		114	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 128*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*76 - 132*

Lab Sample ID: 440-220258-3 MSD
Matrix: Water
Analysis Batch: 501329

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	19.6		ug/L		78	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.1		ug/L		96	60 - 149	0	20
1,1,1-Trichloroethane	ND		25.0	23.6		ug/L		94	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	63 - 130	4	30
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	70 - 130	2	25
1,1-Dichloroethane	ND		25.0	24.7		ug/L		99	65 - 130	1	20
1,1-Dichloroethene	ND		25.0	24.7		ug/L		99	70 - 130	4	20
1,1-Dichloropropene	ND		25.0	23.9		ug/L		96	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	19.7		ug/L		79	48 - 140	0	30
1,2-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	23.3		ug/L		93	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	27.8		ug/L		111	69 - 130	5	20
1,3-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	26.0		ug/L		104	70 - 130	4	25
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	22.6		ug/L		90	69 - 138	4	25
2-Hexanone	ND		25.0	26.8		ug/L		107	10 - 150	2	35
Acetone	ND		25.0	24.6		ug/L		98	10 - 150	2	35
Acrolein	ND		25.0	32.0		ug/L		128	10 - 147	8	40
Acrylonitrile	ND		250	247		ug/L		99	38 - 144	3	40
Benzene	ND		25.0	25.3		ug/L		101	66 - 130	4	20
Bromoform	ND		25.0	22.4		ug/L		90	59 - 150	1	25
Bromomethane	ND		25.0	19.1		ug/L		76	62 - 131	3	25
Carbon disulfide	ND		25.0	24.0		ug/L		96	49 - 140	4	20
Carbon tetrachloride	ND		25.0	22.7		ug/L		91	60 - 150	2	25
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130	0	20
Bromochloromethane	ND		25.0	22.7		ug/L		91	70 - 130	0	25
Chloroethane	ND		25.0	21.0		ug/L		84	68 - 130	7	25

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

Lab Sample ID: 440-220258-3 MSD
Matrix: Water
Analysis Batch: 501329

Client Sample ID: PZ-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		25.0	24.5		ug/L		98	70 - 130	3	20
Chloromethane	ND		25.0	24.3		ug/L		97	39 - 144	7	25
cis-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130	5	20
cis-1,3-Dichloropropene	ND		25.0	27.7		ug/L		111	70 - 133	0	20
Dibromochloromethane	ND		25.0	24.6		ug/L		98	70 - 148	1	25
Dibromomethane	ND		25.0	23.6		ug/L		95	70 - 130	3	25
Bromodichloromethane	ND		25.0	23.5		ug/L		94	70 - 138	2	20
Dichlorodifluoromethane	ND		25.0	16.5		ug/L		66	25 - 142	9	30
Ethylbenzene	ND		25.0	26.0		ug/L		104	70 - 130	1	20
m,p-Xylene	ND		25.0	27.2		ug/L		109	70 - 133	1	25
Methylene Chloride	ND		25.0	24.3		ug/L		97	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	23.6		ug/L		94	70 - 130	3	25
Naphthalene	ND		25.0	26.1		ug/L		105	60 - 140	2	30
o-Xylene	ND		25.0	27.3		ug/L		109	70 - 133	1	20
Styrene	ND		25.0	23.8		ug/L		95	29 - 150	1	35
t-Butanol	ND		250	283		ug/L		113	70 - 130	3	25
Tetrachloroethene	ND		25.0	24.5		ug/L		98	70 - 137	1	20
Toluene	ND		25.0	25.9		ug/L		103	70 - 130	3	20
trans-1,2-Dichloroethene	ND		25.0	23.6		ug/L		95	70 - 130	0	20
trans-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 138	2	25
Trichloroethene	ND		25.0	25.2		ug/L		101	70 - 130	2	20
Trichlorofluoromethane	ND		25.0	20.2		ug/L		81	60 - 150	1	25
Vinyl acetate	ND		25.0	27.0		ug/L		108	23 - 150	2	30
Vinyl chloride	ND		25.0	21.4		ug/L		86	50 - 137	4	30
1,2-Dibromoethane (EDB)	ND		25.0	24.9		ug/L		100	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	23.6		ug/L		94	48 - 140	5	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.0		ug/L		112	52 - 150	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-500622/1-A
Matrix: Water
Analysis Batch: 500930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 500622

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/23/18 14:16	09/25/18 18:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*62*		*30 - 120*	*09/23/18 14:16*	*09/25/18 18:27*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-500622/2-A
Matrix: Water
Analysis Batch: 500930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 500622

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.95	1.15		ug/L		59	35 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*59*		*30 - 120*

Lab Sample ID: LCSD 440-500622/3-A
Matrix: Water
Analysis Batch: 500930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 500622

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.96	1.28		ug/L		65	35 - 120	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*65*		*30 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-499605/6
Matrix: Water
Analysis Batch: 499605

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/18/18 11:22	1

Lab Sample ID: LCS 440-499605/5
Matrix: Water
Analysis Batch: 499605

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.80		mg/L		96	90 - 110		

Lab Sample ID: 440-219545-G-11 MS
Matrix: Water
Analysis Batch: 499605

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1500		1000	2610		mg/L		111	80 - 120		

Lab Sample ID: 440-219545-G-11 MSD
Matrix: Water
Analysis Batch: 499605

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1500		1000	2580		mg/L		108	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-499860/6
Matrix: Water
Analysis Batch: 499860

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/19/18 11:35	1

Lab Sample ID: LCS 440-499860/5
Matrix: Water
Analysis Batch: 499860

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.80		mg/L		96	90 - 110

Lab Sample ID: 440-220412-C-1 MS
Matrix: Water
Analysis Batch: 499860

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	510	E	10.0	521	E 4	mg/L		56	80 - 120

Lab Sample ID: 440-220412-C-1 MSD
Matrix: Water
Analysis Batch: 499860

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	510	E	10.0	526	E 4	mg/L		107	80 - 120	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-500148/1-A
Matrix: Water
Analysis Batch: 500339

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 500148

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/20/18 10:55	09/20/18 19:52	1

Lab Sample ID: LCS 440-500148/2-A
Matrix: Water
Analysis Batch: 500339

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 500148

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.66		mg/L		97	80 - 120

Lab Sample ID: 440-220258-1 MS
Matrix: Water
Analysis Batch: 500339

Client Sample ID: MW-6
Prep Type: Total Recoverable
Prep Batch: 500148

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	5.4		10.0	15.5		mg/L		101	75 - 125

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

Lab Sample ID: 440-220258-1 MSD — **Client Sample ID: MW-6**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 500339 — **Prep Batch: 500148**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	5.4		10.0	15.6		mg/L		102	75 - 125	0	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-500504/10 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500504

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			09/21/18 18:07	1

Lab Sample ID: LCS 440-500504/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500504

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.23		mg/L		105	90 - 110

Lab Sample ID: MRL 440-500504/9 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500504

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.148	J	mg/L		74	50 - 150

Lab Sample ID: 440-220265-L-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500504

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		5.00	5.47		mg/L		109	90 - 110

Lab Sample ID: 440-220265-L-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500504

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		5.00	5.27		mg/L		105	90 - 110	4	15

Method: 410.4 - COD

Lab Sample ID: MB 440-501034/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 501034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/25/18 14:52	1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 440-501034/4
Matrix: Water
Analysis Batch: 501034

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	194		mg/L		97	90 - 110

Lab Sample ID: 440-220229-AA-16 MS
Matrix: Water
Analysis Batch: 501034

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	195		mg/L		98	70 - 120

Lab Sample ID: 440-220229-AA-16 MSD
Matrix: Water
Analysis Batch: 501034

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	190		mg/L		95	70 - 120	3	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-500301/3
Matrix: Water
Analysis Batch: 500301

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/20/18 05:23	1

Lab Sample ID: LCS 440-500301/2
Matrix: Water
Analysis Batch: 500301

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	81.3	79.5		mg/L		98	80 - 120

Lab Sample ID: 440-220441-I-4 DU
Matrix: Water
Analysis Batch: 500301

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	910		912		mg/L		0.3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-500356/1
Matrix: Water
Analysis Batch: 500356

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/21/18 08:56	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 440-500356/2
Matrix: Water
Analysis Batch: 500356

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	982		mg/L		98	90 - 110

Lab Sample ID: 720-88614-F-3 DU
Matrix: Water
Analysis Batch: 500356

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	58		57.0		mg/L		2	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-499795/8
Matrix: Water
Analysis Batch: 499795

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/18/18 13:55	1

Lab Sample ID: LCS 440-499795/7
Matrix: Water
Analysis Batch: 499795

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.33		mg/L		93	90 - 110

Lab Sample ID: MRL 440-499795/4
Matrix: Water
Analysis Batch: 499795

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.100	0.145		mg/L		145	50 - 150

Lab Sample ID: 440-219978-G-1 MS
Matrix: Water
Analysis Batch: 499795

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.7		10.0	10.3		mg/L		86	80 - 120

Lab Sample ID: 440-219978-G-1 MSD
Matrix: Water
Analysis Batch: 499795

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.7		10.0	10.3		mg/L		85	80 - 120	0	20

GC/MS VOA

Analysis Batch: 500475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	8260B	
440-220258-2	MW-14	Total/NA	Water	8260B	
440-220258-3	PZ-2	Total/NA	Water	8260B	
440-220258-4	QCTB	Total/NA	Water	8260B	
MB 440-500475/3	Method Blank	Total/NA	Water	8260B	
LCS 440-500475/4	Lab Control Sample	Total/NA	Water	8260B	
320-43063-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
320-43063-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 501329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	8260B	
440-220258-2	MW-14	Total/NA	Water	8260B	
440-220258-3	PZ-2	Total/NA	Water	8260B	
440-220258-4	QCTB	Total/NA	Water	8260B	
MB 440-501329/4	Method Blank	Total/NA	Water	8260B	
LCS 440-501329/5	Lab Control Sample	Total/NA	Water	8260B	
440-220258-3 MS	PZ-2	Total/NA	Water	8260B	
440-220258-3 MSD	PZ-2	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 500622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	3520C	
440-220258-2	MW-14	Total/NA	Water	3520C	
440-220258-3	PZ-2	Total/NA	Water	3520C	
MB 440-500622/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-500622/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-500622/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 500930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	8270C	500622
MB 440-500622/1-A	Method Blank	Total/NA	Water	8270C	500622
LCS 440-500622/2-A	Lab Control Sample	Total/NA	Water	8270C	500622
LCSD 440-500622/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	500622

Analysis Batch: 501270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-2	MW-14	Total/NA	Water	8270C	500622
440-220258-3	PZ-2	Total/NA	Water	8270C	500622

HPLC/IC

Analysis Batch: 499605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	300.0	
440-220258-2	MW-14	Total/NA	Water	300.0	
MB 440-499605/6	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 499605 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-499605/5	Lab Control Sample	Total/NA	Water	300.0	
440-219545-G-11 MS	Matrix Spike	Total/NA	Water	300.0	
440-219545-G-11 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 499860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-3	PZ-2	Total/NA	Water	300.0	
MB 440-499860/6	Method Blank	Total/NA	Water	300.0	
LCS 440-499860/5	Lab Control Sample	Total/NA	Water	300.0	
440-220412-C-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-220412-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 500148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total Recoverable	Water	3005A	
440-220258-2	MW-14	Total Recoverable	Water	3005A	
440-220258-3	PZ-2	Total Recoverable	Water	3005A	
MB 440-500148/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-500148/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-220258-1 MS	MW-6	Total Recoverable	Water	3005A	
440-220258-1 MSD	MW-6	Total Recoverable	Water	3005A	

Analysis Batch: 500339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total Recoverable	Water	6010B	500148
440-220258-2	MW-14	Total Recoverable	Water	6010B	500148
440-220258-3	PZ-2	Total Recoverable	Water	6010B	500148
MB 440-500148/1-A	Method Blank	Total Recoverable	Water	6010B	500148
LCS 440-500148/2-A	Lab Control Sample	Total Recoverable	Water	6010B	500148
440-220258-1 MS	MW-6	Total Recoverable	Water	6010B	500148
440-220258-1 MSD	MW-6	Total Recoverable	Water	6010B	500148

General Chemistry

Analysis Batch: 499795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	SM 5310C	
440-220258-2	MW-14	Total/NA	Water	SM 5310C	
440-220258-3	PZ-2	Total/NA	Water	SM 5310C	
MB 440-499795/8	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-499795/7	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-499795/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-219978-G-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-219978-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 500301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 500301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-2	MW-14	Total/NA	Water	SM 2320B	
440-220258-3	PZ-2	Total/NA	Water	SM 2320B	
MB 440-500301/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-500301/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-220441-I-4 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 500356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	SM 2540C	
440-220258-2	MW-14	Total/NA	Water	SM 2540C	
440-220258-3	PZ-2	Total/NA	Water	SM 2540C	
MB 440-500356/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-500356/2	Lab Control Sample	Total/NA	Water	SM 2540C	
720-88614-F-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 500504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	350.1	
440-220258-2	MW-14	Total/NA	Water	350.1	
440-220258-3	PZ-2	Total/NA	Water	350.1	
MB 440-500504/10	Method Blank	Total/NA	Water	350.1	
LCS 440-500504/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-500504/9	Lab Control Sample	Total/NA	Water	350.1	
440-220265-L-2 MS	Matrix Spike	Total/NA	Water	350.1	
440-220265-L-2 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 501034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220258-1	MW-6	Total/NA	Water	410.4	
440-220258-2	MW-14	Total/NA	Water	410.4	
440-220258-3	PZ-2	Total/NA	Water	410.4	
MB 440-501034/3	Method Blank	Total/NA	Water	410.4	
LCS 440-501034/4	Lab Control Sample	Total/NA	Water	410.4	
440-220229-AA-16 MS	Matrix Spike	Total/NA	Water	410.4	
440-220229-AA-16 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

General Chemistry

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

Glossary

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220258-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record 208856

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchans	Site Contact: Josh Mills	Date: 9/17/18	COC No
Company Name: Geologic Associates	Tel/Fax: 858-451-1136	Lab Contact: Rossina	Carrier: T/A	1 of 1 COCs
Address: 11415 W. Bernardo Ct	Analysis Turnaround Time			Sampler:
City/State/Zip: San Diego CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below			Walk-in Client
Fax:	☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			Lab Sampling:
Project Name: Republic Services				Job / SDG No.
Site: Sunshine Canyon Landfill				
P O #				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B - VOCs	EPA 8270 1,4-Dioxane	EPA 415.1 Total Organic Carbon	EPA 160.1 Total Dissolved Solids	EPA 6010B - Total Potassium	EPA 300.0 - Chloride	EPA 410.4 - COD	EPA 350.2 - Ammonia as N	EPA 310.1 - Total Alkalinity	EPA 8260B - 40 CFR Part 258 Appendix I VOCs, Dichlorodifluoromethane, MTBE, and 1,4 Dioxane	Sample Specific Notes:
MW-6	9-17-18	1345		GW	12			X	X	X	X	X	X	X	X	X	X	
MW-14	9-17-18	1240		GW	12			X	X	X	X	X	X	X	X	X	X	
PZ-2	9-17-18	1105		GW	12			X	X	X	X	X	X	X	X	X	X	
QCTB	9-17-18	←		LAB H_2O	6			X								X	X	

440-220258 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: NO LAB GRADE H_2O AVAILABLE FOR AMBIENT BLANKS

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp (°C): Obs'd 1.5 Corr'd 1.6 | Therm ID No 88

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	GLA	9.17.18/1450		TA-IRV	9.17.18/1457
Relinquished by	Company: TA-IRV	Date/Time: 9.17.18/1720	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by: Abigail Linder	Company TA IRV	Date/Time: 9/17/18 1720

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9/28/2018

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PZ

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-220258-1

Login Number: 220258

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-220349-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
9/30/2018 1:34:29 PM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-220349-1	PZ-4	Water	09/18/18 12:20	09/18/18 17:45
440-220349-2	CM-9R3	Water	09/18/18 09:32	09/18/18 17:45
440-220349-3	CM-10R	Water	09/18/18 10:45	09/18/18 17:45
440-220349-4	CM-11R	Water	09/18/18 08:40	09/18/18 17:45
440-220349-5	MW-1	Water	09/18/18 13:00	09/18/18 17:45
440-220349-6	MW-5	Water	09/18/18 14:05	09/18/18 17:45
440-220349-7	DW-5	Water	09/18/18 11:50	09/18/18 17:45
440-220349-8	MW-9	Water	09/18/18 10:00	09/18/18 17:45
440-220349-9	MW-13R	Water	09/18/18 08:15	09/18/18 17:45
440-220349-10	Duplicate	Water	09/18/18 00:01	09/18/18 17:45
440-220349-11	Extraction Trench	Water	09/18/18 11:20	09/18/18 17:45
440-220349-12	Combined Subdrains	Water	09/18/18 09:40	09/18/18 17:45
440-220349-13	Subdrain N	Water	09/18/18 09:05	09/18/18 17:45
440-220349-14	QCAB	Water	09/18/18 00:01	09/18/18 17:45
440-220349-15	QCTB	Water	09/18/18 00:01	09/18/18 17:45

Job ID: 440-220349-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-220349-1

Comments
No additional comments.

Receipt
The samples were received on 9/18/2018 5:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-500659 recovered outside control limits for the following analyte: Acrolein. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was 3 and the following sample was analyzed after 7 days from sampling: Extraction Trench (440-220349-11).

Method(s) 8260B: The following volatile sample was received and analyzed with significant headspace in the sample vial: DW-5 (440-220349-7). Significant headspace is defined as a bubble greater than 6 mm in diameter. All VOA vials had headspace.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was 4 and the following sample was analyzed after 7 days from sampling: Extraction Trench (440-220349-11).

Method(s) 8260B: The following volatile sample was received and analyzed with significant headspace in the sample container(s): DW-5 (440-220349-7). Significant headspace is defined as a bubble greater than 6 mm in diameter.

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

GC/MS Semi VOA
Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-500774 and analytical batch 440-501270 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 440-500774 and analytical batch 440-501270 was outside control limits. Sample matrix interference is suspected.

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

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

Metals
The reference method requires samples to be preserved to a pH of <<2>. The following sample(s) was received with insufficient preservation at a pH of 5: 440-220349-11 ,440-220120-3. The sample(s) was preserved to the appropriate pH in the laboratory.

Date :9/21/18 @10:15
HNO3 Lot;0000200458
Amount: 1ml

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

General Chemistry

Job ID: 440-220349-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) SM 5310C: The continuing calibration blank (CCB) for analytical batch 440-500059 contained Total Organic Carbon above the method detection limit (MDL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

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

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

Client Sample ID: PZ-4
Date Collected: 09/18/18 12:20
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 14:05	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Acrolein	ND		50	2.5	ug/L			09/22/18 04:23	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 04:23	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 14:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 14:05	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 14:05	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 14:05	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 14:05	1
Acetone	ND		20	10	ug/L			09/27/18 14:05	1
Acetonitrile	ND		20	10	ug/L			09/27/18 14:05	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 14:05	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 14:05	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 14:05	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 14:05	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 14:05	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 14:05	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 14:05	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 14:05	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 14:05	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 14:05	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 14:05	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 14:05	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 14:05	1

Client Sample ID: PZ-4

Date Collected: 09/18/18 12:20
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 14:05	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Propionitrile	ND		20	10	ug/L			09/27/18 14:05	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 14:05	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 14:05	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 14:05	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 14:05	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 14:05	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 14:05	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 14:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 14:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*18*	*T J*	*ug/L*		*1.67*			*09/27/18 14:05*	*1*
Unknown	*580*	*T J*	*ug/L*		*1.72*			*09/27/18 14:05*	*1*
Unknown	*15*	*T J*	*ug/L*		*16.36*			*09/27/18 14:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 128*		*09/22/18 04:23*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/22/18 04:23*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*09/27/18 14:05*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/27/18 14:05*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*09/22/18 04:23*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*09/27/18 14:05*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/28/18 22:30	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/28/18 22:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*15*	*T J*	*ug/L*		*2.44*			*09/28/18 22:30*	*1*
Unknown	*23*	*T J*	*ug/L*		*2.49*			*09/28/18 22:30*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*7.36*			*09/28/18 22:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*80 - 128*		*09/28/18 22:30*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*09/28/18 22:30*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/28/18 22:30*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/24/18 13:33	09/26/18 17:27	1

Client Sample ID: PZ-4

Date Collected: 09/18/18 12:20
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*61*		*30 - 120*	*09/24/18 13:33*	*09/26/18 17:27*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.8**		0.50	0.25	mg/L			09/19/18 22:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**4.2**		0.50	0.25	mg/L		09/24/18 09:28	09/24/18 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**2.7**		0.20	0.10	mg/L			09/23/18 15:14	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	**1200**		10	5.0	mg/L			09/25/18 08:45	1
Total Organic Carbon	**1.2**		0.10	0.050	mg/L			09/19/18 06:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**340**		4.0	4.0	mg/L			09/20/18 12:27	1

Client Sample ID: CM-9R3

Date Collected: 09/18/18 09:32
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 15:31	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Acrolein	ND		50	2.5	ug/L			09/22/18 04:50	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 04:50	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 15:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 15:31	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 15:31	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 15:31	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 15:31	1
Acetone	ND		20	10	ug/L			09/27/18 15:31	1
Acetonitrile	ND		20	10	ug/L			09/27/18 15:31	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 15:31	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 15:31	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 15:31	1

Client Sample ID: CM-9R3
Date Collected: 09/18/18 09:32
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 15:31	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 15:31	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 15:31	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 15:31	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 15:31	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 15:31	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 15:31	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 15:31	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 15:31	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 15:31	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 15:31	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 15:31	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Propionitrile	ND		20	10	ug/L			09/27/18 15:31	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 15:31	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 15:31	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 15:31	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 15:31	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 15:31	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 15:31	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 15:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 15:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*18*	*T J*	*ug/L*		*1.67*			*09/27/18 15:31*	*1*
Unknown	*510*	*T J*	*ug/L*		*1.72*			*09/27/18 15:31*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 15:31*	*1*
Unknown	*7.1*	*T J*	*ug/L*		*16.18*			*09/27/18 15:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*80 - 128*		*09/22/18 04:50*	*1*

Client Sample ID: CM-9R3
Date Collected: 09/18/18 09:32
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-2
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/22/18 04:50*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*09/27/18 15:31*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*09/27/18 15:31*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*09/22/18 04:50*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*09/27/18 15:31*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/28/18 22:55	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/28/18 22:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	*14*	*T J*	*ug/L*		*2.44*			*09/28/18 22:55*	*1*
Unknown	*18*	*T J*	*ug/L*		*2.48*			*09/28/18 22:55*	*1*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*09/28/18 22:55*	*1*

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*115*		*80 - 128*		*09/28/18 22:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/28/18 22:55*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/28/18 22:55*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/24/18 13:33	09/26/18 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	*64*		*30 - 120*	*09/24/18 13:33*	*09/26/18 17:49*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13**		2.5	1.3	mg/L			09/19/18 22:57	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**13**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**5.6**		0.20	0.10	mg/L			09/23/18 14:32	1
Chemical Oxygen Demand	**26**		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	**4400**		50	25	mg/L			09/25/18 08:45	1
Total Organic Carbon	**6.3**		0.10	0.050	mg/L			09/19/18 07:21	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**150**		4.0	4.0	mg/L			09/20/18 12:34	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: CM-10R
Date Collected: 09/18/18 10:45
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 15:59	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Acrolein	ND		50	2.5	ug/L			09/22/18 05:17	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 05:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 15:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 15:59	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 15:59	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 15:59	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 15:59	1
Acetone	ND		20	10	ug/L			09/27/18 15:59	1
Acetonitrile	ND		20	10	ug/L			09/27/18 15:59	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 15:59	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 15:59	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 15:59	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 15:59	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 15:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 15:59	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 15:59	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 15:59	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 15:59	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 15:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 15:59	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 15:59	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 15:59	1

Client Sample ID: CM-10R
Date Collected: 09/18/18 10:45
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 15:59	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Propionitrile	ND		20	10	ug/L			09/27/18 15:59	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 15:59	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 15:59	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 15:59	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 15:59	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 15:59	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 15:59	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 15:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 15:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*13*	*T J*	*ug/L*		*1.66*			*09/27/18 15:59*	*1*
Unknown	*1300*	*T J*	*ug/L*		*1.72*			*09/27/18 15:59*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 15:59*	*1*
Unknown	*10*	*T J*	*ug/L*		*15.92*			*09/27/18 15:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 128*		*09/22/18 05:17*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/22/18 05:17*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*09/27/18 15:59*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/27/18 15:59*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/22/18 05:17*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*09/27/18 15:59*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/28/18 23:20	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/28/18 23:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*28*	*T J*	*ug/L*		*2.44*			*09/28/18 23:20*	*1*
Unknown	*40*	*T J*	*ug/L*		*2.48*			*09/28/18 23:20*	*1*
Unknown	*19*	*T J*	*ug/L*		*2.73*			*09/28/18 23:20*	*1*
Unknown	*9.2*	*T J*	*ug/L*		*7.36*			*09/28/18 23:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*115*		*80 - 128*		*09/28/18 23:20*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*09/28/18 23:20*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*09/28/18 23:20*	*1*

Client Sample ID: CM-10R

Date Collected: 09/18/18 10:45
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-3
Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/24/18 13:33	09/26/18 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*49*		*30 - 120*	*09/24/18 13:33*	*09/26/18 18:11*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.4**		0.50	0.25	mg/L			09/19/18 23:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**11**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 19:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**12**		2.0	1.0	mg/L			09/23/18 14:38	10
Chemical Oxygen Demand	**17**	**J**	20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	**2600**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**4.0**		0.10	0.050	mg/L			09/19/18 07:34	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**570**		4.0	4.0	mg/L			09/20/18 12:47	1

Client Sample ID: CM-11R

Date Collected: 09/18/18 08:40
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 16:28	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Acrolein	ND		50	2.5	ug/L			09/22/18 05:44	1
Acrylonitrile	ND		50	1.0	ug/L			09/22/18 05:44	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 16:28	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 16:28	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 16:28	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 16:28	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 16:28	1
Acetone	ND		20	10	ug/L			09/27/18 16:28	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: CM-11R
Date Collected: 09/18/18 08:40
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	ND		20	10	ug/L			09/27/18 16:28	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 16:28	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 16:28	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 16:28	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 16:28	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 16:28	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 16:28	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 16:28	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 16:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 16:28	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 16:28	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 16:28	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 16:28	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 16:28	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 16:28	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Propionitrile	ND		20	10	ug/L			09/27/18 16:28	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 16:28	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 16:28	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 16:28	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 16:28	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 16:28	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 16:28	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 16:28	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 16:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*18*	*T J*	*ug/L*		*1.67*			*09/27/18 16:28*	*1*
Unknown	*520*	*T J*	*ug/L*		*1.72*			*09/27/18 16:28*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 16:28*	*1*

Client Sample ID: CM-11R

Date Collected: 09/18/18 08:40
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-4

Matrix: Water

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.3	T J	ug/L		15.41			09/27/18 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 128		09/22/18 05:44	1
4-Bromofluorobenzene (Surr)	91		80 - 120		09/22/18 05:44	1
Toluene-d8 (Surr)	104		80 - 128		09/27/18 16:28	1
4-Bromofluorobenzene (Surr)	94		80 - 120		09/27/18 16:28	1
Dibromofluoromethane (Surr)	102		76 - 132		09/22/18 05:44	1
Dibromofluoromethane (Surr)	100		76 - 132		09/27/18 16:28	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/28/18 23:44	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/28/18 23:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	13	T J	ug/L		2.44			09/28/18 23:44	1
Unknown	16	T J	ug/L		2.48			09/28/18 23:44	1
Unknown	9.4	T J	ug/L		7.36			09/28/18 23:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		09/28/18 23:44	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/28/18 23:44	1
Dibromofluoromethane (Surr)	107		76 - 132		09/28/18 23:44	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.25	ug/L		09/24/18 13:33	09/26/18 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120	09/24/18 13:33	09/26/18 18:34	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12**		5.0	2.5	mg/L			09/19/18 23:33	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**12**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 19:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**2.7**		0.20	0.10	mg/L			09/23/18 14:54	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	**4200**		50	25	mg/L			09/25/18 08:45	1
Total Organic Carbon	**4.5**		0.10	0.050	mg/L			09/19/18 11:05	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**42**		4.0	4.0	mg/L			09/20/18 12:53	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: MW-1
Date Collected: 09/18/18 13:00
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 16:56	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Acrolein	ND		50	2.5	ug/L			09/23/18 11:37	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 11:37	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 16:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 16:56	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 16:56	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 16:56	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 16:56	1
Acetone	ND		20	10	ug/L			09/27/18 16:56	1
Acetonitrile	ND		20	10	ug/L			09/27/18 16:56	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 16:56	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 16:56	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 16:56	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 16:56	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 16:56	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 16:56	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 16:56	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 16:56	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 16:56	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 16:56	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 16:56	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 16:56	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 16:56	1

Client Sample ID: MW-1
Date Collected: 09/18/18 13:00
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 16:56	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Propionitrile	ND		20	10	ug/L			09/27/18 16:56	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
t-Butanol	**7.2**	**J**	10	5.0	ug/L			09/27/18 16:56	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 16:56	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 16:56	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 16:56	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 16:56	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 16:56	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 16:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 16:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1500*	*T J*	*ug/L*		*1.72*			*09/27/18 16:56*	*1*
Unknown	*4.2*	*T J*	*ug/L*		*4.33*			*09/27/18 16:56*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 16:56*	*1*
Unknown	*6.2*	*T J*	*ug/L*		*15.88*			*09/27/18 16:56*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 128*		*09/23/18 11:37*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*09/23/18 11:37*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*09/27/18 16:56*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/27/18 16:56*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*09/23/18 11:37*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*09/27/18 16:56*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 00:09	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 00:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*38*	*T J*	*ug/L*		*2.44*			*09/29/18 00:09*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*7.36*			*09/29/18 00:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*115*		*80 - 128*		*09/29/18 00:09*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/29/18 00:09*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/29/18 00:09*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**17**		0.98	0.25	ug/L		09/24/18 13:33	09/26/18 18:57	1

Client Sample ID: MW-1

Date Collected: 09/18/18 13:00
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-5

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*30 - 120*	*09/24/18 13:33*	*09/26/18 18:57*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**260**		25	13	mg/L			09/19/18 18:18	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**30**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 19:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**5.1**		0.20	0.10	mg/L			09/23/18 14:43	1
Chemical Oxygen Demand	**120**		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	**3500**		50	25	mg/L			09/25/18 08:45	1
Total Organic Carbon	**37**		0.50	0.25	mg/L			09/19/18 11:48	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**660**		4.0	4.0	mg/L			09/20/18 13:24	1

Client Sample ID: MW-5

Date Collected: 09/18/18 14:05
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 17:25	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Acrolein	ND		50	2.5	ug/L			09/23/18 12:20	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 12:20	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 17:25	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 17:25	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 17:25	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 17:25	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 17:25	1
Acetone	ND		20	10	ug/L			09/27/18 17:25	1
Acetonitrile	ND		20	10	ug/L			09/27/18 17:25	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 17:25	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 17:25	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 17:25	1

Client Sample ID: MW-5
Date Collected: 09/18/18 14:05
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 17:25	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 17:25	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 17:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 17:25	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 17:25	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 17:25	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 17:25	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 17:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 17:25	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 17:25	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 17:25	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 17:25	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Propionitrile	ND		20	10	ug/L			09/27/18 17:25	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 17:25	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 17:25	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 17:25	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 17:25	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 17:25	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 17:25	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 17:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 17:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1500*	*T J*	*ug/L*		*1.72*			*09/27/18 17:25*	*1*
Unknown	*2.7*	*T J*	*ug/L*		*4.33*			*09/27/18 17:25*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 17:25*	*1*
Unknown	*11*	*T J*	*ug/L*		*15.69*			*09/27/18 17:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 128*		*09/23/18 12:20*	*1*

Client Sample ID: MW-5
Date Collected: 09/18/18 14:05
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-6
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		80 - 120		09/23/18 12:20	1
Toluene-d8 (Surr)	105		80 - 128		09/27/18 17:25	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/27/18 17:25	1
Dibromofluoromethane (Surr)	101		76 - 132		09/23/18 12:20	1
Dibromofluoromethane (Surr)	100		76 - 132		09/27/18 17:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 00:33	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 00:33	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	36	T J	ug/L		2.44			09/29/18 00:33	1
Unknown	45	T J	ug/L		2.48			09/29/18 00:33	1
Unknown	9.3	T J	ug/L		7.36			09/29/18 00:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		09/29/18 00:33	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/29/18 00:33	1
Dibromofluoromethane (Surr)	104		76 - 132		09/29/18 00:33	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	13		0.99	0.25	ug/L		09/24/18 13:33	09/26/18 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		30 - 120	09/24/18 13:33	09/26/18 19:19	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		25	13	mg/L			09/19/18 18:36	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	28		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	5.9		0.20	0.10	mg/L			09/23/18 14:48	1
Chemical Oxygen Demand	76		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	3300		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	27		0.50	0.25	mg/L			09/19/18 12:04	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	650		4.0	4.0	mg/L			09/20/18 13:50	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: DW-5
Date Collected: 09/18/18 11:50
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 17:53	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Acrolein	ND		50	2.5	ug/L			09/23/18 12:49	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 12:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 17:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 17:53	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 17:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 17:53	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 17:53	1
Acetone	ND		20	10	ug/L			09/27/18 17:53	1
Acetonitrile	ND		20	10	ug/L			09/27/18 17:53	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 17:53	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 17:53	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Allyl chloride	**1.6**		1.0	0.50	ug/L			09/27/18 17:53	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 17:53	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 17:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 17:53	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 17:53	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 17:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 17:53	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 17:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 17:53	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 17:53	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 17:53	1

Client Sample ID: DW-5
Date Collected: 09/18/18 11:50
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 17:53	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Propionitrile	ND		20	10	ug/L			09/27/18 17:53	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 17:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 17:53	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 17:53	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 17:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 17:53	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 17:53	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 17:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 17:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1500*	*T J*	*ug/L*		*1.72*			*09/27/18 17:53*	*1*
Unknown	*9.6*	*T J*	*ug/L*		*4.34*			*09/27/18 17:53*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 17:53*	*1*
Benzene, (2-methylpropyl)-	*7.7*	*T J N*	*ug/L*		*11.28*	*538-93-2*		*09/27/18 17:53*	*1*
1H-Indene, 2,3-dihydro-1,1-dimethyl-	*7.3*	*T J N*	*ug/L*		*12.66*	*4912-92-9*		*09/27/18 17:53*	*1*
Benzene, 1,2,3,5-tetramethyl-	*24*	*T J N*	*ug/L*		*12.87*	*527-53-7*		*09/27/18 17:53*	*1*
Benzene, pentamethyl-	*12*	*T J N*	*ug/L*		*13.63*	*700-12-9*		*09/27/18 17:53*	*1*
1H-Indene, 2,3-dihydro-1,1,5-trimethyl-	*5.6*	*T J N*	*ug/L*		*13.78*	*40650-41-7*		*09/27/18 17:53*	*1*
Unknown	*5.9*	*T J*	*ug/L*		*13.99*			*09/27/18 17:53*	*1*
1H-Indene, 2,3-dihydro-4,7-dimethyl-	*7.5*	*T J N*	*ug/L*		*14.30*	*6682-71-9*		*09/27/18 17:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 128*		*09/23/18 12:49*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/23/18 12:49*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*09/27/18 17:53*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/27/18 17:53*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*09/23/18 12:49*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*09/27/18 17:53*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 00:58	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 00:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*36*	*T J*	*ug/L*		*2.44*			*09/29/18 00:58*	*1*
Unknown	*49*	*T J*	*ug/L*		*2.48*			*09/29/18 00:58*	*1*
Unknown	*5.5*	*T J*	*ug/L*		*5.94*			*09/29/18 00:58*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*7.36*			*09/29/18 00:58*	*1*
Benzene, (2-methylpropyl)-	*8.0*	*T J N*	*ug/L*		*13.46*	*538-93-2*		*09/29/18 00:58*	*1*

Client Sample ID: DW-5

Lab Sample ID: 440-220349-7
Date Collected: 09/18/18 11:50
Matrix: Water
Date Received: 09/18/18 17:45

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1H-Indene,2,3-dihydro-2,2-dimethyl-	*5.5*	*T J N*	*ug/L*		*14.63*	*20836-11-7*		*09/29/18 00:58*	*1*
1H-Indene, 2,3-dihydro-1,1-dimethyl-	*5.9*	*T J N*	*ug/L*		*14.71*	*4912-92-9*		*09/29/18 00:58*	*1*
Benzene, 1,2,3,5-tetramethyl-	*21*	*T J N*	*ug/L*		*14.88*	*527-53-7*		*09/29/18 00:58*	*1*
Unknown	*8.4*	*T J*	*ug/L*		*15.68*			*09/29/18 00:58*	*1*
1H-Indene, 2,3-dihydro-5,6-dimethyl-	*5.7*	*T J N*	*ug/L*		*16.59*	*1075-22-5*		*09/29/18 00:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*80 - 128*		*09/29/18 00:58*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/29/18 00:58*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/29/18 00:58*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.25	ug/L		09/24/18 13:33	09/26/18 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*63*		*30 - 120*	*09/24/18 13:33*	*09/26/18 19:42*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		2.5	1.3	mg/L			09/20/18 00:27	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**0.99**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**0.30**	**F1**	0.20	0.10	mg/L			09/23/18 14:17	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	**1100**		10	5.0	mg/L			09/25/18 08:45	1
Total Organic Carbon	**7.1**		0.10	0.050	mg/L			09/19/18 12:20	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**970**		4.0	4.0	mg/L			09/20/18 14:07	1

Client Sample ID: MW-9

Lab Sample ID: 440-220349-8
Date Collected: 09/18/18 10:00
Matrix: Water
Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 18:22	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 13:07	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 13:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:22	1

Client Sample ID: MW-9
Date Collected: 09/18/18 10:00
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 18:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 18:22	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 18:22	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 18:22	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 18:22	1
Acetone	ND		20	10	ug/L			09/27/18 18:22	1
Acetonitrile	ND		20	10	ug/L			09/27/18 18:22	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 18:22	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 18:22	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 18:22	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 18:22	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 18:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 18:22	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
cis-1,2-Dichloroethene	**0.51**		0.50	0.25	ug/L			09/27/18 18:22	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 18:22	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 18:22	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 18:22	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 18:22	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 18:22	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 18:22	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 18:22	1
Methyl tert-butyl ether	**0.60**		0.50	0.25	ug/L			09/27/18 18:22	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 18:22	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Propionitrile	ND		20	10	ug/L			09/27/18 18:22	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
t-Butanol	**26**		10	5.0	ug/L			09/27/18 18:22	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Tetrahydrofuran	**8.9**	**J**	10	5.0	ug/L			09/27/18 18:22	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 18:22	1

Client Sample ID: MW-9
Date Collected: 09/18/18 10:00
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 18:22	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 18:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 18:22	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 18:22	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 18:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 18:22	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1800*	*T J*	*ug/L*		*1.72*			*09/27/18 18:22*	*1*
Unknown	*11*	*T J*	*ug/L*		*4.33*			*09/27/18 18:22*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 18:22*	*1*
Unknown	*8.1*	*T J*	*ug/L*		*15.30*			*09/27/18 18:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 128*		*09/24/18 13:07*	*1*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*09/24/18 13:07*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*09/27/18 18:22*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*09/27/18 18:22*	*1*
Dibromofluoromethane (Surr)	*120*		*76 - 132*		*09/24/18 13:07*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*09/27/18 18:22*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 01:22	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 01:22	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*42*	*T J*	*ug/L*		*2.44*			*09/29/18 01:22*	*1*
Unknown	*60*	*T J*	*ug/L*		*2.48*			*09/29/18 01:22*	*1*
Silane, fluorotrimethyl-	*2.7*	*T J N*	*ug/L*		*3.59*	*420-56-4*		*09/29/18 01:22*	*1*
Unknown	*6.5*	*T J*	*ug/L*		*5.85*			*09/29/18 01:22*	*1*
Unknown	*9.6*	*T J*	*ug/L*		*7.36*			*09/29/18 01:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*09/29/18 01:22*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/29/18 01:22*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/29/18 01:22*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**21**		0.99	0.25	ug/L		09/24/18 13:33	09/26/18 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*51*		*30 - 120*	*09/24/18 13:33*	*09/26/18 20:04*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**210**		25	13	mg/L			09/19/18 19:12	50

Client Sample ID: MW-9

Lab Sample ID: 440-220349-8

Date Collected: 09/18/18 10:00

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	25		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	10		2.0	1.0	mg/L			09/23/18 15:19	10
Chemical Oxygen Demand	130		20	10	mg/L			09/26/18 09:06	1
Total Dissolved Solids	3700		50	25	mg/L			09/25/18 08:45	1
Total Organic Carbon	57		1.0	0.50	mg/L			09/19/18 12:35	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	860		4.0	4.0	mg/L			09/20/18 14:23	1

Client Sample ID: MW-13R

Lab Sample ID: 440-220349-9

Date Collected: 09/18/18 08:15

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 18:50	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Acrolein	ND		50	2.5	ug/L			09/23/18 13:46	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 13:46	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 18:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 18:50	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 18:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 18:50	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 18:50	1
Acetone	ND		20	10	ug/L			09/27/18 18:50	1
Acetonitrile	ND		20	10	ug/L			09/27/18 18:50	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 18:50	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 18:50	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 18:50	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 18:50	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 18:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1

Client Sample ID: MW-13R
Date Collected: 09/18/18 08:15
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 18:50	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 18:50	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 18:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 18:50	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 18:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 18:50	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 18:50	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 18:50	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 18:50	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Propionitrile	ND		20	10	ug/L			09/27/18 18:50	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
t-Butanol	**8.2**	**J**	10	5.0	ug/L			09/27/18 18:50	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 18:50	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 18:50	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 18:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 18:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 18:50	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 18:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 18:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1400*	*T J*	*ug/L*		*1.72*			*09/27/18 18:50*	*1*
Unknown	*9.3*	*T J*	*ug/L*		*2.38*			*09/27/18 18:50*	*1*
Unknown	*7.0*	*T J*	*ug/L*		*4.33*			*09/27/18 18:50*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 18:50*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*14.72*			*09/27/18 18:50*	*1*
Unknown	*7.6*	*T J*	*ug/L*		*15.72*			*09/27/18 18:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 128*		*09/23/18 13:46*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*09/23/18 13:46*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*09/27/18 18:50*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/27/18 18:50*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*09/23/18 13:46*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/27/18 18:50*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 01:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 01:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*24*	*T J*	*ug/L*		*2.44*			*09/29/18 01:47*	*1*
Unknown	*44*	*T J*	*ug/L*		*2.48*			*09/29/18 01:47*	*1*
Unknown	*2.8*	*T J*	*ug/L*		*2.60*			*09/29/18 01:47*	*1*
Unknown	*120*	*T J*	*ug/L*		*2.70*			*09/29/18 01:47*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*7.36*			*09/29/18 01:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*09/29/18 01:47*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*09/29/18 01:47*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*09/29/18 01:47*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**8.2**		0.98	0.25	ug/L		09/24/18 13:33	09/26/18 20:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*58*		*30 - 120*	*09/24/18 13:33*	*09/26/18 20:27*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**170**		25	13	mg/L			09/19/18 20:50	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**30**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**8.7**		1.0	0.50	mg/L			09/23/18 16:15	5
Chemical Oxygen Demand	**290**		20	10	mg/L			09/26/18 09:07	1
Total Dissolved Solids	**1700**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**27**		0.50	0.25	mg/L			09/19/18 09:49	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**790**		4.0	4.0	mg/L			09/20/18 14:38	1

Client Sample ID: Duplicate

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 19:18	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Acrolein	ND		50	2.5	ug/L			09/23/18 09:03	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 09:03	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 19:18	1

Client Sample ID: Duplicate
Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 19:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 19:18	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 19:18	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 19:18	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 19:18	1
Acetone	ND		20	10	ug/L			09/27/18 19:18	1
Acetonitrile	ND		20	10	ug/L			09/27/18 19:18	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 19:18	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 19:18	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 19:18	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 19:18	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 19:18	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 19:18	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 19:18	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 19:18	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 19:18	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 19:18	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 19:18	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 19:18	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 19:18	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 19:18	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Propionitrile	ND		20	10	ug/L			09/27/18 19:18	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 19:18	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 19:18	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:18	1

Client Sample ID: Duplicate

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 19:18	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 19:18	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 19:18	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 19:18	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 19:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 19:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1300*	*T J*	*ug/L*		*1.72*			*09/27/18 19:18*	*1*
Unknown	*14*	*T J*	*ug/L*		*5.74*			*09/27/18 19:18*	*1*
Unknown	*12*	*T J*	*ug/L*		*15.99*			*09/27/18 19:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 128*		*09/23/18 09:03*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/23/18 09:03*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*09/27/18 19:18*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/27/18 19:18*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*09/23/18 09:03*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/27/18 19:18*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 02:11	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 02:11	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*27*	*T J*	*ug/L*		*2.44*			*09/29/18 02:11*	*1*
Unknown	*41*	*T J*	*ug/L*		*2.48*			*09/29/18 02:11*	*1*
Unknown	*26*	*T J*	*ug/L*		*2.74*			*09/29/18 02:11*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*7.36*			*09/29/18 02:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*80 - 128*		*09/29/18 02:11*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*09/29/18 02:11*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*09/29/18 02:11*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.66**	**J**	1.0	0.25	ug/L		09/24/18 13:33	09/26/18 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*65*		*30 - 120*	*09/24/18 13:33*	*09/26/18 20:49*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.9**		0.50	0.25	mg/L			09/20/18 00:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**11**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	12		2.0	1.0	mg/L			09/23/18 15:31	10
Chemical Oxygen Demand	18	J	20	10	mg/L			09/26/18 09:07	1
Total Dissolved Solids	2500		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	3.9		0.10	0.050	mg/L			09/19/18 12:48	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	550		4.0	4.0	mg/L			09/20/18 14:49	1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-220349-11

Date Collected: 09/18/18 11:20

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 19:46	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 13:32	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 13:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 19:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 19:46	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,4-Dichlorobenzene	0.57		0.50	0.25	ug/L			09/27/18 19:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 19:46	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 19:46	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 19:46	1
Acetone	15	J	20	10	ug/L			09/27/18 19:46	1
Acetonitrile	ND		20	10	ug/L			09/27/18 19:46	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 19:46	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 19:46	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 19:46	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 19:46	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 19:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Chlorobenzene	0.39	J	0.50	0.25	ug/L			09/27/18 19:46	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 19:46	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
cis-1,2-Dichloroethene	1.1		0.50	0.25	ug/L			09/27/18 19:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1

Client Sample ID: Extraction Trench
Date Collected: 09/18/18 11:20
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 19:46	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 19:46	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 19:46	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 19:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 19:46	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 19:46	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 19:46	1
Methyl tert-butyl ether	**0.70**		0.50	0.25	ug/L			09/27/18 19:46	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 19:46	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Propionitrile	ND		20	10	ug/L			09/27/18 19:46	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
t-Butanol	**84**		10	5.0	ug/L			09/27/18 19:46	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Tetrahydrofuran	**13**		10	5.0	ug/L			09/27/18 19:46	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 19:46	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 19:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 19:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 19:46	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 19:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 19:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2100*	*T J*	*ug/L*		*1.72*			*09/27/18 19:46*	*1*
Unknown	*5.1*	*T J*	*ug/L*		*2.38*			*09/27/18 19:46*	*1*
Unknown	*18*	*T J*	*ug/L*		*4.33*			*09/27/18 19:46*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 19:46*	*1*
Unknown	*3.1*	*T J*	*ug/L*		*6.02*			*09/27/18 19:46*	*1*
Unknown	*4.5*	*T J*	*ug/L*		*8.31*			*09/27/18 19:46*	*1*
Unknown	*8.2*	*T J*	*ug/L*		*15.04*			*09/27/18 19:46*	*1*
Unknown	*5.5*	*T J*	*ug/L*		*16.36*			*09/27/18 19:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*86*		*80 - 128*		*09/24/18 13:32*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*09/24/18 13:32*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*09/27/18 19:46*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/27/18 19:46*	*1*
Dibromofluoromethane (Surr)	*113*		*76 - 132*		*09/24/18 13:32*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*09/27/18 19:46*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 02:36	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 02:36	1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-220349-11

Date Collected: 09/18/18 11:20

Matrix: Water

Date Received: 09/18/18 17:45

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	50	T J	ug/L		2.44			09/29/18 02:36	1
Unknown	68	T J	ug/L		2.48			09/29/18 02:36	1
Silanol, trimethyl-	9.7	T J N	ug/L		5.85	1066-40-6		09/29/18 02:36	1
Unknown	9.5	T J	ug/L		7.36			09/29/18 02:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	113		80 - 128		09/29/18 02:36	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/29/18 02:36	1
Dibromofluoromethane (Surr)	103		76 - 132		09/29/18 02:36	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	46		1.1	0.26	ug/L		09/24/18 13:33	09/26/18 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	41		30 - 120	09/24/18 13:33	09/26/18 21:12	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	510		100	50	mg/L			09/19/18 21:26	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	80		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	27		4.0	2.0	mg/L			09/23/18 15:39	20
Chemical Oxygen Demand	400		20	10	mg/L			09/26/18 09:07	1
Total Dissolved Solids	4100		100	50	mg/L			09/25/18 08:45	1
Total Organic Carbon	140		1.0	0.50	mg/L			09/19/18 10:18	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	1200		4.0	4.0	mg/L			09/20/18 15:10	1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-220349-12

Date Collected: 09/18/18 09:40

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 20:15	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 13:56	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 13:56	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 20:15	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: Combined Subdrains
Date Collected: 09/18/18 09:40
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 20:15	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,4-Dichlorobenzene	**2.7**		0.50	0.25	ug/L			09/27/18 20:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 20:15	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 20:15	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 20:15	1
Acetone	ND		20	10	ug/L			09/27/18 20:15	1
Acetonitrile	ND		20	10	ug/L			09/27/18 20:15	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 20:15	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 20:15	1
Benzene	**0.53**		0.50	0.25	ug/L			09/27/18 20:15	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 20:15	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 20:15	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 20:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 20:15	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
cis-1,2-Dichloroethene	**1.5**		0.50	0.25	ug/L			09/27/18 20:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 20:15	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 20:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 20:15	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 20:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 20:15	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 20:15	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 20:15	1
Methyl tert-butyl ether	**1.2**		0.50	0.25	ug/L			09/27/18 20:15	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 20:15	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Propionitrile	ND		20	10	ug/L			09/27/18 20:15	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
t-Butanol	**9.6**	**J**	10	5.0	ug/L			09/27/18 20:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 20:15	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 20:15	1

Client Sample ID: Combined Subdrains

Date Collected: 09/18/18 09:40
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 20:15	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 20:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 20:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 20:15	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 20:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 20:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1600*	*T J*	*ug/L*		*1.73*			*09/27/18 20:15*	*1*
Unknown	*3.0*	*T J*	*ug/L*		*2.39*			*09/27/18 20:15*	*1*
Unknown	*9.6*	*T J*	*ug/L*		*4.33*			*09/27/18 20:15*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 20:15*	*1*
Unknown	*5.1*	*T J*	*ug/L*		*15.00*			*09/27/18 20:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*117*		*80 - 128*		*09/24/18 13:56*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*09/24/18 13:56*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*09/27/18 20:15*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/27/18 20:15*	*1*
Dibromofluoromethane (Surr)	*121*		*76 - 132*		*09/24/18 13:56*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*09/27/18 20:15*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 03:01	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 03:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*41*	*T J*	*ug/L*		*2.44*			*09/29/18 03:01*	*1*
Unknown	*58*	*T J*	*ug/L*		*2.48*			*09/29/18 03:01*	*1*
Unknown	*5.6*	*T J*	*ug/L*		*5.85*			*09/29/18 03:01*	*1*
Unknown	*9.3*	*T J*	*ug/L*		*7.36*			*09/29/18 03:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*09/29/18 03:01*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*09/29/18 03:01*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/29/18 03:01*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**5.4**		1.0	0.26	ug/L		09/24/18 13:33	09/26/18 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*86*		*30 - 120*	*09/24/18 13:33*	*09/26/18 21:34*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61**		25	13	mg/L			09/19/18 21:44	50

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-220349-12

Date Collected: 09/18/18 09:40

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**12**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**3.7**		0.20	0.10	mg/L			09/23/18 15:44	1
Chemical Oxygen Demand	**56**		20	10	mg/L			09/26/18 09:07	1
Total Dissolved Solids	**3200**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**23**		0.50	0.25	mg/L			09/19/18 13:02	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**640**		4.0	4.0	mg/L			09/20/18 15:26	1

Client Sample ID: Subdrain N

Lab Sample ID: 440-220349-13

Date Collected: 09/18/18 09:05

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 20:44	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 15:32	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 15:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 20:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 20:44	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,4-Dichlorobenzene	**3.2**		0.50	0.25	ug/L			09/27/18 20:44	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 20:44	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 20:44	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 20:44	1
Acetone	ND		20	10	ug/L			09/27/18 20:44	1
Acetonitrile	ND		20	10	ug/L			09/27/18 20:44	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 20:44	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 20:44	1
Benzene	**0.63**		0.50	0.25	ug/L			09/27/18 20:44	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 20:44	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 20:44	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 20:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Chlorobenzene	**0.28**	**J**	0.50	0.25	ug/L			09/27/18 20:44	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1

Client Sample ID: Subdrain N
Date Collected: 09/18/18 09:05
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 20:44	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
cis-1,2-Dichloroethene	**1.1**		0.50	0.25	ug/L			09/27/18 20:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 20:44	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 20:44	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 20:44	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 20:44	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 20:44	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 20:44	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 20:44	1
Methyl tert-butyl ether	**1.3**		0.50	0.25	ug/L			09/27/18 20:44	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 20:44	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Propionitrile	ND		20	10	ug/L			09/27/18 20:44	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
t-Butanol	**12**		10	5.0	ug/L			09/27/18 20:44	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 20:44	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 20:44	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 20:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 20:44	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 20:44	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 20:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 20:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1700*	*T J*	*ug/L*		*1.72*			*09/27/18 20:44*	*1*
Unknown	*3.0*	*T J*	*ug/L*		*2.38*			*09/27/18 20:44*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*4.33*			*09/27/18 20:44*	*1*
Unknown	*13*	*T J*	*ug/L*		*5.74*			*09/27/18 20:44*	*1*
Unknown	*2.8*	*T J*	*ug/L*		*14.04*			*09/27/18 20:44*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*15.18*			*09/27/18 20:44*	*1*
Unknown	*2.5*	*T J*	*ug/L*		*15.45*			*09/27/18 20:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 128*		*09/24/18 15:32*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/24/18 15:32*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*09/27/18 20:44*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/27/18 20:44*	*1*
Dibromofluoromethane (Surr)	*122*		*76 - 132*		*09/24/18 15:32*	*1*

Client Sample ID: Subdrain N

Lab Sample ID: 440-220349-13

Date Collected: 09/18/18 09:05

Matrix: Water

Date Received: 09/18/18 17:45

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*09/27/18 20:44*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 03:25	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 03:25	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	*43*	*T J*	*ug/L*		*2.44*			*09/29/18 03:25*	*1*
Unknown	*59*	*T J*	*ug/L*		*2.48*			*09/29/18 03:25*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*5.85*			*09/29/18 03:25*	*1*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*09/29/18 03:25*	*1*

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*112*		*80 - 128*		*09/29/18 03:25*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*09/29/18 03:25*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/29/18 03:25*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.6**		0.99	0.25	ug/L		09/24/18 13:33	09/26/18 21:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	*61*		*30 - 120*	*09/24/18 13:33*	*09/26/18 21:57*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61**		25	13	mg/L			09/19/18 22:02	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**12**		0.50	0.25	mg/L		09/24/18 09:29	09/24/18 20:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**4.2**		0.20	0.10	mg/L			09/23/18 15:49	1
Chemical Oxygen Demand	**18**	**J**	20	10	mg/L			09/26/18 09:07	1
Total Dissolved Solids	**3100**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**25**		0.50	0.25	mg/L			09/19/18 13:15	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**670**		4.0	4.0	mg/L			09/20/18 15:53	1

Client Sample ID: QCAB

Lab Sample ID: 440-220349-14

Date Collected: 09/18/18 00:01

Matrix: Water

Date Received: 09/18/18 17:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 21:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Acrolein	ND		50	2.5	ug/L			09/23/18 15:52	1

Client Sample ID: QCAB
Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 15:52	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 21:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 21:12	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 21:12	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 21:12	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 21:12	1
Acetone	ND		20	10	ug/L			09/27/18 21:12	1
Acetonitrile	ND		20	10	ug/L			09/27/18 21:12	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 21:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 21:12	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 21:12	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 21:12	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 21:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 21:12	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 21:12	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 21:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 21:12	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 21:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 21:12	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 21:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 21:12	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 21:12	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 21:12	1

Client Sample ID: QCAB

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/27/18 21:12	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 21:12	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 21:12	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 21:12	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 21:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 21:12	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 21:12	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 21:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 21:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*18*	*T J*	*ug/L*		*1.67*			*09/27/18 21:12*	*1*
Unknown	*230*	*T J*	*ug/L*		*1.72*			*09/27/18 21:12*	*1*
Unknown	*2.6*	*T J*	*ug/L*		*2.17*			*09/27/18 21:12*	*1*
Unknown	*14*	*T J*	*ug/L*		*5.74*			*09/27/18 21:12*	*1*
Unknown	*8.8*	*T J*	*ug/L*		*15.39*			*09/27/18 21:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 128*		*09/23/18 15:52*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*09/23/18 15:52*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*09/27/18 21:12*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/27/18 21:12*	*1*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*09/23/18 15:52*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/27/18 21:12*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 03:50	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 03:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*09/29/18 03:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*80 - 128*		*09/29/18 03:50*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*09/29/18 03:50*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*09/29/18 03:50*	*1*

Client Sample ID: QCTB

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-15
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 21:41	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: QCTB
Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-15
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 14:44	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 14:44	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 21:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 21:41	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 21:41	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 21:41	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 21:41	1
Acetone	ND		20	10	ug/L			09/27/18 21:41	1
Acetonitrile	ND		20	10	ug/L			09/27/18 21:41	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 21:41	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 21:41	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 21:41	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 21:41	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 21:41	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 21:41	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 21:41	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 21:41	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 21:41	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 21:41	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 21:41	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 21:41	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 21:41	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 21:41	1

Client Sample ID: QCTB

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-15

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 21:41	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Propionitrile	ND		20	10	ug/L			09/27/18 21:41	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 21:41	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 21:41	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 21:41	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 21:41	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 21:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 21:41	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 21:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 21:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*19*	*T J*	*ug/L*		*1.67*			*09/27/18 21:41*	*1*
Unknown	*130*	*T J*	*ug/L*		*1.72*			*09/27/18 21:41*	*1*
Unknown	*14*	*T J*	*ug/L*		*5.74*			*09/27/18 21:41*	*1*
Unknown	*4.9*	*T J*	*ug/L*		*16.05*			*09/27/18 21:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*09/24/18 14:44*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/24/18 14:44*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*09/27/18 21:41*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/27/18 21:41*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*09/24/18 14:44*	*1*
Dibromofluoromethane (Surr)	*109*		*76 - 132*		*09/27/18 21:41*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/18 04:14	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/18 04:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*09/29/18 04:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*09/29/18 04:14*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*09/29/18 04:14*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/29/18 04:14*	*1*

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV
410.4	COD	MCAWW	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV
SM 5310C	TOC	SM	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol 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.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: PZ-4

Date Collected: 09/18/18 12:20
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 04:23	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/28/18 22:30	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 14:05	AYL	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 17:27	HN	TAL IRV
Total/NA	Analysis	300.0		1			499866	09/19/18 22:38	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:28	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 19:04	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 15:14	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 12:27	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500059	09/19/18 06:54	YZ	TAL IRV

Client Sample ID: CM-9R3

Date Collected: 09/18/18 09:32
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 04:50	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/28/18 22:55	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 15:31	AYL	TAL IRV
Total/NA	Prep	3520C			1010 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 17:49	HN	TAL IRV
Total/NA	Analysis	300.0		5			499866	09/19/18 22:57	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 19:30	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 14:32	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 12:34	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500059	09/19/18 07:21	YZ	TAL IRV

Client Sample ID: CM-10R

Date Collected: 09/18/18 10:45
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 05:17	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/28/18 23:20	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 15:59	AYL	TAL IRV

Client Sample ID: CM-10R

Date Collected: 09/18/18 10:45
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1015 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 18:11	HN	TAL IRV
Total/NA	Analysis	300.0		1			499866	09/19/18 23:15	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 19:35	TQN	TAL IRV
Total/NA	Analysis	350.1		10	0.8 mL	8 mL	500627	09/23/18 14:38	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 12:47	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500059	09/19/18 07:34	YZ	TAL IRV

Client Sample ID: CM-11R

Date Collected: 09/18/18 08:40
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	500475	09/22/18 05:44	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/28/18 23:44	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 16:28	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 18:34	HN	TAL IRV
Total/NA	Analysis	300.0		10			499866	09/19/18 23:33	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 19:40	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 14:54	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 12:53	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500059	09/19/18 11:05	YZ	TAL IRV

Client Sample ID: MW-1

Date Collected: 09/18/18 13:00
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 00:09	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 11:37	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 16:56	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 18:57	HN	TAL IRV
Total/NA	Analysis	300.0		50			499866	09/19/18 18:18	NTN	TAL IRV

Client Sample ID: MW-1

Lab Sample ID: 440-220349-5

Date Collected: 09/18/18 13:00
Matrix: Water
Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 19:55	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 14:43	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 13:24	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	500059	09/19/18 11:48	YZ	TAL IRV

Client Sample ID: MW-5

Lab Sample ID: 440-220349-6

Date Collected: 09/18/18 14:05
Matrix: Water
Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 00:33	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 12:20	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 17:25	AYL	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 19:19	HN	TAL IRV
Total/NA	Analysis	300.0		50			499866	09/19/18 18:36	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:00	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 14:48	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 13:50	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	500059	09/19/18 12:04	YZ	TAL IRV

Client Sample ID: DW-5

Lab Sample ID: 440-220349-7

Date Collected: 09/18/18 11:50
Matrix: Water
Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 00:58	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 12:49	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 17:53	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 19:42	HN	TAL IRV
Total/NA	Analysis	300.0		5			499866	09/20/18 00:27	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:05	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 14:17	HTL	TAL IRV

Client Sample ID: DW-5

Lab Sample ID: 440-220349-7

Date Collected: 09/18/18 11:50

Matrix: Water

Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 14:07	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500059	09/19/18 12:20	YZ	TAL IRV

Client Sample ID: MW-9

Lab Sample ID: 440-220349-8

Date Collected: 09/18/18 10:00

Matrix: Water

Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 01:22	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 13:07	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 18:22	AYL	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 20:04	HN	TAL IRV
Total/NA	Analysis	300.0		50			499866	09/19/18 19:12	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:10	TQN	TAL IRV
Total/NA	Analysis	350.1		10	0.8 mL	8 mL	500627	09/23/18 15:19	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 14:23	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	500059	09/19/18 12:35	YZ	TAL IRV

Client Sample ID: MW-13R

Lab Sample ID: 440-220349-9

Date Collected: 09/18/18 08:15

Matrix: Water

Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 01:47	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 13:46	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 18:50	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 20:27	HN	TAL IRV
Total/NA	Analysis	300.0		50			499866	09/19/18 20:50	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:15	TQN	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8 mL	500627	09/23/18 16:15	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 14:38	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: MW-13R

Date Collected: 09/18/18 08:15
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	500059	09/19/18 09:49	YZ	TAL IRV

Client Sample ID: Duplicate

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 02:11	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 09:03	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 19:18	AYL	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 20:49	HN	TAL IRV
Total/NA	Analysis	300.0		1			499866	09/20/18 00:45	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:20	TQN	TAL IRV
Total/NA	Analysis	350.1		10	0.8 mL	8 mL	500627	09/23/18 15:31	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 14:49	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500059	09/19/18 12:48	YZ	TAL IRV

Client Sample ID: Extraction Trench

Date Collected: 09/18/18 11:20
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 02:36	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 13:32	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 19:46	AYL	TAL IRV
Total/NA	Prep	3520C			950 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 21:12	HN	TAL IRV
Total/NA	Analysis	300.0		200			499866	09/19/18 21:26	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:25	TQN	TAL IRV
Total/NA	Analysis	350.1		20	0.8 mL	8 mL	500627	09/23/18 15:39	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 15:10	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	500059	09/19/18 10:18	YZ	TAL IRV

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-220349-12

Date Collected: 09/18/18 09:40

Matrix: Water

Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 03:01	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 13:56	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 20:15	AYL	TAL IRV
Total/NA	Prep	3520C			980 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 21:34	HN	TAL IRV
Total/NA	Analysis	300.0		50			499866	09/19/18 21:44	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:30	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 15:44	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 15:26	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	500059	09/19/18 13:02	YZ	TAL IRV

Client Sample ID: Subdrain N

Lab Sample ID: 440-220349-13

Date Collected: 09/18/18 09:05

Matrix: Water

Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 03:25	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 15:32	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 20:44	AYL	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	500774	09/24/18 13:33	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501270	09/26/18 21:57	HN	TAL IRV
Total/NA	Analysis	300.0		50			499866	09/19/18 22:02	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	500702	09/24/18 09:29	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			500912	09/24/18 20:35	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 15:49	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501172	09/26/18 09:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500301	09/20/18 15:53	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	500059	09/19/18 13:15	YZ	TAL IRV

Client Sample ID: QCAB

Lab Sample ID: 440-220349-14

Date Collected: 09/18/18 00:01

Matrix: Water

Date Received: 09/18/18 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 03:50	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 15:52	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 21:12	AYL	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Client Sample ID: QCTB

Date Collected: 09/18/18 00:01
Date Received: 09/18/18 17:45

Lab Sample ID: 440-220349-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	501885	09/29/18 04:14	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 14:44	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	501413	09/27/18 21:41	AYL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-500475/3
Matrix: Water
Analysis Batch: 500475

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/21/18 19:01	1
Acrylonitrile	ND		50	1.0	ug/L			09/21/18 19:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*80 - 128*		*09/21/18 19:01*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*09/21/18 19:01*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*09/21/18 19:01*	*1*

Lab Sample ID: LCS 440-500475/4
Matrix: Water
Analysis Batch: 500475

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	26.5	J	ug/L		106	10 - 145		
Acrylonitrile			250	179		ug/L		72	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*89*		*80 - 128*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*

Lab Sample ID: 320-43063-B-2 MS
Matrix: Water
Analysis Batch: 500475

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND		25.0	26.2	J	ug/L		105	10 - 147		
Acrylonitrile	ND		250	192		ug/L		77	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 128*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*

Lab Sample ID: 320-43063-B-2 MSD
Matrix: Water
Analysis Batch: 500475

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	25.5	J	ug/L		102	10 - 147	2	40
Acrylonitrile	ND		250	197		ug/L		79	38 - 144	3	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*90*		*80 - 128*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*

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

Lab Sample ID: MB 440-500587/4
Matrix: Water
Analysis Batch: 500587

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/23/18 08:07	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 08:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 128*		*09/23/18 08:07*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/23/18 08:07*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*09/23/18 08:07*	*1*

Lab Sample ID: LCS 440-500587/5
Matrix: Water
Analysis Batch: 500587

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	31.3	J	ug/L		125	10 - 145		
Acrylonitrile			250	207		ug/L		83	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*

Lab Sample ID: 440-220349-10 MS
Matrix: Water
Analysis Batch: 500587

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND		25.0	31.1	J	ug/L		124	10 - 147		
Acrylonitrile	ND		250	259		ug/L		104	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*

Lab Sample ID: 440-220349-10 MSD
Matrix: Water
Analysis Batch: 500587

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	29.4	J	ug/L		118	10 - 147	6	40
Acrylonitrile	ND		250	241		ug/L		97	38 - 144	7	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*76 - 132*

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

Lab Sample ID: MB 440-500659/4
Matrix: Water
Analysis Batch: 500659

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/24/18 07:58	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 07:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/24/18 07:58*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*09/24/18 07:58*	*1*
Dibromofluoromethane (Surr)	*116*		*76 - 132*		*09/24/18 07:58*	*1*

Lab Sample ID: LCS 440-500659/5
Matrix: Water
Analysis Batch: 500659

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	39.3	J *	ug/L		157	10 - 145		
Acrylonitrile			250	235		ug/L		94	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 128*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*115*		*76 - 132*

Lab Sample ID: 440-220491-E-2 MS
Matrix: Water
Analysis Batch: 500659

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND	F1 *	25.0	46.1	J F1	ug/L		184	10 - 147		
Acrylonitrile	ND		250	266		ug/L		107	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 128*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*125*		*76 - 132*

Lab Sample ID: 440-220491-E-2 MSD
Matrix: Water
Analysis Batch: 500659

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND	F1 *	25.0	38.9	J F1	ug/L		156	10 - 147	17	40
Acrylonitrile	ND		250	294		ug/L		118	38 - 144	10	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*84*		*80 - 128*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*126*		*76 - 132*

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

Lab Sample ID: MB 440-501413/5
Matrix: Water
Analysis Batch: 501413

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/27/18 13:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/27/18 13:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/27/18 13:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/27/18 13:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/27/18 13:07	1
2-Hexanone	ND		5.0	2.5	ug/L			09/27/18 13:07	1
Acetone	ND		20	10	ug/L			09/27/18 13:07	1
Acetonitrile	ND		20	10	ug/L			09/27/18 13:07	1
Acrolein	ND		5.0	2.5	ug/L			09/27/18 13:07	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/27/18 13:07	1
Benzene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Allyl chloride	ND		1.0	0.50	ug/L			09/27/18 13:07	1
Bromoform	ND		1.0	0.40	ug/L			09/27/18 13:07	1
Bromomethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/27/18 13:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Chloroethane	ND		1.0	0.40	ug/L			09/27/18 13:07	1
Chloroform	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Chloromethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Dibromomethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/27/18 13:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 13:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Iodomethane	ND		2.0	1.0	ug/L			09/27/18 13:07	1
Isobutyl alcohol	ND		25	13	ug/L			09/27/18 13:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/27/18 13:07	1
Methylacrylonitrile	ND		10	2.5	ug/L			09/27/18 13:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/27/18 13:07	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/27/18 13:07	1

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

Lab Sample ID: MB 440-501413/5
Matrix: Water
Analysis Batch: 501413

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Naphthalene	ND		1.0	0.40	ug/L			09/27/18 13:07	1
o-Xylene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Propionitrile	ND		20	10	ug/L			09/27/18 13:07	1
Styrene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
t-Butanol	ND		10	5.0	ug/L			09/27/18 13:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/27/18 13:07	1
Toluene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Trichloroethene	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/27/18 13:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/27/18 13:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/27/18 13:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/27/18 13:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/27/18 13:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/27/18 13:07	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*09/27/18 13:07*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 128*		*09/27/18 13:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*09/27/18 13:07*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*09/27/18 13:07*	*1*

Lab Sample ID: LCS 440-501413/6
Matrix: Water
Analysis Batch: 501413

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.3		ug/L		97	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.0		ug/L		108	60 - 141
1,1,1-Trichloroethane	25.0	26.1		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.7		ug/L		111	63 - 130
1,1,2-Trichloroethane	25.0	28.6		ug/L		115	70 - 130
1,1-Dichloroethane	25.0	28.1		ug/L		112	64 - 130
1,1-Dichloroethene	25.0	28.8		ug/L		115	70 - 130
1,1-Dichloropropene	25.0	26.9		ug/L		108	70 - 130
1,2,4-Trichlorobenzene	25.0	25.4		ug/L		102	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	22.5		ug/L		90	52 - 140
1,2-Dichlorobenzene	25.0	29.0		ug/L		116	70 - 130
1,2-Dichloroethane	25.0	27.3		ug/L		109	57 - 138
1,2-Dichloropropane	25.0	29.3		ug/L		117	67 - 130
1,3-Dichlorobenzene	25.0	27.7		ug/L		111	70 - 130
1,3-Dichloropropane	25.0	26.3		ug/L		105	70 - 130

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

Lab Sample ID: LCS 440-501413/6
Matrix: Water
Analysis Batch: 501413

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	25.0	28.1		ug/L		113	70 - 130
2,2-Dichloropropane	25.0	26.3		ug/L		105	68 - 141
2-Hexanone	25.0	21.2		ug/L		85	10 - 150
Acetone	25.0	23.1		ug/L		92	10 - 150
Acrolein	25.0	30.4		ug/L		122	10 - 145
Acrylonitrile	250	260		ug/L		104	48 - 140
Benzene	25.0	28.8		ug/L		115	68 - 130
Bromoform	25.0	26.2		ug/L		105	60 - 148
Bromomethane	25.0	24.2		ug/L		97	64 - 139
Carbon disulfide	25.0	25.7		ug/L		103	52 - 136
Carbon tetrachloride	25.0	25.4		ug/L		101	60 - 150
Chlorobenzene	25.0	26.8		ug/L		107	70 - 130
Bromochloromethane	25.0	31.7		ug/L		127	70 - 130
Chloroethane	25.0	22.9		ug/L		91	64 - 135
Chloroform	25.0	27.9		ug/L		112	70 - 130
Chloromethane	25.0	18.3		ug/L		73	47 - 140
cis-1,2-Dichloroethene	25.0	28.0		ug/L		112	70 - 133
cis-1,3-Dichloropropene	25.0	28.0		ug/L		112	70 - 133
Dibromochloromethane	25.0	28.1		ug/L		113	69 - 145
Dibromomethane	25.0	27.3		ug/L		109	70 - 130
Bromodichloromethane	25.0	29.2		ug/L		117	70 - 132
Dichlorodifluoromethane	25.0	18.7		ug/L		75	29 - 150
Ethylbenzene	25.0	25.8		ug/L		103	70 - 130
m,p-Xylene	25.0	27.9		ug/L		112	70 - 130
Methylene Chloride	25.0	29.0		ug/L		116	52 - 130
Methyl tert-butyl ether	25.0	28.1		ug/L		113	63 - 131
Naphthalene	25.0	23.9		ug/L		96	60 - 140
o-Xylene	25.0	28.1		ug/L		112	70 - 130
Styrene	25.0	26.1		ug/L		105	70 - 134
t-Butanol	250	268		ug/L		107	70 - 130
Tetrachloroethene	25.0	26.6		ug/L		106	70 - 130
Toluene	25.0	26.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	25.0	27.1		ug/L		108	70 - 130
trans-1,3-Dichloropropene	25.0	26.7		ug/L		107	70 - 132
Trichloroethene	25.0	29.6		ug/L		118	70 - 130
Trichlorofluoromethane	25.0	22.3		ug/L		89	60 - 150
Vinyl acetate	25.0	25.1		ug/L		100	48 - 140
Vinyl chloride	25.0	21.7		ug/L		87	59 - 133
1,2-Dibromoethane (EDB)	25.0	28.1		ug/L		113	70 - 130
2-Butanone (MEK)	25.0	23.9		ug/L		96	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	21.9		ug/L		88	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*80 - 128*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*

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

Lab Sample ID: 440-220349-1 MS
Matrix: Water
Analysis Batch: 501413

Client Sample ID: PZ-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	23.8		ug/L		95	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	28.0		ug/L		112	60 - 149
1,1,1-Trichloroethane	ND		25.0	26.7		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.9		ug/L		112	70 - 130
1,1-Dichloroethane	ND		25.0	27.5		ug/L		110	65 - 130
1,1-Dichloroethene	ND		25.0	30.8		ug/L		123	70 - 130
1,1-Dichloropropene	ND		25.0	28.4		ug/L		114	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.4		ug/L		106	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	21.9		ug/L		88	48 - 140
1,2-Dichlorobenzene	ND		25.0	28.3		ug/L		113	70 - 130
1,2-Dichloroethane	ND		25.0	25.6		ug/L		102	56 - 146
1,2-Dichloropropane	ND		25.0	27.7		ug/L		111	69 - 130
1,3-Dichlorobenzene	ND		25.0	28.3		ug/L		113	70 - 130
1,3-Dichloropropane	ND		25.0	26.3		ug/L		105	70 - 130
1,4-Dichlorobenzene	ND		25.0	27.7		ug/L		111	70 - 130
2,2-Dichloropropane	ND		25.0	28.2		ug/L		113	69 - 138
2-Hexanone	ND		25.0	18.3		ug/L		73	10 - 150
Acetone	ND		25.0	19.0	J	ug/L		76	10 - 150
Acrolein	ND		25.0	29.2		ug/L		117	10 - 147
Acrylonitrile	ND		250	229		ug/L		92	38 - 144
Benzene	ND		25.0	27.8		ug/L		111	66 - 130
Bromoform	ND		25.0	25.5		ug/L		102	59 - 150
Bromomethane	ND		25.0	26.0		ug/L		104	62 - 131
Carbon disulfide	ND		25.0	29.0		ug/L		116	49 - 140
Carbon tetrachloride	ND		25.0	26.0		ug/L		104	60 - 150
Chlorobenzene	ND		25.0	27.0		ug/L		108	70 - 130
Bromochloromethane	ND		25.0	30.1		ug/L		121	70 - 130
Chloroethane	ND		25.0	25.9		ug/L		104	68 - 130
Chloroform	ND		25.0	27.2		ug/L		109	70 - 130
Chloromethane	ND		25.0	21.5		ug/L		86	39 - 144
cis-1,2-Dichloroethene	ND		25.0	27.6		ug/L		110	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.4		ug/L		114	70 - 133
Dibromochloromethane	ND		25.0	27.8		ug/L		111	70 - 148
Dibromomethane	ND		25.0	27.0		ug/L		108	70 - 130
Bromodichloromethane	ND		25.0	27.9		ug/L		111	70 - 138
Dichlorodifluoromethane	ND		25.0	25.1		ug/L		100	25 - 142
Ethylbenzene	ND		25.0	26.1		ug/L		104	70 - 130
m,p-Xylene	ND		25.0	27.5		ug/L		110	70 - 133
Methylene Chloride	3.9		25.0	33.1		ug/L		117	52 - 130
Methyl tert-butyl ether	ND		25.0	27.3		ug/L		109	70 - 130
Naphthalene	ND		25.0	23.3		ug/L		93	60 - 140
o-Xylene	ND		25.0	28.0		ug/L		112	70 - 133
Styrene	ND		25.0	25.5		ug/L		102	29 - 150
t-Butanol	ND		250	273		ug/L		109	70 - 130
Tetrachloroethene	ND		25.0	28.5		ug/L		114	70 - 137
Toluene	ND		25.0	27.1		ug/L		108	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130

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

Lab Sample ID: 440-220349-1 MS
Matrix: Water
Analysis Batch: 501413

Client Sample ID: PZ-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	26.7		ug/L		107	70 - 138
Trichloroethene	ND		25.0	29.1		ug/L		116	70 - 130
Trichlorofluoromethane	ND		25.0	25.9		ug/L		103	60 - 150
Vinyl acetate	ND		25.0	24.8		ug/L		99	23 - 150
Vinyl chloride	ND		25.0	25.7		ug/L		103	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	27.8		ug/L		111	70 - 131
2-Butanone (MEK)	ND		25.0	22.6		ug/L		90	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	21.6		ug/L		87	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 128*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

Lab Sample ID: 440-220349-1 MSD
Matrix: Water
Analysis Batch: 501413

Client Sample ID: PZ-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	24.6		ug/L		98	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.8		ug/L		111	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	26.5		ug/L		106	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.8		ug/L		103	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	28.6		ug/L		114	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	26.7		ug/L		107	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	30.0		ug/L		120	70 - 130	3	20
1,1-Dichloropropene	ND		25.0	27.7		ug/L		111	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	20.1		ug/L		80	48 - 140	9	30
1,2-Dichlorobenzene	ND		25.0	29.3		ug/L		117	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	25.5		ug/L		102	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	27.0		ug/L		108	69 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	29.0		ug/L		116	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	27.5		ug/L		110	70 - 130	5	25
1,4-Dichlorobenzene	ND		25.0	28.0		ug/L		112	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	27.6		ug/L		111	69 - 138	2	25
2-Hexanone	ND		25.0	20.3		ug/L		81	10 - 150	10	35
Acetone	ND		25.0	17.9	J	ug/L		72	10 - 150	6	35
Acrolein	ND		25.0	26.2		ug/L		105	10 - 147	11	40
Acrylonitrile	ND		250	215		ug/L		86	38 - 144	6	40
Benzene	ND		25.0	27.7		ug/L		111	66 - 130	0	20
Bromoform	ND		25.0	25.6		ug/L		102	59 - 150	0	25
Bromomethane	ND		25.0	27.2		ug/L		109	62 - 131	4	25
Carbon disulfide	ND		25.0	28.4		ug/L		114	49 - 140	2	20
Carbon tetrachloride	ND		25.0	25.9		ug/L		104	60 - 150	0	25
Chlorobenzene	ND		25.0	27.3		ug/L		109	70 - 130	1	20
Bromochloromethane	ND		25.0	30.3		ug/L		121	70 - 130	0	25
Chloroethane	ND		25.0	25.6		ug/L		102	68 - 130	1	25

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

Lab Sample ID: 440-220349-1 MSD
Matrix: Water
Analysis Batch: 501413

Client Sample ID: PZ-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		25.0	26.8		ug/L		107	70 - 130	2	20
Chloromethane	ND		25.0	22.2		ug/L		89	39 - 144	4	25
cis-1,2-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	27.7		ug/L		111	70 - 133	2	20
Dibromochloromethane	ND		25.0	27.8		ug/L		111	70 - 148	0	25
Dibromomethane	ND		25.0	25.1		ug/L		100	70 - 130	8	25
Bromodichloromethane	ND		25.0	27.0		ug/L		108	70 - 138	3	20
Dichlorodifluoromethane	ND		25.0	25.0		ug/L		100	25 - 142	0	30
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130	1	20
m,p-Xylene	ND		25.0	28.3		ug/L		113	70 - 133	3	25
Methylene Chloride	3.9		25.0	32.2		ug/L		113	52 - 130	3	20
Methyl tert-butyl ether	ND		25.0	27.1		ug/L		108	70 - 130	1	25
Naphthalene	ND		25.0	22.8		ug/L		91	60 - 140	2	30
o-Xylene	ND		25.0	28.2		ug/L		113	70 - 133	1	20
Styrene	ND		25.0	25.7		ug/L		103	29 - 150	1	35
t-Butanol	ND		250	262		ug/L		105	70 - 130	4	25
Tetrachloroethene	ND		25.0	28.2		ug/L		113	70 - 137	1	20
Toluene	ND		25.0	27.4		ug/L		110	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	26.7		ug/L		107	70 - 138	0	25
Trichloroethene	ND		25.0	29.9		ug/L		120	70 - 130	3	20
Trichlorofluoromethane	ND		25.0	25.2		ug/L		101	60 - 150	3	25
Vinyl acetate	ND		25.0	23.7		ug/L		95	23 - 150	4	30
Vinyl chloride	ND		25.0	25.8		ug/L		103	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	28.4		ug/L		113	70 - 131	2	25
2-Butanone (MEK)	ND		25.0	21.5		ug/L		86	48 - 140	5	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	20.3		ug/L		81	52 - 150	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*

Lab Sample ID: MB 440-501885/3
Matrix: Water
Analysis Batch: 501885

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			09/28/18 20:27	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/28/18 20:27	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*09/28/18 20:27*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*115*		*80 - 128*		*09/28/18 20:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*09/28/18 20:27*	*1*

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

Lab Sample ID: MB 440-501885/3
Matrix: Water
Analysis Batch: 501885

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		76 - 132		09/28/18 20:27	1

Lab Sample ID: LCS 440-501885/4
Matrix: Water
Analysis Batch: 501885

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	25.0	24.2		ug/L		97	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	109		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132

Lab Sample ID: 440-220728-A-2 MS
Matrix: Water
Analysis Batch: 501885

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	ND		250	251		ug/L		100	52 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	109		80 - 128
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Lab Sample ID: 440-220728-A-2 MSD
Matrix: Water
Analysis Batch: 501885

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Chloride	ND		250	247		ug/L		99	52 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	111		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-500774/1-A
Matrix: Water
Analysis Batch: 501270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 500774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.24	ug/L		09/24/18 13:33	09/26/18 15:35	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-500774/1-A
Matrix: Water
Analysis Batch: 501270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 500774

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	73		30 - 120	09/24/18 13:33	09/26/18 15:35	1

Lab Sample ID: LCS 440-500774/3-A
Matrix: Water
Analysis Batch: 501270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 500774

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.94	1.16		ug/L		60	35 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	63		30 - 120

Lab Sample ID: 440-220454-O-3-A MS
Matrix: Water
Analysis Batch: 501270

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 500774

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	F1 F2	1.98	2.17		ug/L		52	35 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	58		30 - 120

Lab Sample ID: 440-220454-O-3-B MSD
Matrix: Water
Analysis Batch: 501270

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 500774

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.1	F1 F2	1.97	1.50	F1 F2	ug/L		19	35 - 120	36	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	41		30 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-499866/6
Matrix: Water
Analysis Batch: 499866

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/19/18 12:42	1

Lab Sample ID: LCS 440-499866/5
Matrix: Water
Analysis Batch: 499866

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.75		mg/L		95	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-220349-8 MS
Matrix: Water
Analysis Batch: 499866

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	210		250	456		mg/L		100	80 - 120

Lab Sample ID: 440-220349-8 MSD
Matrix: Water
Analysis Batch: 499866

Client Sample ID: MW-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	210		250	456		mg/L		100	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-500702/1-A
Matrix: Water
Analysis Batch: 500912

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 500702

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/24/18 09:28	09/24/18 18:34	1

Lab Sample ID: LCS 440-500702/2-A
Matrix: Water
Analysis Batch: 500912

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 500702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.54		mg/L		95	80 - 120

Lab Sample ID: 440-220349-1 MS
Matrix: Water
Analysis Batch: 500912

Client Sample ID: PZ-4
Prep Type: Total Recoverable
Prep Batch: 500702

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	4.2		10.0	13.7		mg/L		95	75 - 125

Lab Sample ID: 440-220349-1 MSD
Matrix: Water
Analysis Batch: 500912

Client Sample ID: PZ-4
Prep Type: Total Recoverable
Prep Batch: 500702

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	4.2		10.0	14.1		mg/L		99	75 - 125	3	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-500627/40
Matrix: Water
Analysis Batch: 500627

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			09/23/18 14:06	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 440-500627/41
Matrix: Water
Analysis Batch: 500627

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			5.00	5.16		mg/L		103	90 - 110		

Lab Sample ID: MRL 440-500627/9
Matrix: Water
Analysis Batch: 500627

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			0.200	0.185	J	mg/L		93	50 - 150		

Lab Sample ID: 440-220349-7 MS
Matrix: Water
Analysis Batch: 500627

Client Sample ID: DW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)	0.30	F1	5.00	5.88	F1	mg/L		112	90 - 110		

Lab Sample ID: 440-220349-7 MSD
Matrix: Water
Analysis Batch: 500627

Client Sample ID: DW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.30	F1	5.00	6.01	F1	mg/L		114	90 - 110	2	15

Method: 410.4 - COD

Lab Sample ID: MB 440-501172/3
Matrix: Water
Analysis Batch: 501172

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 09:05	1

Lab Sample ID: LCS 440-501172/4
Matrix: Water
Analysis Batch: 501172

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			200	202		mg/L		101	90 - 110		

Lab Sample ID: 440-220103-A-1 MS
Matrix: Water
Analysis Batch: 501172

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	96		200	292		mg/L		98	70 - 120		

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-220103-A-1 MSD
Matrix: Water
Analysis Batch: 501172

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	96		200	303		mg/L		104	70 - 120	4	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-500301/30
Matrix: Water
Analysis Batch: 500301

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/20/18 09:23	1

Lab Sample ID: MB 440-500301/57
Matrix: Water
Analysis Batch: 500301

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/20/18 13:10	1

Lab Sample ID: LCS 440-500301/29
Matrix: Water
Analysis Batch: 500301

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	81.3	80.1		mg/L		99	80 - 120

Lab Sample ID: LCS 440-500301/56
Matrix: Water
Analysis Batch: 500301

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	81.3	80.3		mg/L		99	80 - 120

Lab Sample ID: 440-220349-5 DU
Matrix: Water
Analysis Batch: 500301

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	660		637		mg/L		4	20

Lab Sample ID: 440-220349-12 DU
Matrix: Water
Analysis Batch: 500301

Client Sample ID: Combined Subdrains
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	640		649		mg/L		2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-500927/1
Matrix: Water
Analysis Batch: 500927

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/25/18 08:45	1

Lab Sample ID: LCS 440-500927/2
Matrix: Water
Analysis Batch: 500927

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: 440-220349-6 DU
Matrix: Water
Analysis Batch: 500927

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3300		3260		mg/L		2	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-500059/7
Matrix: Water
Analysis Batch: 500059

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/19/18 06:41	1

Lab Sample ID: LCS 440-500059/6
Matrix: Water
Analysis Batch: 500059

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.46		mg/L		95	90 - 110

Lab Sample ID: MRL 440-500059/5
Matrix: Water
Analysis Batch: 500059

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.100	0.102		mg/L		102	50 - 150

Lab Sample ID: 440-220349-1 MS
Matrix: Water
Analysis Batch: 500059

Client Sample ID: PZ-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.2		10.0	10.6		mg/L		95	80 - 120

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-220349-1 MSD
Matrix: Water
Analysis Batch: 500059

Client Sample ID: PZ-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.2		10.0	10.5		mg/L		93	80 - 120	1	20

GC/MS VOA

Analysis Batch: 500475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	8260B	
440-220349-2	CM-9R3	Total/NA	Water	8260B	
440-220349-3	CM-10R	Total/NA	Water	8260B	
440-220349-4	CM-11R	Total/NA	Water	8260B	
MB 440-500475/3	Method Blank	Total/NA	Water	8260B	
LCS 440-500475/4	Lab Control Sample	Total/NA	Water	8260B	
320-43063-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
320-43063-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 500587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-5	MW-1	Total/NA	Water	8260B	
440-220349-6	MW-5	Total/NA	Water	8260B	
440-220349-7	DW-5	Total/NA	Water	8260B	
440-220349-9	MW-13R	Total/NA	Water	8260B	
440-220349-10	Duplicate	Total/NA	Water	8260B	
440-220349-14	QCAB	Total/NA	Water	8260B	
MB 440-500587/4	Method Blank	Total/NA	Water	8260B	
LCS 440-500587/5	Lab Control Sample	Total/NA	Water	8260B	
440-220349-10 MS	Duplicate	Total/NA	Water	8260B	
440-220349-10 MSD	Duplicate	Total/NA	Water	8260B	

Analysis Batch: 500659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-8	MW-9	Total/NA	Water	8260B	
440-220349-11	Extraction Trench	Total/NA	Water	8260B	
440-220349-12	Combined Subdrains	Total/NA	Water	8260B	
440-220349-13	Subdrain N	Total/NA	Water	8260B	
440-220349-15	QCTB	Total/NA	Water	8260B	
MB 440-500659/4	Method Blank	Total/NA	Water	8260B	
LCS 440-500659/5	Lab Control Sample	Total/NA	Water	8260B	
440-220491-E-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-220491-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 501413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	8260B	
440-220349-2	CM-9R3	Total/NA	Water	8260B	
440-220349-3	CM-10R	Total/NA	Water	8260B	
440-220349-4	CM-11R	Total/NA	Water	8260B	
440-220349-5	MW-1	Total/NA	Water	8260B	
440-220349-6	MW-5	Total/NA	Water	8260B	
440-220349-7	DW-5	Total/NA	Water	8260B	
440-220349-8	MW-9	Total/NA	Water	8260B	
440-220349-9	MW-13R	Total/NA	Water	8260B	
440-220349-10	Duplicate	Total/NA	Water	8260B	
440-220349-11	Extraction Trench	Total/NA	Water	8260B	
440-220349-12	Combined Subdrains	Total/NA	Water	8260B	
440-220349-13	Subdrain N	Total/NA	Water	8260B	
440-220349-14	QCAB	Total/NA	Water	8260B	
440-220349-15	QCTB	Total/NA	Water	8260B	

GC/MS VOA (Continued)

Analysis Batch: 501413 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-501413/5	Method Blank	Total/NA	Water	8260B	
LCS 440-501413/6	Lab Control Sample	Total/NA	Water	8260B	
440-220349-1 MS	PZ-4	Total/NA	Water	8260B	
440-220349-1 MSD	PZ-4	Total/NA	Water	8260B	

Analysis Batch: 501885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1 - RA	PZ-4	Total/NA	Water	8260B	
440-220349-2 - RA	CM-9R3	Total/NA	Water	8260B	
440-220349-3 - RA	CM-10R	Total/NA	Water	8260B	
440-220349-4 - RA	CM-11R	Total/NA	Water	8260B	
440-220349-5 - RA	MW-1	Total/NA	Water	8260B	
440-220349-6 - RA	MW-5	Total/NA	Water	8260B	
440-220349-7 - RA	DW-5	Total/NA	Water	8260B	
440-220349-8 - RA	MW-9	Total/NA	Water	8260B	
440-220349-9 - RA	MW-13R	Total/NA	Water	8260B	
440-220349-10 - RA	Duplicate	Total/NA	Water	8260B	
440-220349-11 - RA	Extraction Trench	Total/NA	Water	8260B	
440-220349-12 - RA	Combined Subdrains	Total/NA	Water	8260B	
440-220349-13 - RA	Subdrain N	Total/NA	Water	8260B	
440-220349-14 - RA	QCAB	Total/NA	Water	8260B	
440-220349-15 - RA	QCTB	Total/NA	Water	8260B	
MB 440-501885/3	Method Blank	Total/NA	Water	8260B	
LCS 440-501885/4	Lab Control Sample	Total/NA	Water	8260B	
440-220728-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-220728-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 500774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	3520C	
440-220349-2	CM-9R3	Total/NA	Water	3520C	
440-220349-3	CM-10R	Total/NA	Water	3520C	
440-220349-4	CM-11R	Total/NA	Water	3520C	
440-220349-5	MW-1	Total/NA	Water	3520C	
440-220349-6	MW-5	Total/NA	Water	3520C	
440-220349-7	DW-5	Total/NA	Water	3520C	
440-220349-8	MW-9	Total/NA	Water	3520C	
440-220349-9	MW-13R	Total/NA	Water	3520C	
440-220349-10	Duplicate	Total/NA	Water	3520C	
440-220349-11	Extraction Trench	Total/NA	Water	3520C	
440-220349-12	Combined Subdrains	Total/NA	Water	3520C	
440-220349-13	Subdrain N	Total/NA	Water	3520C	
MB 440-500774/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-500774/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-220454-O-3-A MS	Matrix Spike	Total/NA	Water	3520C	
440-220454-O-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

GC/MS Semi VOA (Continued)

Analysis Batch: 501270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	8270C	500774
440-220349-2	CM-9R3	Total/NA	Water	8270C	500774
440-220349-3	CM-10R	Total/NA	Water	8270C	500774
440-220349-4	CM-11R	Total/NA	Water	8270C	500774
440-220349-5	MW-1	Total/NA	Water	8270C	500774
440-220349-6	MW-5	Total/NA	Water	8270C	500774
440-220349-7	DW-5	Total/NA	Water	8270C	500774
440-220349-8	MW-9	Total/NA	Water	8270C	500774
440-220349-9	MW-13R	Total/NA	Water	8270C	500774
440-220349-10	Duplicate	Total/NA	Water	8270C	500774
440-220349-11	Extraction Trench	Total/NA	Water	8270C	500774
440-220349-12	Combined Subdrains	Total/NA	Water	8270C	500774
440-220349-13	Subdrain N	Total/NA	Water	8270C	500774
MB 440-500774/1-A	Method Blank	Total/NA	Water	8270C	500774
LCS 440-500774/3-A	Lab Control Sample	Total/NA	Water	8270C	500774
440-220454-O-3-A MS	Matrix Spike	Total/NA	Water	8270C	500774
440-220454-O-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	500774

HPLC/IC

Analysis Batch: 499866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	300.0	
440-220349-2	CM-9R3	Total/NA	Water	300.0	
440-220349-3	CM-10R	Total/NA	Water	300.0	
440-220349-4	CM-11R	Total/NA	Water	300.0	
440-220349-5	MW-1	Total/NA	Water	300.0	
440-220349-6	MW-5	Total/NA	Water	300.0	
440-220349-7	DW-5	Total/NA	Water	300.0	
440-220349-8	MW-9	Total/NA	Water	300.0	
440-220349-9	MW-13R	Total/NA	Water	300.0	
440-220349-10	Duplicate	Total/NA	Water	300.0	
440-220349-11	Extraction Trench	Total/NA	Water	300.0	
440-220349-12	Combined Subdrains	Total/NA	Water	300.0	
440-220349-13	Subdrain N	Total/NA	Water	300.0	
MB 440-499866/6	Method Blank	Total/NA	Water	300.0	
LCS 440-499866/5	Lab Control Sample	Total/NA	Water	300.0	
440-220349-8 MS	MW-9	Total/NA	Water	300.0	
440-220349-8 MSD	MW-9	Total/NA	Water	300.0	

Metals

Prep Batch: 500702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total Recoverable	Water	3005A	
440-220349-2	CM-9R3	Total Recoverable	Water	3005A	
440-220349-3	CM-10R	Total Recoverable	Water	3005A	
440-220349-4	CM-11R	Total Recoverable	Water	3005A	
440-220349-5	MW-1	Total Recoverable	Water	3005A	
440-220349-6	MW-5	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 500702 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-7	DW-5	Total Recoverable	Water	3005A	
440-220349-8	MW-9	Total Recoverable	Water	3005A	
440-220349-9	MW-13R	Total Recoverable	Water	3005A	
440-220349-10	Duplicate	Total Recoverable	Water	3005A	
440-220349-11	Extraction Trench	Total Recoverable	Water	3005A	
440-220349-12	Combined Subdrains	Total Recoverable	Water	3005A	
440-220349-13	Subdrain N	Total Recoverable	Water	3005A	
MB 440-500702/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-500702/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-220349-1 MS	PZ-4	Total Recoverable	Water	3005A	
440-220349-1 MSD	PZ-4	Total Recoverable	Water	3005A	

Analysis Batch: 500912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total Recoverable	Water	6010B	500702
440-220349-2	CM-9R3	Total Recoverable	Water	6010B	500702
440-220349-3	CM-10R	Total Recoverable	Water	6010B	500702
440-220349-4	CM-11R	Total Recoverable	Water	6010B	500702
440-220349-5	MW-1	Total Recoverable	Water	6010B	500702
440-220349-6	MW-5	Total Recoverable	Water	6010B	500702
440-220349-7	DW-5	Total Recoverable	Water	6010B	500702
440-220349-8	MW-9	Total Recoverable	Water	6010B	500702
440-220349-9	MW-13R	Total Recoverable	Water	6010B	500702
440-220349-10	Duplicate	Total Recoverable	Water	6010B	500702
440-220349-11	Extraction Trench	Total Recoverable	Water	6010B	500702
440-220349-12	Combined Subdrains	Total Recoverable	Water	6010B	500702
440-220349-13	Subdrain N	Total Recoverable	Water	6010B	500702
MB 440-500702/1-A	Method Blank	Total Recoverable	Water	6010B	500702
LCS 440-500702/2-A	Lab Control Sample	Total Recoverable	Water	6010B	500702
440-220349-1 MS	PZ-4	Total Recoverable	Water	6010B	500702
440-220349-1 MSD	PZ-4	Total Recoverable	Water	6010B	500702

General Chemistry

Analysis Batch: 500059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	SM 5310C	
440-220349-2	CM-9R3	Total/NA	Water	SM 5310C	
440-220349-3	CM-10R	Total/NA	Water	SM 5310C	
440-220349-4	CM-11R	Total/NA	Water	SM 5310C	
440-220349-5	MW-1	Total/NA	Water	SM 5310C	
440-220349-6	MW-5	Total/NA	Water	SM 5310C	
440-220349-7	DW-5	Total/NA	Water	SM 5310C	
440-220349-8	MW-9	Total/NA	Water	SM 5310C	
440-220349-9	MW-13R	Total/NA	Water	SM 5310C	
440-220349-10	Duplicate	Total/NA	Water	SM 5310C	
440-220349-11	Extraction Trench	Total/NA	Water	SM 5310C	
440-220349-12	Combined Subdrains	Total/NA	Water	SM 5310C	
440-220349-13	Subdrain N	Total/NA	Water	SM 5310C	
MB 440-500059/7	Method Blank	Total/NA	Water	SM 5310C	

General Chemistry (Continued)

Analysis Batch: 500059 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-500059/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-500059/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-220349-1 MS	PZ-4	Total/NA	Water	SM 5310C	
440-220349-1 MSD	PZ-4	Total/NA	Water	SM 5310C	

Analysis Batch: 500301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	SM 2320B	
440-220349-2	CM-9R3	Total/NA	Water	SM 2320B	
440-220349-3	CM-10R	Total/NA	Water	SM 2320B	
440-220349-4	CM-11R	Total/NA	Water	SM 2320B	
440-220349-5	MW-1	Total/NA	Water	SM 2320B	
440-220349-6	MW-5	Total/NA	Water	SM 2320B	
440-220349-7	DW-5	Total/NA	Water	SM 2320B	
440-220349-8	MW-9	Total/NA	Water	SM 2320B	
440-220349-9	MW-13R	Total/NA	Water	SM 2320B	
440-220349-10	Duplicate	Total/NA	Water	SM 2320B	
440-220349-11	Extraction Trench	Total/NA	Water	SM 2320B	
440-220349-12	Combined Subdrains	Total/NA	Water	SM 2320B	
440-220349-13	Subdrain N	Total/NA	Water	SM 2320B	
MB 440-500301/30	Method Blank	Total/NA	Water	SM 2320B	
MB 440-500301/57	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-500301/29	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 440-500301/56	Lab Control Sample	Total/NA	Water	SM 2320B	
440-220349-5 DU	MW-1	Total/NA	Water	SM 2320B	
440-220349-12 DU	Combined Subdrains	Total/NA	Water	SM 2320B	

Analysis Batch: 500627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	350.1	
440-220349-2	CM-9R3	Total/NA	Water	350.1	
440-220349-3	CM-10R	Total/NA	Water	350.1	
440-220349-4	CM-11R	Total/NA	Water	350.1	
440-220349-5	MW-1	Total/NA	Water	350.1	
440-220349-6	MW-5	Total/NA	Water	350.1	
440-220349-7	DW-5	Total/NA	Water	350.1	
440-220349-8	MW-9	Total/NA	Water	350.1	
440-220349-9	MW-13R	Total/NA	Water	350.1	
440-220349-10	Duplicate	Total/NA	Water	350.1	
440-220349-11	Extraction Trench	Total/NA	Water	350.1	
440-220349-12	Combined Subdrains	Total/NA	Water	350.1	
440-220349-13	Subdrain N	Total/NA	Water	350.1	
MB 440-500627/40	Method Blank	Total/NA	Water	350.1	
LCS 440-500627/41	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-500627/9	Lab Control Sample	Total/NA	Water	350.1	
440-220349-7 MS	DW-5	Total/NA	Water	350.1	
440-220349-7 MSD	DW-5	Total/NA	Water	350.1	

Analysis Batch: 500927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 500927 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-2	CM-9R3	Total/NA	Water	SM 2540C	
440-220349-3	CM-10R	Total/NA	Water	SM 2540C	
440-220349-4	CM-11R	Total/NA	Water	SM 2540C	
440-220349-5	MW-1	Total/NA	Water	SM 2540C	
440-220349-6	MW-5	Total/NA	Water	SM 2540C	
440-220349-7	DW-5	Total/NA	Water	SM 2540C	
440-220349-8	MW-9	Total/NA	Water	SM 2540C	
440-220349-9	MW-13R	Total/NA	Water	SM 2540C	
440-220349-10	Duplicate	Total/NA	Water	SM 2540C	
440-220349-11	Extraction Trench	Total/NA	Water	SM 2540C	
440-220349-12	Combined Subdrains	Total/NA	Water	SM 2540C	
440-220349-13	Subdrain N	Total/NA	Water	SM 2540C	
MB 440-500927/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-500927/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-220349-6 DU	MW-5	Total/NA	Water	SM 2540C	

Analysis Batch: 501172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220349-1	PZ-4	Total/NA	Water	410.4	
440-220349-2	CM-9R3	Total/NA	Water	410.4	
440-220349-3	CM-10R	Total/NA	Water	410.4	
440-220349-4	CM-11R	Total/NA	Water	410.4	
440-220349-5	MW-1	Total/NA	Water	410.4	
440-220349-6	MW-5	Total/NA	Water	410.4	
440-220349-7	DW-5	Total/NA	Water	410.4	
440-220349-8	MW-9	Total/NA	Water	410.4	
440-220349-9	MW-13R	Total/NA	Water	410.4	
440-220349-10	Duplicate	Total/NA	Water	410.4	
440-220349-11	Extraction Trench	Total/NA	Water	410.4	
440-220349-12	Combined Subdrains	Total/NA	Water	410.4	
440-220349-13	Subdrain N	Total/NA	Water	410.4	
MB 440-501172/3	Method Blank	Total/NA	Water	410.4	
LCS 440-501172/4	Lab Control Sample	Total/NA	Water	410.4	
440-220103-A-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-220103-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.
N	Presumptive evidence of material.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220349-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

144496

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TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchons	Site Contact: Josh Mills	Date: 9-18-18	COC No
Company Name: GLA / Republic	Tel/Fax: 858-451-1136	Lab Contact: R. Tanguay	Carrier: TA	1 of 2 COCs
Address: 11415 W. Bernardo Ct.	Analysis Turnaround Time			Sampler: DS, MC, NR
City/State/Zip: S.D., CA. 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below			Walk-in Client:
Fax: 858-451-1087	☐ 2 weeks			Lab Sampling:
Project Name: Republic Services, Inc, Sunshine Can. Landfill	☐ 1 week			Job / SDG No
Site	☐ 2 days			
PO # 4400078 51	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B-VOCs	8270 1,4-Dioxane	Total Alkalinity	Ammonia as N	EPA 410.4-COD	EPA 300.0-Chloride, Fluoride, Sulfate, Potassium, Bromide	EPA 160.1-T.D.S.	EPA 415.1-T.O.C.	Sample Specific Notes
PE-4	9/18/18	1220	G	GW	12			X	X	X	X	X	X	X	X	
CM-9R3		0932			12			X	X	X	X	X	X	X	X	
CM-10R		1045			12			X	X	X	X	X	X	X	X	
CM-11R		0840			12			X	X	X	X	X	X	X	X	
MW-1		1300			12			X	X	X	X	X	X	X	X	
MW-5		1405			12			X	X	X	X	X	X	X	X	
DW-5		1150			12			X	X	X	X	X	X	X	X	
MW-9		1000			12			X	X	X	X	X	X	X	X	
MW-13R		0815			12			X	X	X	X	X	X	X	X	
Duplicate		—		↓	12			X	X	X	X	X	X	X	X	
Extraction Trench		1120		WW	12			X	X	X	X	X	X	X	X	
Combined Subdrains	↓	0940	↓	WW	12			X	X	X	X	X	X	X	X	

AS 9/18

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp (°C): Obs'd: 1.1 Corr'd 1.2	Therm ID No. 88
Relinquished by:	Company: Geo-Logic	Date/Time: 9-18-18 1445	Received by: Company: TA-IRV Date/Time: 9-18-18 1445
Relinquished by:	Company: TA-IRV	Date/Time: 9-18-18 1745	Received by: Company: Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Company: TA-IRV Date/Time: 9/18/18 1745

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

144495

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchans	Site Contact: Josh Mills	Date:	COC No
Company Name: GLA/Republic	Tel/Fax: 858-451-1136	Lab Contact: R. Tamayo	Carrier: TLA	2 of 2 COCs
Address: 11415 W. Bernardo Ct.	Analysis Turnaround Time			Sampler:
City/State/Zip: S.D., CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below _____			Walk-in Client:
Fax: 858-451-1687	☐ 2 weeks			Lab Sampling
Project Name: Republic Services Inc.	☐ 1 week			
Site: Sunshine Cyn. Landfill	☐ 2 days			Job / SDG No.:
PO# 4400785T	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B-VOCs	8270 1,4-Dioxane	Total Alkalinity	Ammonia as N	EPA 410.4-COD	EPA 300.0-Chloride	Total Potassium 6010B	EPA 160.1-TDS	EPA 415.1-T.O.C	Sample Specific Notes
Subdrain N	9/18/18	0905	G	WW	12			X	X	X	X	X	X	X	X	X	
QCAB	↓	—	↓	LAB BLK	4			X									
QCTB	↓	—	↓	"	4			X									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp (°C): Obs'd: 2.0 Corr'd 3.1 | Therm ID No.: 98

	Company	Date/Time		Company	Date/Time
Relinquished by:	GEO-LOGIC	9/18/18 1445	Received by:	TA-IRV	9-18-18 1445
Relinquished by:	TA-IRV	9/18/18 1745	Received by:		
Relinquished by:			Received in Laboratory by:	TA-IRV	9/18/18 17:45

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-220349-1

Login Number: 220349
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-220491-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
10/3/2018 4:01:38 PM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-220491-1	MW-2A	Water	09/19/18 09:15	09/20/18 13:45
440-220491-2	MW-2B	Water	09/19/18 10:25	09/20/18 13:45
440-220491-3	DW-4	Water	09/19/18 11:20	09/20/18 13:45
440-220491-4	DW-1	Water	09/19/18 09:55	09/20/18 13:45
440-220491-5	QCAB	Water	09/19/18 00:01	09/20/18 13:45
440-220491-6	QCTB	Water	09/19/18 00:01	09/20/18 13:45
440-220491-7	DW-2	Water	09/20/18 08:05	09/20/18 13:45
440-220491-8	DW-3	Water	09/20/18 09:35	09/20/18 13:45

Job ID: 440-220491-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-220491-1

Comments
No additional comments.

Receipt
The samples were received on 9/20/2018 1:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.4º C and 1.9º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-500586 recovered outside control limits for the following analyte: Acrolein. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-500586 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-500659 recovered outside control limits for the following analyte: Acrolein. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

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

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

Organic Prep
Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C/1625-1,4-DXN/NDMApreparation batch 440-501226.

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3520C_8270C-1,4-DXN/NDMA preparation batch 440-501255.

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

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

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: MW-2A
Date Collected: 09/19/18 09:15
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 11:40	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Acrolein	ND		50	2.5	ug/L			09/23/18 16:49	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 16:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 11:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 11:40	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 11:40	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 11:40	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 11:40	1
Acetone	ND		20	10	ug/L			10/02/18 11:40	1
Acetonitrile	ND		20	10	ug/L			10/02/18 11:40	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 11:40	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 11:40	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 11:40	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 11:40	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 11:40	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 11:40	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 11:40	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 11:40	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 11:40	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 11:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 11:40	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 11:40	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 11:40	1

Client Sample ID: MW-2A
Date Collected: 09/19/18 09:15
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 11:40	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 11:40	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Propionitrile	ND		20	10	ug/L			10/02/18 11:40	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 11:40	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 11:40	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 11:40	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 11:40	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 11:40	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 11:40	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 11:40	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 11:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 11:40	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*23*	*T J*	*ug/L*		*2.44*			*10/02/18 11:40*	*1*
Unknown	*34*	*T J*	*ug/L*		*2.49*			*10/02/18 11:40*	*1*
Unknown	*9.6*	*T J*	*ug/L*		*7.36*			*10/02/18 11:40*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 128*		*09/23/18 16:49*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/23/18 16:49*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*10/02/18 11:40*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*10/02/18 11:40*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*09/23/18 16:49*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*10/02/18 11:40*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/26/18 11:41	09/28/18 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*75*		*30 - 120*	*09/26/18 11:41*	*09/28/18 13:51*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**		2.5	1.3	mg/L			09/20/18 20:07	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**5.1**		0.50	0.25	mg/L		09/26/18 10:37	09/27/18 23:47	1

Client Sample ID: MW-2A

Date Collected: 09/19/18 09:15
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**3.4**		0.20	0.10	mg/L			09/23/18 15:55	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:06	1
Total Dissolved Solids	**2600**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**2.3**		0.10	0.050	mg/L			09/21/18 09:58	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**360**		4.0	4.0	mg/L			09/22/18 13:59	1

Client Sample ID: MW-2B

Date Collected: 09/19/18 10:25
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 12:04	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Acrolein	ND	F1 *	50	2.5	ug/L			09/24/18 11:30	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 11:30	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 12:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 12:04	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 12:04	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 12:04	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 12:04	1
Acetone	ND		20	10	ug/L			10/02/18 12:04	1
Acetonitrile	ND		20	10	ug/L			10/02/18 12:04	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 12:04	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 12:04	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 12:04	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 12:04	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 12:04	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 12:04	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1

Client Sample ID: MW-2B
Date Collected: 09/19/18 10:25
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 12:04	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 12:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 12:04	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 12:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 12:04	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 12:04	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 12:04	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 12:04	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 12:04	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Propionitrile	ND		20	10	ug/L			10/02/18 12:04	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 12:04	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 12:04	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 12:04	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 12:04	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 12:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 12:04	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 12:04	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 12:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 12:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*17*	*T J*	*ug/L*		*2.44*			*10/02/18 12:04*	*1*
Unknown	*23*	*T J*	*ug/L*		*2.49*			*10/02/18 12:04*	*1*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*10/02/18 12:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*09/24/18 11:30*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*09/24/18 11:30*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/02/18 12:04*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*10/02/18 12:04*	*1*
Dibromofluoromethane (Surr)	*118*		*76 - 132*		*09/24/18 11:30*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*10/02/18 12:04*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/26/18 11:41	09/28/18 14:14	1

Client Sample ID: MW-2B

Date Collected: 09/19/18 10:25
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-2

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*71*		*30 - 120*	*09/26/18 11:41*	*09/28/18 14:14*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13**		2.5	1.3	mg/L			09/20/18 20:24	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**4.3**		0.50	0.25	mg/L		09/26/18 10:38	09/28/18 00:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**3.8**		0.20	0.10	mg/L			09/23/18 16:00	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:06	1
Total Dissolved Solids	**2700**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**1.7**		0.10	0.050	mg/L			09/21/18 10:11	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**350**		4.0	4.0	mg/L			09/22/18 14:08	1

Client Sample ID: DW-4

Date Collected: 09/19/18 11:20
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 12:29	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 12:43	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 12:43	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 12:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 12:29	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 12:29	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 12:29	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 12:29	1
Acetone	ND		20	10	ug/L			10/02/18 12:29	1
Acetonitrile	ND		20	10	ug/L			10/02/18 12:29	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 12:29	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 12:29	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 12:29	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: DW-4
Date Collected: 09/19/18 11:20
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 12:29	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 12:29	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 12:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 12:29	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 12:29	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 12:29	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 12:29	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 12:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 12:29	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 12:29	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 12:29	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 12:29	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 12:29	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Propionitrile	ND		20	10	ug/L			10/02/18 12:29	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 12:29	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 12:29	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 12:29	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 12:29	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 12:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 12:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 12:29	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 12:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 12:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*17*	*T J*	*ug/L*		*2.44*			*10/02/18 12:29*	*1*
Unknown	*24*	*T J*	*ug/L*		*2.49*			*10/02/18 12:29*	*1*
Unknown	*9.6*	*T J*	*ug/L*		*7.36*			*10/02/18 12:29*	*1*

Client Sample ID: DW-4

Date Collected: 09/19/18 11:20
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-3

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 128*		*09/24/18 12:43*	*1*
4-Bromofluorobenzene (Surr)	*84*		*80 - 120*		*09/24/18 12:43*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/02/18 12:29*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*10/02/18 12:29*	*1*
Dibromofluoromethane (Surr)	*127*		*76 - 132*		*09/24/18 12:43*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*10/02/18 12:29*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/26/18 11:41	09/28/18 14:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*30 - 120*	*09/26/18 11:41*	*09/28/18 14:36*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13**		2.5	1.3	mg/L			09/20/18 20:41	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**4.3**		0.50	0.25	mg/L		09/26/18 10:38	09/28/18 00:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**4.5**		0.20	0.10	mg/L			09/23/18 16:20	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:06	1
Total Dissolved Solids	**2900**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**1.7**		0.10	0.050	mg/L			09/21/18 10:23	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**360**		4.0	4.0	mg/L			09/22/18 14:28	1

Client Sample ID: DW-1

Date Collected: 09/19/18 09:55
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 12:54	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 09:30	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 09:30	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 12:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 12:54	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: DW-1
Date Collected: 09/19/18 09:55
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 12:54	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 12:54	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 12:54	1
Acetone	ND		20	10	ug/L			10/02/18 12:54	1
Acetonitrile	ND		20	10	ug/L			10/02/18 12:54	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 12:54	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 12:54	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 12:54	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 12:54	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 12:54	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 12:54	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 12:54	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 12:54	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 12:54	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 12:54	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 12:54	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 12:54	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 12:54	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 12:54	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 12:54	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Propionitrile	ND		20	10	ug/L			10/02/18 12:54	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 12:54	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 12:54	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 12:54	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 12:54	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 12:54	1

Client Sample ID: DW-1

Lab Sample ID: 440-220491-4

Date Collected: 09/19/18 09:55

Matrix: Water

Date Received: 09/20/18 13:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 12:54	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 12:54	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 12:54	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 12:54	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 12:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 12:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*20*	*T J*	*ug/L*		*2.44*			*10/02/18 12:54*	*1*
Unknown	*28*	*T J*	*ug/L*		*2.49*			*10/02/18 12:54*	*1*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*10/02/18 12:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 128*		*09/24/18 09:30*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/24/18 09:30*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/02/18 12:54*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*10/02/18 12:54*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*09/24/18 09:30*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*10/02/18 12:54*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/26/18 11:41	09/28/18 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*71*		*30 - 120*	*09/26/18 11:41*	*09/28/18 14:59*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13**		5.0	2.5	mg/L			09/20/18 20:10	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**1.6**		0.50	0.25	mg/L		09/26/18 10:38	09/28/18 00:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**2.0**		0.20	0.10	mg/L			09/23/18 16:25	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:06	1
Total Dissolved Solids	**3200**		50	25	mg/L			09/25/18 08:45	1
Total Organic Carbon	**3.0**		0.10	0.050	mg/L			09/21/18 10:37	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**560**		4.0	4.0	mg/L			09/22/18 14:39	1

Client Sample ID: QCAB

Lab Sample ID: 440-220491-5

Date Collected: 09/19/18 00:01

Matrix: Water

Date Received: 09/20/18 13:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 13:18	1

Client Sample ID: QCAB
Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 09:54	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 09:54	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 13:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 13:18	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 13:18	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 13:18	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 13:18	1
Acetone	ND		20	10	ug/L			10/02/18 13:18	1
Acetonitrile	ND		20	10	ug/L			10/02/18 13:18	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 13:18	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 13:18	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 13:18	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 13:18	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 13:18	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 13:18	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 13:18	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 13:18	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 13:18	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 13:18	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 13:18	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 13:18	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 13:18	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 13:18	1

Client Sample ID: QCAB

Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 13:18	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Propionitrile	ND		20	10	ug/L			10/02/18 13:18	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 13:18	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 13:18	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 13:18	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 13:18	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 13:18	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 13:18	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 13:18	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 13:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 13:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.3*	*T J*	*ug/L*		*7.36*			*10/02/18 13:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/24/18 09:54*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*09/24/18 09:54*	*1*
Toluene-d8 (Surr)	*115*		*80 - 128*		*10/02/18 13:18*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*10/02/18 13:18*	*1*
Dibromofluoromethane (Surr)	*122*		*76 - 132*		*09/24/18 09:54*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*10/02/18 13:18*	*1*

Client Sample ID: QCTB

Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 13:43	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 10:18	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 10:18	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 13:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 13:43	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:43	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: QCTB
Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 13:43	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 13:43	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 13:43	1
Acetone	ND		20	10	ug/L			10/02/18 13:43	1
Acetonitrile	ND		20	10	ug/L			10/02/18 13:43	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 13:43	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 13:43	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 13:43	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 13:43	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 13:43	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 13:43	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 13:43	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 13:43	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 13:43	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 13:43	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 13:43	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 13:43	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 13:43	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 13:43	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 13:43	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Propionitrile	ND		20	10	ug/L			10/02/18 13:43	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 13:43	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 13:43	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 13:43	1

Client Sample ID: QCTB

Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 13:43	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 13:43	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 13:43	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 13:43	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 13:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 13:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.6*	*T J*	*ug/L*		*7.36*			*10/02/18 13:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*09/24/18 10:18*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*09/24/18 10:18*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*10/02/18 13:43*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*10/02/18 13:43*	*1*
Dibromofluoromethane (Surr)	*125*		*76 - 132*		*09/24/18 10:18*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*10/02/18 13:43*	*1*

Client Sample ID: DW-2

Date Collected: 09/20/18 08:05
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 18:14	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Acrolein	ND	*	50	2.5	ug/L			09/24/18 10:42	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 10:42	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 18:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 18:14	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 18:14	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 18:14	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 18:14	1
Acetone	ND		20	10	ug/L			10/02/18 18:14	1
Acetonitrile	ND		20	10	ug/L			10/02/18 18:14	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 18:14	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 18:14	1

Client Sample ID: DW-2
Date Collected: 09/20/18 08:05
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 18:14	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 18:14	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 18:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 18:14	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 18:14	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 18:14	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 18:14	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 18:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 18:14	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 18:14	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 18:14	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 18:14	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 18:14	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Propionitrile	ND		20	10	ug/L			10/02/18 18:14	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 18:14	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 18:14	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 18:14	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 18:14	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 18:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 18:14	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 18:14	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 18:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 18:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*19*	*T J*	*ug/L*		*2.44*			*10/02/18 18:14*	*1*
Unknown	*27*	*T J*	*ug/L*		*2.48*			*10/02/18 18:14*	*1*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*10/02/18 18:14*	*1*

Client Sample ID: DW-2

Date Collected: 09/20/18 08:05
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-7
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 128*		*09/24/18 10:42*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*09/24/18 10:42*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/02/18 18:14*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/02/18 18:14*	*1*
Dibromofluoromethane (Surr)	*119*		*76 - 132*		*09/24/18 10:42*	*1*
Dibromofluoromethane (Surr)	*105*		*76 - 132*		*10/02/18 18:14*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/26/18 12:35	09/28/18 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*30 - 120*	*09/26/18 12:35*	*09/28/18 16:29*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.6**		2.5	1.3	mg/L			09/20/18 20:29	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**4.2**		0.50	0.25	mg/L		09/26/18 10:38	09/28/18 00:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**3.8**		0.20	0.10	mg/L			09/23/18 16:31	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:07	1
Total Dissolved Solids	**2000**		20	10	mg/L			09/25/18 08:45	1
Total Organic Carbon	**1.4**		0.10	0.050	mg/L			09/21/18 10:49	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**380**		4.0	4.0	mg/L			09/22/18 14:50	1

Client Sample ID: DW-3

Date Collected: 09/20/18 09:35
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 18:39	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Acrolein	ND	*	50	2.5	ug/L			09/23/18 13:49	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 13:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 18:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 18:39	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: DW-3
Date Collected: 09/20/18 09:35
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 18:39	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 18:39	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 18:39	1
Acetone	ND		20	10	ug/L			10/02/18 18:39	1
Acetonitrile	ND		20	10	ug/L			10/02/18 18:39	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 18:39	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 18:39	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 18:39	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 18:39	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 18:39	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 18:39	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 18:39	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 18:39	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 18:39	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 18:39	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 18:39	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 18:39	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 18:39	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 18:39	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 18:39	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Propionitrile	ND		20	10	ug/L			10/02/18 18:39	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 18:39	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 18:39	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 18:39	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 18:39	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 18:39	1

Client Sample ID: DW-3

Date Collected: 09/20/18 09:35
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 18:39	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 18:39	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 18:39	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 18:39	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 18:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.1*	*T J*	*ug/L*		*2.44*			*10/02/18 18:39*	*1*
Unknown	*14*	*T J*	*ug/L*		*2.49*			*10/02/18 18:39*	*1*
Unknown	*9.4*	*T J*	*ug/L*		*7.36*			*10/02/18 18:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*09/23/18 13:49*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*09/23/18 13:49*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/02/18 18:39*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*10/02/18 18:39*	*1*
Dibromofluoromethane (Surr)	*123*		*76 - 132*		*09/23/18 13:49*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*10/02/18 18:39*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.25	ug/L		09/26/18 12:35	09/28/18 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*68*		*30 - 120*	*09/26/18 12:35*	*09/28/18 16:52*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13**		2.5	1.3	mg/L			09/20/18 20:48	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**9.1**		0.50	0.25	mg/L		09/26/18 10:38	09/28/18 00:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**0.81**		0.20	0.10	mg/L			09/23/18 16:36	1
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:07	1
Total Dissolved Solids	**1900**		10	5.0	mg/L			09/25/18 08:45	1
Total Organic Carbon	**0.37**		0.10	0.050	mg/L			09/21/18 11:01	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**160**		4.0	4.0	mg/L			09/22/18 14:57	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV
410.4	COD	MCAWW	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV
SM 5310C	TOC	SM	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol 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.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: MW-2A

Date Collected: 09/19/18 09:15
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 11:40	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500587	09/23/18 16:49	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	501226	09/26/18 11:41	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501781	09/28/18 13:51	L1B	TAL IRV
Total/NA	Analysis	300.0		5			500130	09/20/18 20:07	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	501206	09/26/18 10:37	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			501817	09/27/18 23:47	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 15:55	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501322	09/26/18 16:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500589	09/22/18 13:59	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500405	09/21/18 09:58	YZ	TAL IRV

Client Sample ID: MW-2B

Date Collected: 09/19/18 10:25
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 12:04	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 11:30	AYL	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	501226	09/26/18 11:41	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501781	09/28/18 14:14	L1B	TAL IRV
Total/NA	Analysis	300.0		5			500130	09/20/18 20:24	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	501206	09/26/18 10:38	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			501817	09/28/18 00:11	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 16:00	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501322	09/26/18 16:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500589	09/22/18 14:08	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500405	09/21/18 10:11	YZ	TAL IRV

Client Sample ID: DW-4

Date Collected: 09/19/18 11:20
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 12:29	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 12:43	AYL	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	501226	09/26/18 11:41	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501781	09/28/18 14:36	L1B	TAL IRV
Total/NA	Analysis	300.0		5			500130	09/20/18 20:41	NTN	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: DW-4

Date Collected: 09/19/18 11:20
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			25 mL	25 mL	501206	09/26/18 10:38	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			501817	09/28/18 00:15	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 16:20	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501322	09/26/18 16:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500589	09/22/18 14:28	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500405	09/21/18 10:23	YZ	TAL IRV

Client Sample ID: DW-1

Date Collected: 09/19/18 09:55
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 12:54	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 09:30	AYL	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	501226	09/26/18 11:41	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501781	09/28/18 14:59	L1B	TAL IRV
Total/NA	Analysis	300.0		10			500132	09/20/18 20:10	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	501206	09/26/18 10:38	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			501817	09/28/18 00:19	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 16:25	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501322	09/26/18 16:06	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500589	09/22/18 14:39	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500405	09/21/18 10:37	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 13:18	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 09:54	AYL	TAL IRV

Client Sample ID: QCTB

Date Collected: 09/19/18 00:01
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 13:43	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 10:18	AYL	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Client Sample ID: DW-2

Date Collected: 09/20/18 08:05
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 18:14	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500659	09/24/18 10:42	AYL	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	501255	09/26/18 12:35	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501781	09/28/18 16:29	L1B	TAL IRV
Total/NA	Analysis	300.0		5			500132	09/20/18 20:29	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	501206	09/26/18 10:38	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			501817	09/28/18 00:23	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 16:31	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501322	09/26/18 16:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500589	09/22/18 14:50	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500405	09/21/18 10:49	YZ	TAL IRV

Client Sample ID: DW-3

Date Collected: 09/20/18 09:35
Date Received: 09/20/18 13:45

Lab Sample ID: 440-220491-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	502335	10/02/18 18:39	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	500586	09/23/18 13:49	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	501255	09/26/18 12:35	JAA	TAL IRV
Total/NA	Analysis	8270C		1			501781	09/28/18 16:52	L1B	TAL IRV
Total/NA	Analysis	300.0		5			500132	09/20/18 20:48	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	501206	09/26/18 10:38	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			501817	09/28/18 00:36	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	500627	09/23/18 16:36	HTL	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	501322	09/26/18 16:07	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			500589	09/22/18 14:57	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	500927	09/25/18 08:45	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	500405	09/21/18 11:01	YZ	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-500586/7
Matrix: Water
Analysis Batch: 500586

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/23/18 09:46	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 09:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*09/23/18 09:46*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/23/18 09:46*	*1*
Dibromofluoromethane (Surr)	*116*		*76 - 132*		*09/23/18 09:46*	*1*

Lab Sample ID: LCS 440-500586/8
Matrix: Water
Analysis Batch: 500586

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	36.7	J *	ug/L		147	10 - 145		
Acrylonitrile			250	248		ug/L		99	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 128*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*117*		*76 - 132*

Lab Sample ID: LCSD 440-500586/28
Matrix: Water
Analysis Batch: 500586

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein			25.0	32.0	J	ug/L		128	10 - 145	14	30
Acrylonitrile			250	209		ug/L		84	48 - 140	17	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 128*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*121*		*76 - 132*

Lab Sample ID: 550-109988-A-1 MS
Matrix: Water
Analysis Batch: 500586

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND	* F1	25.0	ND	F1	ug/L		0	10 - 147		
Acrylonitrile	ND		250	216		ug/L		87	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 128*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*114*		*76 - 132*

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

Lab Sample ID: 550-109988-A-1 MSD
Matrix: Water
Analysis Batch: 500586

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND	* F1	25.0	ND	F1	ug/L		0	10 - 147	NC	40
Acrylonitrile	ND		250	157		ug/L		63	38 - 144	32	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*80 - 128*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*116*		*76 - 132*

Lab Sample ID: MB 440-500587/4
Matrix: Water
Analysis Batch: 500587

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/23/18 08:07	1
Acrylonitrile	ND		50	1.0	ug/L			09/23/18 08:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 128*		*09/23/18 08:07*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*09/23/18 08:07*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*09/23/18 08:07*	*1*

Lab Sample ID: LCS 440-500587/5
Matrix: Water
Analysis Batch: 500587

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	31.3	J	ug/L		125	10 - 145
Acrylonitrile	250	207		ug/L		83	48 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*

Lab Sample ID: 440-220349-D-10 MS
Matrix: Water
Analysis Batch: 500587

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	31.1	J	ug/L		124	10 - 147
Acrylonitrile	ND		250	259		ug/L		104	38 - 144

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*

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

Lab Sample ID: 440-220349-D-10 MSD
Matrix: Water
Analysis Batch: 500587

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	29.4	J	ug/L		118	10 - 147	6	40
Acrylonitrile	ND		250	241		ug/L		97	38 - 144	7	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*76 - 132*

Lab Sample ID: MB 440-500659/4
Matrix: Water
Analysis Batch: 500659

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			09/24/18 07:58	1
Acrylonitrile	ND		50	1.0	ug/L			09/24/18 07:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 128*		*09/24/18 07:58*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*09/24/18 07:58*	*1*
Dibromofluoromethane (Surr)	*116*		*76 - 132*		*09/24/18 07:58*	*1*

Lab Sample ID: LCS 440-500659/5
Matrix: Water
Analysis Batch: 500659

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	39.3	J *	ug/L		157	10 - 145
Acrylonitrile	250	235		ug/L		94	48 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 128*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*115*		*76 - 132*

Lab Sample ID: 440-220491-2 MS
Matrix: Water
Analysis Batch: 500659

Client Sample ID: MW-2B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND	F1 *	25.0	46.1	J F1	ug/L		184	10 - 147
Acrylonitrile	ND		250	266		ug/L		107	38 - 144

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 128*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*
Dibromofluoromethane (Surr)	*125*		*76 - 132*

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

Lab Sample ID: 440-220491-2 MSD
Matrix: Water
Analysis Batch: 500659

Client Sample ID: MW-2B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND	F1 *	25.0	38.9	J F1	ug/L		156	10 - 147	17	40
Acrylonitrile	ND		250	294		ug/L		118	38 - 144	10	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*84*		*80 - 128*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*126*		*76 - 132*

Lab Sample ID: MB 440-502335/4
Matrix: Water
Analysis Batch: 502335

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/02/18 09:08	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/02/18 09:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/02/18 09:08	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/02/18 09:08	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/02/18 09:08	1
2-Hexanone	ND		5.0	2.5	ug/L			10/02/18 09:08	1
Acetone	ND		20	10	ug/L			10/02/18 09:08	1
Acetonitrile	ND		20	10	ug/L			10/02/18 09:08	1
Acrolein	ND		5.0	2.5	ug/L			10/02/18 09:08	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/02/18 09:08	1
Benzene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Allyl chloride	ND		1.0	0.50	ug/L			10/02/18 09:08	1
Bromoform	ND		1.0	0.40	ug/L			10/02/18 09:08	1
Bromomethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/02/18 09:08	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Chloroethane	ND		1.0	0.40	ug/L			10/02/18 09:08	1
Chloroform	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Chloromethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 09:08	1

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

Lab Sample ID: MB 440-502335/4
Matrix: Water
Analysis Batch: 502335

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Dibromomethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/02/18 09:08	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 09:08	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Iodomethane	ND		2.0	1.0	ug/L			10/02/18 09:08	1
Isobutyl alcohol	ND		25	13	ug/L			10/02/18 09:08	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/02/18 09:08	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/02/18 09:08	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/02/18 09:08	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/02/18 09:08	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Naphthalene	ND		1.0	0.40	ug/L			10/02/18 09:08	1
o-Xylene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Propionitrile	ND		20	10	ug/L			10/02/18 09:08	1
Styrene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
t-Butanol	ND		10	5.0	ug/L			10/02/18 09:08	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/02/18 09:08	1
Toluene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/02/18 09:08	1
Trichloroethene	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/02/18 09:08	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/02/18 09:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/02/18 09:08	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/02/18 09:08	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/02/18 09:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/02/18 09:08	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/02/18 09:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/02/18 09:08*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*10/02/18 09:08*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*10/02/18 09:08*	*1*

Lab Sample ID: LCS 440-502335/5
Matrix: Water
Analysis Batch: 502335

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	23.1		ug/L		93	63 - 130

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

Lab Sample ID: LCS 440-502335/5
Matrix: Water
Analysis Batch: 502335

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	25.3		ug/L		101	60 - 141
1,1,1-Trichloroethane	25.0	22.5		ug/L		90	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	24.5		ug/L		98	70 - 130
1,1-Dichloroethane	25.0	23.3		ug/L		93	64 - 130
1,1-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloropropene	25.0	23.2		ug/L		93	70 - 130
1,2,4-Trichlorobenzene	25.0	24.4		ug/L		97	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	22.7		ug/L		91	52 - 140
1,2-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130
1,2-Dichloroethane	25.0	22.8		ug/L		91	57 - 138
1,2-Dichloropropane	25.0	23.8		ug/L		95	67 - 130
1,3-Dichlorobenzene	25.0	23.7		ug/L		95	70 - 130
1,3-Dichloropropane	25.0	23.1		ug/L		92	70 - 130
1,4-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130
2,2-Dichloropropane	25.0	22.7		ug/L		91	68 - 141
2-Hexanone	25.0	20.3		ug/L		81	10 - 150
Acetone	25.0	25.2		ug/L		101	10 - 150
Acetonitrile	250	250		ug/L		100	49 - 142
Acrolein	25.0	31.7		ug/L		127	10 - 145
Benzene	25.0	22.5		ug/L		90	68 - 130
Bromoform	25.0	21.4		ug/L		85	60 - 148
Bromomethane	25.0	21.9		ug/L		87	64 - 139
Carbon disulfide	25.0	22.1		ug/L		88	52 - 136
Carbon tetrachloride	25.0	22.0		ug/L		88	60 - 150
Chlorobenzene	25.0	23.6		ug/L		94	70 - 130
Bromochloromethane	25.0	23.8		ug/L		95	70 - 130
Chloroethane	25.0	22.8		ug/L		91	64 - 135
Chloroform	25.0	23.3		ug/L		93	70 - 130
Chloromethane	25.0	21.9		ug/L		87	47 - 140
cis-1,2-Dichloroethene	25.0	23.2		ug/L		93	70 - 133
cis-1,3-Dichloropropene	25.0	25.2		ug/L		101	70 - 133
Dibromochloromethane	25.0	23.8		ug/L		95	69 - 145
Dibromomethane	25.0	22.7		ug/L		91	70 - 130
Bromodichloromethane	25.0	22.6		ug/L		90	70 - 132
Dichlorodifluoromethane	25.0	19.0		ug/L		76	29 - 150
Ethylbenzene	25.0	23.5		ug/L		94	70 - 130
m,p-Xylene	25.0	24.1		ug/L		97	70 - 130
Methylene Chloride	25.0	22.0		ug/L		88	52 - 130
Methyl tert-butyl ether	25.0	22.9		ug/L		91	63 - 131
Naphthalene	25.0	24.0		ug/L		96	60 - 140
o-Xylene	25.0	25.2		ug/L		101	70 - 130
Styrene	25.0	23.1		ug/L		92	70 - 134
t-Butanol	250	288		ug/L		115	70 - 130
Tetrachloroethene	25.0	23.7		ug/L		95	70 - 130
Toluene	25.0	24.3		ug/L		97	70 - 130
trans-1,2-Dichloroethene	25.0	23.8		ug/L		95	70 - 130
trans-1,3-Dichloropropene	25.0	21.9		ug/L		88	70 - 132

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

Lab Sample ID: LCS 440-502335/5
Matrix: Water
Analysis Batch: 502335

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	21.9		ug/L		87	60 - 150
Vinyl acetate	25.0	20.0		ug/L		80	48 - 140
Vinyl chloride	25.0	22.9		ug/L		92	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.2		ug/L		93	70 - 130
2-Butanone (MEK)	25.0	21.6		ug/L		86	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	23.0		ug/L		92	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*80 - 128*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*

Lab Sample ID: 440-220824-A-3 MS
Matrix: Water
Analysis Batch: 502335

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		500	471		ug/L		94	60 - 130
1,1,1,2-Tetrachloroethane	ND		500	522		ug/L		104	60 - 149
1,1,1-Trichloroethane	ND		500	521		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	ND		500	490		ug/L		98	63 - 130
1,1,2-Trichloroethane	ND		500	498		ug/L		100	70 - 130
1,1-Dichloroethane	ND		500	515		ug/L		103	65 - 130
1,1-Dichloroethene	ND		500	530		ug/L		106	70 - 130
1,1-Dichloropropene	ND		500	534		ug/L		107	64 - 130
1,2,4-Trichlorobenzene	ND		500	517		ug/L		103	60 - 140
1,2-Dibromo-3-Chloropropane	ND		500	461		ug/L		92	48 - 140
1,2-Dichlorobenzene	ND		500	514		ug/L		103	70 - 130
1,2-Dichloroethane	ND		500	486		ug/L		97	56 - 146
1,2-Dichloropropane	ND		500	510		ug/L		102	69 - 130
1,3-Dichlorobenzene	ND		500	512		ug/L		102	70 - 130
1,3-Dichloropropane	ND		500	471		ug/L		94	70 - 130
1,4-Dichlorobenzene	ND		500	503		ug/L		101	70 - 130
2,2-Dichloropropane	ND		500	569		ug/L		114	69 - 138
2-Hexanone	ND		500	416		ug/L		83	10 - 150
Acetone	ND		500	443		ug/L		89	10 - 150
Acetonitrile	ND		5000	4850		ug/L		97	37 - 140
Acrolein	ND		500	653		ug/L		131	10 - 147
Benzene	ND		500	495		ug/L		99	66 - 130
Bromoform	ND		500	450		ug/L		90	59 - 150
Bromomethane	ND		500	498		ug/L		100	62 - 131
Carbon disulfide	ND		500	526		ug/L		105	49 - 140
Carbon tetrachloride	ND		500	508		ug/L		102	60 - 150
Chlorobenzene	ND		500	507		ug/L		101	70 - 130
Bromochloromethane	ND		500	508		ug/L		102	70 - 130
Chloroethane	ND		500	524		ug/L		105	68 - 130
Chloroform	ND		500	511		ug/L		102	70 - 130

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

Lab Sample ID: 440-220824-A-3 MS
Matrix: Water
Analysis Batch: 502335

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	ND		500	482		ug/L		96	39 - 144
cis-1,2-Dichloroethene	ND		500	507		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		500	532		ug/L		106	70 - 133
Dibromochloromethane	ND		500	487		ug/L		97	70 - 148
Dibromomethane	ND		500	470		ug/L		94	70 - 130
Bromodichloromethane	ND		500	485		ug/L		97	70 - 138
Dichlorodifluoromethane	ND		500	437		ug/L		87	25 - 142
Ethylbenzene	16		500	523		ug/L		101	70 - 130
m,p-Xylene	ND		500	521		ug/L		104	70 - 133
Methylene Chloride	ND		500	484		ug/L		97	52 - 130
Methyl tert-butyl ether	ND		500	471		ug/L		94	70 - 130
Naphthalene	140		500	630		ug/L		97	60 - 140
o-Xylene	ND		500	536		ug/L		107	70 - 133
Styrene	ND		500	493		ug/L		99	29 - 150
t-Butanol	ND		5000	5420		ug/L		108	70 - 130
Tetrachloroethene	ND		500	535		ug/L		107	70 - 137
Toluene	ND		500	519		ug/L		104	70 - 130
trans-1,2-Dichloroethene	ND		500	534		ug/L		107	70 - 130
trans-1,3-Dichloropropene	ND		500	455		ug/L		91	70 - 138
Trichloroethene	ND		500	511		ug/L		102	70 - 130
Trichlorofluoromethane	ND		500	515		ug/L		103	60 - 150
Vinyl acetate	ND		500	423		ug/L		85	23 - 150
Vinyl chloride	ND		500	541		ug/L		108	50 - 137
1,2-Dibromoethane (EDB)	ND		500	470		ug/L		94	70 - 131
2-Butanone (MEK)	ND		500	449		ug/L		90	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		500	444		ug/L		89	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*110*		*80 - 128*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*76 - 132*

Lab Sample ID: 440-220824-A-3 MSD
Matrix: Water
Analysis Batch: 502335

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		500	469		ug/L		94	60 - 130	0	30
1,1,1,2-Tetrachloroethane	ND		500	525		ug/L		105	60 - 149	0	20
1,1,1-Trichloroethane	ND		500	512		ug/L		102	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		500	485		ug/L		97	63 - 130	1	30
1,1,2-Trichloroethane	ND		500	498		ug/L		100	70 - 130	0	25
1,1-Dichloroethane	ND		500	511		ug/L		102	65 - 130	1	20
1,1-Dichloroethene	ND		500	512		ug/L		102	70 - 130	3	20
1,1-Dichloropropene	ND		500	524		ug/L		105	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		500	525		ug/L		105	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		500	441		ug/L		88	48 - 140	5	30
1,2-Dichlorobenzene	ND		500	509		ug/L		102	70 - 130	1	20

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

Lab Sample ID: 440-220824-A-3 MSD
Matrix: Water
Analysis Batch: 502335

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	ND		500	486		ug/L		97	56 - 146	0	20
1,2-Dichloropropane	ND		500	504		ug/L		101	69 - 130	1	20
1,3-Dichlorobenzene	ND		500	509		ug/L		102	70 - 130	1	20
1,3-Dichloropropane	ND		500	471		ug/L		94	70 - 130	0	25
1,4-Dichlorobenzene	ND		500	506		ug/L		101	70 - 130	1	20
2,2-Dichloropropane	ND		500	506		ug/L		101	69 - 138	12	25
2-Hexanone	ND		500	408		ug/L		82	10 - 150	2	35
Acetone	ND		500	472		ug/L		94	10 - 150	6	35
Acetonitrile	ND		5000	4970		ug/L		99	37 - 140	2	40
Acrolein	ND		500	650		ug/L		130	10 - 147	0	40
Benzene	ND		500	497		ug/L		99	66 - 130	0	20
Bromoform	ND		500	445		ug/L		89	59 - 150	1	25
Bromomethane	ND		500	481		ug/L		96	62 - 131	3	25
Carbon disulfide	ND		500	500		ug/L		100	49 - 140	5	20
Carbon tetrachloride	ND		500	501		ug/L		100	60 - 150	1	25
Chlorobenzene	ND		500	509		ug/L		102	70 - 130	1	20
Bromochloromethane	ND		500	512		ug/L		102	70 - 130	1	25
Chloroethane	ND		500	499		ug/L		100	68 - 130	5	25
Chloroform	ND		500	512		ug/L		102	70 - 130	0	20
Chloromethane	ND		500	468		ug/L		94	39 - 144	3	25
cis-1,2-Dichloroethene	ND		500	513		ug/L		103	70 - 130	1	20
cis-1,3-Dichloropropene	ND		500	532		ug/L		106	70 - 133	0	20
Dibromochloromethane	ND		500	495		ug/L		99	70 - 148	2	25
Dibromomethane	ND		500	471		ug/L		94	70 - 130	0	25
Bromodichloromethane	ND		500	481		ug/L		96	70 - 138	1	20
Dichlorodifluoromethane	ND		500	413		ug/L		83	25 - 142	6	30
Ethylbenzene	16		500	521		ug/L		101	70 - 130	0	20
m,p-Xylene	ND		500	524		ug/L		105	70 - 133	1	25
Methylene Chloride	ND		500	485		ug/L		97	52 - 130	0	20
Methyl tert-butyl ether	ND		500	480		ug/L		96	70 - 130	2	25
Naphthalene	140		500	632		ug/L		98	60 - 140	0	30
o-Xylene	ND		500	534		ug/L		107	70 - 133	0	20
Styrene	ND		500	488		ug/L		98	29 - 150	1	35
t-Butanol	ND		5000	6070		ug/L		121	70 - 130	11	25
Tetrachloroethene	ND		500	531		ug/L		106	70 - 137	1	20
Toluene	ND		500	527		ug/L		105	70 - 130	1	20
trans-1,2-Dichloroethene	ND		500	534		ug/L		107	70 - 130	0	20
trans-1,3-Dichloropropene	ND		500	457		ug/L		91	70 - 138	0	25
Trichloroethene	ND		500	508		ug/L		102	70 - 130	1	20
Trichlorofluoromethane	ND		500	497		ug/L		99	60 - 150	4	25
Vinyl acetate	ND		500	420		ug/L		84	23 - 150	1	30
Vinyl chloride	ND		500	513		ug/L		103	50 - 137	5	30
1,2-Dibromoethane (EDB)	ND		500	470		ug/L		94	70 - 131	0	25
2-Butanone (MEK)	ND		500	454		ug/L		91	48 - 140	1	40
4-Methyl-2-pentanone (MIBK)	ND		500	457		ug/L		91	52 - 150	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*111*		*80 - 128*

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

Lab Sample ID: 440-220824-A-3 MSD
Matrix: Water
Analysis Batch: 502335

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

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-501226/1-A
Matrix: Water
Analysis Batch: 501781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 501226

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/26/18 11:41	09/28/18 11:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*79*		*30 - 120*	*09/26/18 11:41*	*09/28/18 11:34*	*1*

Lab Sample ID: LCS 440-501226/3-A
Matrix: Water
Analysis Batch: 501781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 501226

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.96	1.29		ug/L		66	35 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*62*		*30 - 120*

Lab Sample ID: LCSD 440-501226/4-A
Matrix: Water
Analysis Batch: 501781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 501226

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.95	1.11		ug/L		57	35 - 120	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*50*		*30 - 120*

Lab Sample ID: MB 440-501255/1-A
Matrix: Water
Analysis Batch: 501781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 501255

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/26/18 12:35	09/28/18 15:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*69*		*30 - 120*	*09/26/18 12:35*	*09/28/18 15:22*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-501255/3-A
Matrix: Water
Analysis Batch: 501781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 501255

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.97	1.35		ug/L		68	35 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*67*		*30 - 120*

Lab Sample ID: LCSD 440-501255/4-A
Matrix: Water
Analysis Batch: 501781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 501255

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.98	1.28		ug/L		64	35 - 120	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*61*		*30 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-500130/6
Matrix: Water
Analysis Batch: 500130

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/20/18 12:32	1

Lab Sample ID: LCS 440-500130/5
Matrix: Water
Analysis Batch: 500130

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.59		mg/L		92	90 - 110		

Lab Sample ID: 440-220466-C-1 MS
Matrix: Water
Analysis Batch: 500130

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1.2		5.00	5.32		mg/L		83	80 - 120		

Lab Sample ID: 440-220466-C-1 MSD
Matrix: Water
Analysis Batch: 500130

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.2		5.00	5.28		mg/L		83	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-500132/6
Matrix: Water
Analysis Batch: 500132

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/20/18 12:35	1

Lab Sample ID: LCS 440-500132/5
Matrix: Water
Analysis Batch: 500132

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.56		mg/L		91	90 - 110

Lab Sample ID: 440-220477-C-2 MS
Matrix: Water
Analysis Batch: 500132

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	7200	E	250	7620	E 4	mg/L		177	80 - 120

Lab Sample ID: 440-220477-C-2 MSD
Matrix: Water
Analysis Batch: 500132

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	7200	E	250	7650	E 4	mg/L		189	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-501206/1-A
Matrix: Water
Analysis Batch: 501817

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 501206

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/26/18 10:37	09/27/18 23:26	1

Lab Sample ID: LCS 440-501206/2-A
Matrix: Water
Analysis Batch: 501817

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 501206

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.88		mg/L		99	80 - 120

Lab Sample ID: 440-220491-1 MS
Matrix: Water
Analysis Batch: 501817

Client Sample ID: MW-2A
Prep Type: Total Recoverable
Prep Batch: 501206

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	5.1		10.0	14.9		mg/L		98	75 - 125

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

Lab Sample ID: 440-220491-1 MSD
Matrix: Water
Analysis Batch: 501817

Client Sample ID: MW-2A
Prep Type: Total Recoverable
Prep Batch: 501206

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	5.1		10.0	15.4		mg/L		103	75 - 125	3	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-500627/40
Matrix: Water
Analysis Batch: 500627

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			09/23/18 14:06	1

Lab Sample ID: LCS 440-500627/41
Matrix: Water
Analysis Batch: 500627

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.16		mg/L		103	90 - 110

Lab Sample ID: MRL 440-500627/9
Matrix: Water
Analysis Batch: 500627

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.185	J	mg/L		93	50 - 150

Lab Sample ID: 440-220349-I-7 MS
Matrix: Water
Analysis Batch: 500627

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.30	F1	5.00	5.88	F1	mg/L		112	90 - 110

Lab Sample ID: 440-220349-I-7 MSD
Matrix: Water
Analysis Batch: 500627

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.30	F1	5.00	6.01	F1	mg/L		114	90 - 110	2	15

Method: 410.4 - COD

Lab Sample ID: MB 440-501322/3
Matrix: Water
Analysis Batch: 501322

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/18 16:06	1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 440-501322/4
Matrix: Water
Analysis Batch: 501322

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			200	196		mg/L		98	90 - 110		

Lab Sample ID: 440-220491-1 MS
Matrix: Water
Analysis Batch: 501322

Client Sample ID: MW-2A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	ND		200	190		mg/L		95	70 - 120		

Lab Sample ID: 440-220491-1 MSD
Matrix: Water
Analysis Batch: 501322

Client Sample ID: MW-2A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	194		mg/L		97	70 - 120	2	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-500589/29
Matrix: Water
Analysis Batch: 500589

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/22/18 13:49	1

Lab Sample ID: LCS 440-500589/28
Matrix: Water
Analysis Batch: 500589

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			80.7	82.7		mg/L		102	80 - 120		

Lab Sample ID: 440-220491-2 DU
Matrix: Water
Analysis Batch: 500589

Client Sample ID: MW-2B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	350			350		mg/L				0.2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-500927/1
Matrix: Water
Analysis Batch: 500927

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/25/18 08:45	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 440-500927/2
Matrix: Water
Analysis Batch: 500927

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: 440-220491-1 DU
Matrix: Water
Analysis Batch: 500927

Client Sample ID: MW-2A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2600		2670		mg/L		3	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-500405/6
Matrix: Water
Analysis Batch: 500405

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/21/18 07:32	1

Lab Sample ID: LCS 440-500405/5
Matrix: Water
Analysis Batch: 500405

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.15		mg/L		92	90 - 110

Lab Sample ID: MRL 440-500405/4
Matrix: Water
Analysis Batch: 500405

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.100	0.0586	J	mg/L		59	50 - 150

Lab Sample ID: 440-220451-J-3 MS
Matrix: Water
Analysis Batch: 500405

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	6.0		10.0	15.1		mg/L		91	80 - 120

Lab Sample ID: 440-220451-J-3 MSD
Matrix: Water
Analysis Batch: 500405

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	6.0		10.0	15.2		mg/L		92	80 - 120	1	20

GC/MS VOA

Analysis Batch: 500586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-8	DW-3	Total/NA	Water	8260B	
MB 440-500586/7	Method Blank	Total/NA	Water	8260B	
LCS 440-500586/8	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-500586/28	Lab Control Sample Dup	Total/NA	Water	8260B	
550-109988-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
550-109988-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 500587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	8260B	
MB 440-500587/4	Method Blank	Total/NA	Water	8260B	
LCS 440-500587/5	Lab Control Sample	Total/NA	Water	8260B	
440-220349-D-10 MS	Matrix Spike	Total/NA	Water	8260B	
440-220349-D-10 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 500659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-2	MW-2B	Total/NA	Water	8260B	
440-220491-3	DW-4	Total/NA	Water	8260B	
440-220491-4	DW-1	Total/NA	Water	8260B	
440-220491-5	QCAB	Total/NA	Water	8260B	
440-220491-6	QCTB	Total/NA	Water	8260B	
440-220491-7	DW-2	Total/NA	Water	8260B	
MB 440-500659/4	Method Blank	Total/NA	Water	8260B	
LCS 440-500659/5	Lab Control Sample	Total/NA	Water	8260B	
440-220491-2 MS	MW-2B	Total/NA	Water	8260B	
440-220491-2 MSD	MW-2B	Total/NA	Water	8260B	

Analysis Batch: 502335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	8260B	
440-220491-2	MW-2B	Total/NA	Water	8260B	
440-220491-3	DW-4	Total/NA	Water	8260B	
440-220491-4	DW-1	Total/NA	Water	8260B	
440-220491-5	QCAB	Total/NA	Water	8260B	
440-220491-6	QCTB	Total/NA	Water	8260B	
440-220491-7	DW-2	Total/NA	Water	8260B	
440-220491-8	DW-3	Total/NA	Water	8260B	
MB 440-502335/4	Method Blank	Total/NA	Water	8260B	
LCS 440-502335/5	Lab Control Sample	Total/NA	Water	8260B	
440-220824-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-220824-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 501226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	3520C	
440-220491-2	MW-2B	Total/NA	Water	3520C	
440-220491-3	DW-4	Total/NA	Water	3520C	

GC/MS Semi VOA (Continued)

Prep Batch: 501226 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-4	DW-1	Total/NA	Water	3520C	
MB 440-501226/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-501226/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-501226/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 501255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-7	DW-2	Total/NA	Water	3520C	
440-220491-8	DW-3	Total/NA	Water	3520C	
MB 440-501255/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-501255/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-501255/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 501781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	8270C	501226
440-220491-2	MW-2B	Total/NA	Water	8270C	501226
440-220491-3	DW-4	Total/NA	Water	8270C	501226
440-220491-4	DW-1	Total/NA	Water	8270C	501226
440-220491-7	DW-2	Total/NA	Water	8270C	501255
440-220491-8	DW-3	Total/NA	Water	8270C	501255
MB 440-501226/1-A	Method Blank	Total/NA	Water	8270C	501226
MB 440-501255/1-A	Method Blank	Total/NA	Water	8270C	501255
LCS 440-501226/3-A	Lab Control Sample	Total/NA	Water	8270C	501226
LCS 440-501255/3-A	Lab Control Sample	Total/NA	Water	8270C	501255
LCSD 440-501226/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	501226
LCSD 440-501255/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	501255

HPLC/IC

Analysis Batch: 500130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	300.0	
440-220491-2	MW-2B	Total/NA	Water	300.0	
440-220491-3	DW-4	Total/NA	Water	300.0	
MB 440-500130/6	Method Blank	Total/NA	Water	300.0	
LCS 440-500130/5	Lab Control Sample	Total/NA	Water	300.0	
440-220466-C-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-220466-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 500132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-4	DW-1	Total/NA	Water	300.0	
440-220491-7	DW-2	Total/NA	Water	300.0	
440-220491-8	DW-3	Total/NA	Water	300.0	
MB 440-500132/6	Method Blank	Total/NA	Water	300.0	
LCS 440-500132/5	Lab Control Sample	Total/NA	Water	300.0	
440-220477-C-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-220477-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 501206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total Recoverable	Water	3005A	
440-220491-2	MW-2B	Total Recoverable	Water	3005A	
440-220491-3	DW-4	Total Recoverable	Water	3005A	
440-220491-4	DW-1	Total Recoverable	Water	3005A	
440-220491-7	DW-2	Total Recoverable	Water	3005A	
440-220491-8	DW-3	Total Recoverable	Water	3005A	
MB 440-501206/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-501206/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-220491-1 MS	MW-2A	Total Recoverable	Water	3005A	
440-220491-1 MSD	MW-2A	Total Recoverable	Water	3005A	

Analysis Batch: 501817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total Recoverable	Water	6010B	501206
440-220491-2	MW-2B	Total Recoverable	Water	6010B	501206
440-220491-3	DW-4	Total Recoverable	Water	6010B	501206
440-220491-4	DW-1	Total Recoverable	Water	6010B	501206
440-220491-7	DW-2	Total Recoverable	Water	6010B	501206
440-220491-8	DW-3	Total Recoverable	Water	6010B	501206
MB 440-501206/1-A	Method Blank	Total Recoverable	Water	6010B	501206
LCS 440-501206/2-A	Lab Control Sample	Total Recoverable	Water	6010B	501206
440-220491-1 MS	MW-2A	Total Recoverable	Water	6010B	501206
440-220491-1 MSD	MW-2A	Total Recoverable	Water	6010B	501206

General Chemistry

Analysis Batch: 500405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	SM 5310C	
440-220491-2	MW-2B	Total/NA	Water	SM 5310C	
440-220491-3	DW-4	Total/NA	Water	SM 5310C	
440-220491-4	DW-1	Total/NA	Water	SM 5310C	
440-220491-7	DW-2	Total/NA	Water	SM 5310C	
440-220491-8	DW-3	Total/NA	Water	SM 5310C	
MB 440-500405/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-500405/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-500405/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-220451-J-3 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-220451-J-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 500589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	SM 2320B	
440-220491-2	MW-2B	Total/NA	Water	SM 2320B	
440-220491-3	DW-4	Total/NA	Water	SM 2320B	
440-220491-4	DW-1	Total/NA	Water	SM 2320B	
440-220491-7	DW-2	Total/NA	Water	SM 2320B	
440-220491-8	DW-3	Total/NA	Water	SM 2320B	
MB 440-500589/29	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-500589/28	Lab Control Sample	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 500589 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-2 DU	MW-2B	Total/NA	Water	SM 2320B	

Analysis Batch: 500627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	350.1	
440-220491-2	MW-2B	Total/NA	Water	350.1	
440-220491-3	DW-4	Total/NA	Water	350.1	
440-220491-4	DW-1	Total/NA	Water	350.1	
440-220491-7	DW-2	Total/NA	Water	350.1	
440-220491-8	DW-3	Total/NA	Water	350.1	
MB 440-500627/40	Method Blank	Total/NA	Water	350.1	
LCS 440-500627/41	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-500627/9	Lab Control Sample	Total/NA	Water	350.1	
440-220349-I-7 MS	Matrix Spike	Total/NA	Water	350.1	
440-220349-I-7 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 500927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	SM 2540C	
440-220491-2	MW-2B	Total/NA	Water	SM 2540C	
440-220491-3	DW-4	Total/NA	Water	SM 2540C	
440-220491-4	DW-1	Total/NA	Water	SM 2540C	
440-220491-7	DW-2	Total/NA	Water	SM 2540C	
440-220491-8	DW-3	Total/NA	Water	SM 2540C	
MB 440-500927/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-500927/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-220491-1 DU	MW-2A	Total/NA	Water	SM 2540C	

Analysis Batch: 501322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-220491-1	MW-2A	Total/NA	Water	410.4	
440-220491-2	MW-2B	Total/NA	Water	410.4	
440-220491-3	DW-4	Total/NA	Water	410.4	
440-220491-4	DW-1	Total/NA	Water	410.4	
440-220491-7	DW-2	Total/NA	Water	410.4	
440-220491-8	DW-3	Total/NA	Water	410.4	
MB 440-501322/3	Method Blank	Total/NA	Water	410.4	
LCS 440-501322/4	Lab Control Sample	Total/NA	Water	410.4	
440-220491-1 MS	MW-2A	Total/NA	Water	410.4	
440-220491-1 MSD	MW-2A	Total/NA	Water	410.4	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-220491-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-18 *
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-15-00184	07-09-21
Washington	State Program	10	C900	09-03-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record 206800

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: KYLE WELCHANS	Site Contact: JOSH MILLS	Date: 9/19/18	COC No:
Company Name: GEO-LOGIC ASSOCIATES	Tel/Fax: 858-451-1136	Lab Contact: RUSSINA	Carrier: TIA	1 of 1 COCs
Address: 11415 W. BERNARDO G	Analysis Turnaround Time			Sampler: BS, NR
City/State/Zip: SAN DIEGO CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below _____			Walk-in Client:
Fax: 858-451-1087	☐ 2 weeks			Lab Sampling:
Project Name: REPUBLIC SERVICES	☐ 1 week			Job / SDG No.:
Site: SUNSHINE CANYON LANDFILL	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B VOCs 40 CFR	PART 258 Appendix I VOCs	Dichlorodifluoromethane, 1,4 Dioxane	EPA 310.1 - Total Alkalinity	EPA 350.2 - Ammonia as N	EPA 410.4 - COD	EPA 300.0 - Chloride	EPA 6010B - Total Potassium	EPA 160.1 - Total Dissolved Solids	EPA 415.1 - Total Organic Carbon	EPA 8270D 1,4 Dioxane	Sample Specific Notes
MW-2A	9/19/18	0915	G	GW	12			X	X	X	X	X	X	X	X	X	X	X	
MW-2B	9/19/18	1025	G	GW	12			X	X	X	X	X	X	X	X	X	X	X	
DW-4	9/19/18	1120	G	GW	12			X	X	X	X	X	X	X	X	X	X	X	
DW-1	9/19/18	0955	G	GW	12			X	X	X	X	X	X	X	X	X	X	X	
QCAB	↓	—	↓	LAB DI	4			X	X	X	X								
QCTB	↓	—	↓	"	4			X	X	X	X								
DW-2	9/20/18	0805	G	GW	12			X	X	X	X	X	X	X	X	X	X	X	
DW-3	9/20/18	0935	G	GW	12			X	X	X	X	X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.8 1.9 IR-88

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd 0.3 Corr'd: 0.4	Therm ID No.: 88
Relinquished by:	Company: Geo-Logic	Date/Time: 9/20/18 1110	Received by:	Company: TA-IRV	Date/Time: 9/20/18 1110
Relinquished by:	Company: TA IRV	Date/Time: 9/20/18 1345	Received by:	Company:	Date/Time:
Relinquished by	Company:	Date/Time:	Received in Laboratory by: Olga Cineles	Company: TA IRV	Date/Time: 9/20/18 1345

440-220491 Chain of Custody

9/20/18

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9/20/2018

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-220491-1

Login Number: 220491
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-222956-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
11/19/2018 6:01:42 PM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-222956-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-222956-1	Composite CA-L	Water	10/24/18 11:25	10/24/18 18:50
440-222956-2	LR-2R	Water	10/24/18 08:50	10/24/18 18:50
440-222956-3	Field Blank	Water	10/24/18 00:01	10/24/18 18:50
440-222956-4	Trip Blank	Water	10/24/18 00:01	10/24/18 18:50
440-222956-5	Equip. Blank	Water	10/24/18 00:01	10/24/18 18:50

Job ID: 440-222956-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-222956-1

Comments
No additional comments.

Receipt
The samples were received on 10/24/2018 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0º C and 2.6º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-507936 recovered outside control limits for the following analyte: 2-Methyl-2-propanol. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following sample was diluted due to the abundance of non-target analytes: Composite CA-L (440-222956-1). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: Composite CA-L (440-222956-1). The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-508121 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: LR-2R (440-222956-2).
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: LR-2R (440-222956-2).
The sample was analyzed within 7 days per EPA recommendation.

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

GC/MS Semi VOA
Method(s) 8270C LL: The laboratory control sample (LCS) for preparation batch 440-508213 and analytical batch 440-509227 recovered outside control limits for the following analytes: Benzidine. This analyte was biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270C: The percent recovery of 3,3'-dichlorobenzidine and 4-Chloroaniline in the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 440-507858 and analytical batch 440-508070 was below the acceptance limit .
This analyte is classified as a poor performer as it historically does not yield the same consistency in recovery as other analytes from the preparation method.The following affected samples are reported with possible low bias for the failing analytes:
(LCS 440-507858/2-A) and (LCSD 440-507858/3-A)

Method(s) 8270C LL: The following sample was diluted due to the abundance of non-target analytes: Composite CA-L (440-222956-1). Elevated reporting limits (RLs) are provided.

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

Job ID: 440-222956-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

GC Semi VOA

Method(s) 8082: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-507372 and analytical batch 440-507423. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-507372/4-A)

Method(s) 8082: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: Composite CA-L (440-222956-1) and LR-2R (440-222956-2).

Method(s) 8081A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-507372 and analytical batch 440-507660. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-507372/2-A)

Method(s) 8081A: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: Composite CA-L (440-222956-1) and LR-2R (440-222956-2).

Method(s) 8141A: The continuing calibration verification (CCV) associated with batch 261333 recovered outside acceptance criteria, low biased, for most of the analytes of interest. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8141A: The surrogate recovery for the blank associated with 261175 was outside the lower control limits on one column. Other column passes showing system is in control.

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

General Chemistry

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

Organic Prep

Method(s) 3510C/8081/8082: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 440-507372.

Method(s) 3520C/8270: The following sample was diluted due to the nature of the sample matrix: LR-2R (440-222956-2) at 10x dilution due to complex matrix. Elevated reporting limits (RLs) are provided.

Method(s) 3520C/8270: The following sample was diluted due to the nature of the sample matrix: Composite CA-L (440-222956-1) at 100x dilution due to complex matrix. Elevated reporting limits (RLs) are provided.

Method(s) 3520C/8270: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-507858.

Method(s) 3520C: The following sample was diluted due to the nature of the sample matrix: Composite CA-L (440-222956-1) at 10ml. Elevated reporting limits (RLs) are provided.

Method(s) 3520C: The following sample was diluted due to the nature of the sample matrix: LR-2R (440-222956-2) at 100ml. Elevated reporting limits (RLs) are provided.

Method(s) 3520C/8270C- 1,-4DXN: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-507970.

Method(s) 3520C/8270_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-508213.

Method(s) 3520C: The following sample was diluted due to the nature of the sample matrix: Composite CA-L (440-222956-1) at 10ml. Elevated reporting limits (RLs) are provided.

Job ID: 440-222956-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) 3520C: The following sample was diluted due to the nature of the sample matrix: LR-2R (440-222956-2) at 100ml. Elevated reporting limits (RLs) are provided.

Method(s) 3510C/8141: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 180-261175.

Method(s) 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 180-261180.

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

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

Client Sample ID: Composite CA-L
Date Collected: 10/24/18 11:25
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		100	40	ug/L			10/30/18 05:44	100
1,1,1,2-Tetrachloroethane	ND		50	25	ug/L			10/30/18 05:44	100
Acrolein	ND		1000	50	ug/L			10/29/18 11:09	20
Acrylonitrile	ND		1000	20	ug/L			10/29/18 11:09	20
1,1,1-Trichloroethane	ND		50	25	ug/L			10/30/18 05:44	100
1,1,2,2-Tetrachloroethane	ND		50	25	ug/L			10/30/18 05:44	100
1,1,2-Trichloroethane	ND		50	25	ug/L			10/30/18 05:44	100
1,1-Dichloroethane	ND		50	25	ug/L			10/30/18 05:44	100
1,1-Dichloroethene	ND		50	25	ug/L			10/30/18 05:44	100
1,1-Dichloropropene	ND		50	25	ug/L			10/30/18 05:44	100
1,2,4-Trichlorobenzene	ND		100	40	ug/L			10/30/18 05:44	100
1,2-Dibromo-3-Chloropropane	ND		100	50	ug/L			10/30/18 05:44	100
1,2-Dichlorobenzene	ND		50	25	ug/L			10/30/18 05:44	100
1,2-Dichloroethane	ND		50	25	ug/L			10/30/18 05:44	100
1,2-Dichloropropane	ND		50	25	ug/L			10/30/18 05:44	100
1,3-Dichlorobenzene	ND		50	25	ug/L			10/30/18 05:44	100
1,3-Dichloropropane	ND		50	25	ug/L			10/30/18 05:44	100
1,4-Dichlorobenzene	**97**		50	25	ug/L			10/30/18 05:44	100
2,2-Dichloropropane	ND		100	40	ug/L			10/30/18 05:44	100
2-Chloro-1,3-butadiene	ND		100	50	ug/L			10/30/18 05:44	100
2-Hexanone	ND		500	250	ug/L			10/30/18 05:44	100
Acetone	**8500**		2000	1000	ug/L			10/30/18 05:44	100
Acetonitrile	ND		2000	1000	ug/L			10/30/18 05:44	100
Acrolein	ND		500	250	ug/L			10/30/18 05:44	100
Acrylonitrile	ND		200	100	ug/L			10/30/18 05:44	100
Benzene	**72**		50	25	ug/L			10/30/18 05:44	100
Allyl chloride	ND		100	50	ug/L			10/30/18 05:44	100
Bromoform	ND		100	40	ug/L			10/30/18 05:44	100
Bromomethane	ND		50	25	ug/L			10/30/18 05:44	100
Carbon disulfide	ND		100	50	ug/L			10/30/18 05:44	100
Carbon tetrachloride	ND		50	25	ug/L			10/30/18 05:44	100
Chlorobenzene	ND		50	25	ug/L			10/30/18 05:44	100
Bromochloromethane	ND		50	25	ug/L			10/30/18 05:44	100
Chloroethane	ND		100	40	ug/L			10/30/18 05:44	100
Chloroform	ND		50	25	ug/L			10/30/18 05:44	100
Chloromethane	ND		50	25	ug/L			10/30/18 05:44	100
cis-1,2-Dichloroethene	ND		50	25	ug/L			10/30/18 05:44	100
cis-1,3-Dichloropropene	ND		50	25	ug/L			10/30/18 05:44	100
Dibromochloromethane	ND		50	25	ug/L			10/30/18 05:44	100
Dibromomethane	ND		50	25	ug/L			10/30/18 05:44	100
Bromodichloromethane	ND		50	25	ug/L			10/30/18 05:44	100
Dichlorodifluoromethane	ND		100	40	ug/L			10/30/18 05:44	100
Ethyl methacrylate	ND		200	100	ug/L			10/30/18 05:44	100
Ethylbenzene	**68**		50	25	ug/L			10/30/18 05:44	100
Iodomethane	ND		200	100	ug/L			10/30/18 05:44	100
Isobutyl alcohol	**8000**		2500	1300	ug/L			10/30/18 05:44	100
m,p-Xylene	**140**		100	50	ug/L			10/30/18 05:44	100
Methylacrylonitrile	ND		1000	250	ug/L			10/30/18 05:44	100
Methyl methacrylate	ND		200	100	ug/L			10/30/18 05:44	100

Client Sample ID: Composite CA-L
Date Collected: 10/24/18 11:25
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		200	88	ug/L			10/30/18 05:44	100
Methyl tert-butyl ether	**170**		50	25	ug/L			10/30/18 05:44	100
Naphthalene	**93**	**J**	100	40	ug/L			10/30/18 05:44	100
o-Xylene	**68**		50	25	ug/L			10/30/18 05:44	100
Propionitrile	ND		2000	1000	ug/L			10/30/18 05:44	100
Styrene	**41**	**J**	50	25	ug/L			10/30/18 05:44	100
t-Butanol	**20000**		1000	500	ug/L			10/30/18 05:44	100
Tetrachloroethene	ND		50	25	ug/L			10/30/18 05:44	100
Tetrahydrofuran	**510**	**J**	1000	500	ug/L			10/30/18 05:44	100
Toluene	**150**		50	25	ug/L			10/30/18 05:44	100
trans-1,2-Dichloroethene	ND		50	25	ug/L			10/30/18 05:44	100
trans-1,3-Dichloropropene	ND		50	25	ug/L			10/30/18 05:44	100
trans-1,4-Dichloro-2-butene	ND		500	250	ug/L			10/30/18 05:44	100
Trichloroethene	ND		50	25	ug/L			10/30/18 05:44	100
Trichlorofluoromethane	ND		50	25	ug/L			10/30/18 05:44	100
Vinyl acetate	ND		400	200	ug/L			10/30/18 05:44	100
Vinyl chloride	ND		50	25	ug/L			10/30/18 05:44	100
1,2-Dibromoethane (EDB)	ND		50	25	ug/L			10/30/18 05:44	100
2-Butanone (MEK)	**10000**		500	250	ug/L			10/30/18 05:44	100
4-Methyl-2-pentanone (MIBK)	ND		500	250	ug/L			10/30/18 05:44	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*11000*	*T J*	*ug/L*		*1.87*			*10/30/18 05:44*	*100*
Unknown	*1000*	*T J*	*ug/L*		*2.84*			*10/30/18 05:44*	*100*
Unknown	*940*	*T J*	*ug/L*		*2.87*			*10/30/18 05:44*	*100*
Unknown	*1200*	*T J*	*ug/L*		*5.22*			*10/30/18 05:44*	*100*
Unknown	*750*	*T J*	*ug/L*		*6.29*			*10/30/18 05:44*	*100*
Unknown	*770*	*T J*	*ug/L*		*11.13*			*10/30/18 05:44*	*100*
Unknown	*770*	*T J*	*ug/L*		*11.59*			*10/30/18 05:44*	*100*
Cyclohexene, 1-methyl-5-(1-methylethenyl)-	*5900*	*T J N*	*ug/L*		*11.84*	*13898-73-2*		*10/30/18 05:44*	*100*
Eucalyptol	*900*	*T J N*	*ug/L*		*11.92*	*470-82-6*		*10/30/18 05:44*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 128*		*10/29/18 11:09*	*20*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*10/29/18 11:09*	*20*
Toluene-d8 (Surr)	*96*		*80 - 128*		*10/30/18 05:44*	*100*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*10/30/18 05:44*	*100*
Dibromofluoromethane (Surr)	*110*		*76 - 132*		*10/29/18 11:09*	*20*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*10/30/18 05:44*	*100*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		400	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
1,2-Dichlorobenzene	ND		200	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
1,2-Diphenylhydrazine(as Azobenzene)	ND		400	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
1,3-Dichlorobenzene	ND		200	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
1,4-Dichlorobenzene	ND		200	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
2,4,5-Trichlorophenol	ND		800	120	ug/L		10/30/18 07:54	11/05/18 13:46	4
2,4,6-Trichlorophenol	ND		400	40	ug/L		10/30/18 07:54	11/05/18 13:46	4

Client Sample ID: Composite CA-L
Date Collected: 10/24/18 11:25
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-1
Matrix: Water

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		800	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
2,4-Dimethylphenol	ND		800	200	ug/L		10/30/18 07:54	11/05/18 13:46	4
2,4-Dinitrophenol	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
2,4-Dinitrotoluene	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
2,6-Dinitrotoluene	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
2-Chloronaphthalene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
2-Chlorophenol	ND		400	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
2-Methylnaphthalene	ND		400	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
2-Methylphenol	ND		800	120	ug/L		10/30/18 07:54	11/05/18 13:46	4
2-Nitroaniline	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
2-Nitrophenol	ND		800	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
3,3'-Dichlorobenzidine	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
3-Methylphenol + 4-Methylphenol	**3400**		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
3-Nitroaniline	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
4,6-Dinitro-2-methylphenol	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
4-Bromophenyl phenyl ether	ND		400	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
4-Chloro-3-methylphenol	ND		800	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
4-Chloroaniline	ND		800	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
4-Chlorophenyl phenyl ether	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
4-Nitroaniline	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
4-Nitrophenol	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
Acenaphthene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Acenaphthylene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Aniline	ND		4000	300	ug/L		10/30/18 07:54	11/05/18 13:46	4
Anthracene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzidine	ND	*	4000	2000	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzo[a]anthracene	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzo[a]pyrene	ND		800	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzo[b]fluoranthene	ND		800	120	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzo[g,h,i]perylene	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzo[k]fluoranthene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzoic acid	**3800**	**J**	4000	1600	ug/L		10/30/18 07:54	11/05/18 13:46	4
Benzyl alcohol	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
bis (2-chloroisopropyl) ether	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Bis(2-chloroethoxy)methane	ND		200	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Bis(2-chloroethyl)ether	ND		200	20	ug/L		10/30/18 07:54	11/05/18 13:46	4
Bis(2-ethylhexyl) phthalate	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
Butyl benzyl phthalate	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
Chrysene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Dibenz(a,h)anthracene	ND		200	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Dibenzofuran	ND		200	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Diethyl phthalate	ND		400	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Dimethyl phthalate	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Di-n-butyl phthalate	ND		800	200	ug/L		10/30/18 07:54	11/05/18 13:46	4
Di-n-octyl phthalate	ND		2000	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
Fluoranthene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Fluorene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Hexachlorobenzene	ND		400	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Hexachlorobutadiene	ND		800	200	ug/L		10/30/18 07:54	11/05/18 13:46	4

Client Sample ID: Composite CA-L
Date Collected: 10/24/18 11:25
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-1
Matrix: Water

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		2000	800	ug/L		10/30/18 07:54	11/05/18 13:46	4
Hexachloroethane	ND		1200	200	ug/L		10/30/18 07:54	11/05/18 13:46	4
Indeno[1,2,3-cd]pyrene	ND		800	160	ug/L		10/30/18 07:54	11/05/18 13:46	4
Isophorone	ND		400	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Naphthalene	ND		400	20	ug/L		10/30/18 07:54	11/05/18 13:46	4
Nitrobenzene	ND		400	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
N-Nitrosodimethylamine	ND		800	120	ug/L		10/30/18 07:54	11/05/18 13:46	4
N-Nitrosodi-n-propylamine	ND		800	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
N-Nitrosodiphenylamine	ND		400	80	ug/L		10/30/18 07:54	11/05/18 13:46	4
Pentachlorophenol	ND		800	400	ug/L		10/30/18 07:54	11/05/18 13:46	4
Phenanthrene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Phenol	**4500**		400	40	ug/L		10/30/18 07:54	11/05/18 13:46	4
Pyrene	ND		200	40	ug/L		10/30/18 07:54	11/05/18 13:46	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 120*	*10/30/18 07:54*	*11/05/18 13:46*	*4*
2-Fluorobiphenyl	*67*		*50 - 120*	*10/30/18 07:54*	*11/05/18 13:46*	*4*
2-Fluorophenol (Surr)	*56*		*30 - 120*	*10/30/18 07:54*	*11/05/18 13:46*	*4*
Nitrobenzene-d5 (Surr)	*67*		*45 - 120*	*10/30/18 07:54*	*11/05/18 13:46*	*4*
Phenol-d6 (Surr)	*61*		*35 - 120*	*10/30/18 07:54*	*11/05/18 13:46*	*4*
Terphenyl-d14 (Surr)	*78*		*37 - 144*	*10/30/18 07:54*	*11/05/18 13:46*	*4*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		1000	250	ug/L		10/27/18 16:35	11/05/18 02:06	1
1,4-Dioxane	**130**		100	25	ug/L		10/29/18 07:53	10/30/18 17:12	1
2,3,4,6-Tetrachlorophenol	ND		1500	450	ug/L		10/27/18 16:35	11/05/18 02:06	1
2,6-Dichlorophenol	ND	*	1500	200	ug/L		10/27/18 16:35	11/05/18 02:06	1
Acetophenone	ND		1500	200	ug/L		10/27/18 16:35	11/05/18 02:06	1
Diphenylamine	ND		1000	300	ug/L		10/27/18 16:35	11/05/18 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*38*		*30 - 120*	*10/29/18 07:53*	*10/30/18 17:12*	*1*
2,4,6-Tribromophenol (Surr)	*109*		*40 - 120*	*10/27/18 16:35*	*11/05/18 02:06*	*1*
2-Fluorobiphenyl	*85*		*50 - 120*	*10/27/18 16:35*	*11/05/18 02:06*	*1*
2-Fluorophenol (Surr)	*84*		*30 - 120*	*10/27/18 16:35*	*11/05/18 02:06*	*1*
Nitrobenzene-d5 (Surr)	*80*		*45 - 120*	*10/27/18 16:35*	*11/05/18 02:06*	*1*
Phenol-d6 (Surr)	*90*		*35 - 120*	*10/27/18 16:35*	*11/05/18 02:06*	*1*
Terphenyl-d14 (Surr)	*94*		*10 - 150*	*10/27/18 16:35*	*11/05/18 02:06*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Naphthoquinone	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
1,4-phenylenediamine	ND		6000	2500	ug/L		10/27/18 16:35	11/07/18 13:57	1
1-Naphthylamine	ND		1500	550	ug/L		10/27/18 16:35	11/07/18 13:57	1
2-Acetylaminofluorene	ND		1000	300	ug/L		10/27/18 16:35	11/07/18 13:57	1
2-Naphthylamine	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
3,3'-Dimethylbenzidine	ND		2500	1000	ug/L		10/27/18 16:35	11/07/18 13:57	1
3-Methylcholanthrene	ND		1000	250	ug/L		10/27/18 16:35	11/07/18 13:57	1
4-Aminobiphenyl	ND		1500	500	ug/L		10/27/18 16:35	11/07/18 13:57	1

Client Sample ID: Composite CA-L
Date Collected: 10/24/18 11:25
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-1
Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5-Nitro-o-toluidine	ND		1000	300	ug/L		10/27/18 16:35	11/07/18 13:57	1
7,12-Dimethylbenz(a)anthracene	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
alpha,alpha-Dimethyl phenethylamine	ND		12000	4000	ug/L		10/27/18 16:35	11/07/18 13:57	1
Diallate	ND		1500	600	ug/L		10/27/18 16:35	11/07/18 13:57	1
Dimethyl aminoazobenzene	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
Ethyl 4,4'-Dichlorobenzilate	ND		1000	250	ug/L		10/27/18 16:35	11/07/18 13:57	1
Ethyl methanesulfonate	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
Isodrin	ND		1000	350	ug/L		10/27/18 16:35	11/07/18 13:57	1
Isosafrole	ND		1500	600	ug/L		10/27/18 16:35	11/07/18 13:57	1
Kepone	ND		10000	3500	ug/L		10/27/18 16:35	11/07/18 13:57	1
Methapyrilene	ND		2000	500	ug/L		10/27/18 16:35	11/07/18 13:57	1
Methyl methanesulfonate	ND		1500	500	ug/L		10/27/18 16:35	11/07/18 13:57	1
N-Nitrosodiethylamine	ND		1000	300	ug/L		10/27/18 16:35	11/07/18 13:57	1
N-Nitrosodi-n-butylamine	ND		1000	450	ug/L		10/27/18 16:35	11/07/18 13:57	1
N-Nitrosomethylethylamine	ND		1000	250	ug/L		10/27/18 16:35	11/07/18 13:57	1
N-Nitrosopiperidine	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
N-Nitrosopyrrolidine	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1
o,o',o''-Triethylphosphorothioate	ND		1500	450	ug/L		10/27/18 16:35	11/07/18 13:57	1
o-Toluidine	ND		1000	250	ug/L		10/27/18 16:35	11/07/18 13:57	1
Pentachlorobenzene	ND		1000	300	ug/L		10/27/18 16:35	11/07/18 13:57	1
Pentachloronitrobenzene	ND		1000	250	ug/L		10/27/18 16:35	11/07/18 13:57	1
Phenacetin	ND		1000	350	ug/L		10/27/18 16:35	11/07/18 13:57	1
Phorate	ND		1000	500	ug/L		10/27/18 16:35	11/07/18 13:57	1
Pronamide	ND		1500	500	ug/L		10/27/18 16:35	11/07/18 13:57	1
Safrole, Total	ND		1000	400	ug/L		10/27/18 16:35	11/07/18 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*113*		*40 - 120*	*10/27/18 16:35*	*11/07/18 13:57*	*1*
2-Fluorobiphenyl	*86*		*50 - 120*	*10/27/18 16:35*	*11/07/18 13:57*	*1*
2-Fluorophenol (Surr)	*70*		*30 - 120*	*10/27/18 16:35*	*11/07/18 13:57*	*1*
Nitrobenzene-d5 (Surr)	*82*		*45 - 120*	*10/27/18 16:35*	*11/07/18 13:57*	*1*
Phenol-d6 (Surr)	*75*		*35 - 120*	*10/27/18 16:35*	*11/07/18 13:57*	*1*
Terphenyl-d14 (Surr)	*85*		*10 - 150*	*10/27/18 16:35*	*11/07/18 13:57*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
4,4'-DDE	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
4,4'-DDT	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Aldrin	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
alpha-BHC	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
beta-BHC	ND		0.097	0.029	ug/L		10/25/18 06:01	10/26/18 15:17	1
Chlordane (technical)	ND		0.97	0.19	ug/L		10/25/18 06:01	10/26/18 15:17	1
delta-BHC	ND		0.19	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Dieldrin	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Endosulfan I	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Endosulfan II	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Endosulfan sulfate	ND		0.19	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Endrin	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Endrin aldehyde	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1

Client Sample ID: Composite CA-L
Date Collected: 10/24/18 11:25
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-1
Matrix: Water

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin ketone	ND		0.097	0.039	ug/L		10/25/18 06:01	10/26/18 15:17	1
gamma-BHC (Lindane)	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Heptachlor	ND		0.097	0.029	ug/L		10/25/18 06:01	10/26/18 15:17	1
Heptachlor epoxide	ND		0.097	0.029	ug/L		10/25/18 06:01	10/26/18 15:17	1
Methoxychlor	ND		0.097	0.019	ug/L		10/25/18 06:01	10/26/18 15:17	1
Toxaphene	ND		4.9	0.49	ug/L		10/25/18 06:01	10/26/18 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*34*		*10 - 123*	*10/25/18 06:01*	*10/26/18 15:17*	*1*
DCB Decachlorobiphenyl (Surr)	*39*		*28 - 108*	*10/25/18 06:01*	*10/26/18 15:17*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1
Aroclor 1221	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1
Aroclor 1232	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1
Aroclor 1242	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1
Aroclor 1248	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1
Aroclor 1254	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1
Aroclor 1260	ND		0.97	0.24	ug/L		10/25/18 06:01	10/25/18 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*41*		*29 - 115*	*10/25/18 06:01*	*10/25/18 17:39*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		10	2.6	ug/L		10/26/18 12:35	10/29/18 22:42	1
Bolstar	ND		10	1.4	ug/L		10/26/18 12:35	10/29/18 22:42	1
Chlorpyrifos	ND		10	2.3	ug/L		10/26/18 12:35	10/29/18 22:42	1
Coumaphos	ND		10	1.3	ug/L		10/26/18 12:35	10/29/18 22:42	1
Demeton, Total	ND	*	20	1.6	ug/L		10/26/18 12:35	10/29/18 22:42	1
Diazinon	ND		10	1.8	ug/L		10/26/18 12:35	10/29/18 22:42	1
Dichlorvos	ND		10	1.1	ug/L		10/26/18 12:35	10/29/18 22:42	1
Dimethoate	ND		10	2.2	ug/L		10/26/18 12:35	10/29/18 22:42	1
Disulfoton	ND	*	10	2.4	ug/L		10/26/18 12:35	10/29/18 22:42	1
EPN	ND		10	2.6	ug/L		10/26/18 12:35	10/29/18 22:42	1
Famphur	ND		10	1.1	ug/L		10/26/18 12:35	10/29/18 22:42	1
Fensulfothion	ND		10	2.8	ug/L		10/26/18 12:35	10/29/18 22:42	1
Fenthion	ND		10	1.1	ug/L		10/26/18 12:35	10/29/18 22:42	1
Malathion	ND		10	2.1	ug/L		10/26/18 12:35	10/29/18 22:42	1
Methyl parathion	ND		10	1.7	ug/L		10/26/18 12:35	10/29/18 22:42	1
Mevinphos	ND		10	4.4	ug/L		10/26/18 12:35	10/29/18 22:42	1
Mocap	ND		10	1.6	ug/L		10/26/18 12:35	10/29/18 22:42	1
O,O,O-Triethyl phosphorothioate	ND		10	1.5	ug/L		10/26/18 12:35	10/29/18 22:42	1
Parathion	ND		10	1.9	ug/L		10/26/18 12:35	10/29/18 22:42	1
Phorate	ND		10	1.8	ug/L		10/26/18 12:35	10/29/18 22:42	1
Ronnel	ND		10	2.3	ug/L		10/26/18 12:35	10/29/18 22:42	1
Stirophos	ND		10	1.6	ug/L		10/26/18 12:35	10/29/18 22:42	1
Sulfotepp	ND		10	1.5	ug/L		10/26/18 12:35	10/29/18 22:42	1
Thionazin	ND		10	3.6	ug/L		10/26/18 12:35	10/29/18 22:42	1

Client Sample ID: Composite CA-L

Lab Sample ID: 440-222956-1
Date Collected: 10/24/18 11:25
Matrix: Water
Date Received: 10/24/18 18:50

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tokuthion	ND		10	2.2	ug/L		10/26/18 12:35	10/29/18 22:42	1
Trichloronate	ND		10	2.5	ug/L		10/26/18 12:35	10/29/18 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*98*		*79 - 116*	*10/26/18 12:35*	*10/29/18 22:42*	*1*
Tributyl phosphate	*78*		*55 - 106*	*10/26/18 12:35*	*10/29/18 22:42*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.95	0.20	ug/L		10/26/18 14:15	10/30/18 19:45	20
2,4-D	ND		3.8	0.71	ug/L		10/26/18 14:15	10/30/18 19:45	20
2,4-DB	ND		3.8	0.85	ug/L		10/26/18 14:15	10/30/18 19:45	20
Dalapon	ND		4.8	3.5	ug/L		10/26/18 14:15	10/30/18 19:45	20
Dicamba	ND		1.9	0.65	ug/L		10/26/18 14:15	10/30/18 19:45	20
Dichlorprop	ND		3.8	0.95	ug/L		10/26/18 14:15	10/30/18 19:45	20
Dinoseb	ND	*	0.86	0.54	ug/L		10/26/18 14:15	10/30/18 19:45	20
MCPA	ND		380	130	ug/L		10/26/18 14:15	10/30/18 19:45	20
MCPP	ND		380	280	ug/L		10/26/18 14:15	10/30/18 19:45	20
Pentachlorophenol	ND		0.48	0.22	ug/L		10/26/18 14:15	10/30/18 19:45	20
Silvex (2,4,5-TP)	ND		0.95	0.24	ug/L		10/26/18 14:15	10/30/18 19:45	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*73*		*20 - 105*	*10/26/18 14:15*	*10/30/18 19:45*	*20*

Client Sample ID: LR-2R

Lab Sample ID: 440-222956-2
Date Collected: 10/24/18 08:50
Matrix: Water
Date Received: 10/24/18 18:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/30/18 14:27	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Acrolein	ND		50	2.5	ug/L			10/29/18 11:39	1
Acrylonitrile	ND		50	1.0	ug/L			10/29/18 11:39	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/30/18 14:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/30/18 14:27	1
1,2-Dichlorobenzene	**4.6**		0.50	0.25	ug/L			10/30/18 14:27	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,3-Dichlorobenzene	**0.26**	**J**	0.50	0.25	ug/L			10/30/18 14:27	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,4-Dichlorobenzene	**8.9**		0.50	0.25	ug/L			10/30/18 14:27	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/30/18 14:27	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/30/18 14:27	1

Client Sample ID: LR-2R
Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		5.0	2.5	ug/L			10/30/18 14:27	1
Acetone	**10**	**J**	20	10	ug/L			10/30/18 14:27	1
Acetonitrile	ND		20	10	ug/L			10/30/18 14:27	1
Acrolein	ND		5.0	2.5	ug/L			10/30/18 14:27	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/30/18 14:27	1
Benzene	**3.2**		0.50	0.25	ug/L			10/30/18 14:27	1
Allyl chloride	ND		1.0	0.50	ug/L			10/30/18 14:27	1
Bromoform	ND		1.0	0.40	ug/L			10/30/18 14:27	1
Bromomethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/30/18 14:27	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Chlorobenzene	**20**		0.50	0.25	ug/L			10/30/18 14:27	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Chloroethane	ND		1.0	0.40	ug/L			10/30/18 14:27	1
Chloroform	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Chloromethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Dibromomethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/30/18 14:27	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/30/18 14:27	1
Ethylbenzene	**0.53**		0.50	0.25	ug/L			10/30/18 14:27	1
Iodomethane	ND		2.0	1.0	ug/L			10/30/18 14:27	1
Isobutyl alcohol	ND		25	13	ug/L			10/30/18 14:27	1
m,p-Xylene	**0.67**	**J**	1.0	0.50	ug/L			10/30/18 14:27	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/30/18 14:27	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/30/18 14:27	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/30/18 14:27	1
Methyl tert-butyl ether	**0.43**	**J**	0.50	0.25	ug/L			10/30/18 14:27	1
Naphthalene	**13**		1.0	0.40	ug/L			10/30/18 14:27	1
o-Xylene	**1.1**		0.50	0.25	ug/L			10/30/18 14:27	1
Propionitrile	ND		20	10	ug/L			10/30/18 14:27	1
Styrene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
t-Butanol	**520**		10	5.0	ug/L			10/30/18 14:27	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Tetrahydrofuran	**100**		10	5.0	ug/L			10/30/18 14:27	1
Toluene	**0.76**		0.50	0.25	ug/L			10/30/18 14:27	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Trichloroethene	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/30/18 14:27	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/30/18 14:27	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/30/18 14:27	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/30/18 14:27	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/30/18 14:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/30/18 14:27	1

Client Sample ID: LR-2R

Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2

Matrix: Water

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.8	T J	ug/L		3.28			10/30/18 14:27	1
Silanol, trimethyl-	42	T J N	ug/L		5.72	1066-40-6		10/30/18 14:27	1
Unknown	4.6	T J	ug/L		7.10			10/30/18 14:27	1
Unknown	11	T J	ug/L		7.19			10/30/18 14:27	1
Butanal, 3-methyl-	3.1	T J N	ug/L		7.45	590-86-3		10/30/18 14:27	1
Unknown	14	T J	ug/L		9.77			10/30/18 14:27	1
Unknown	2.8	T J	ug/L		12.95			10/30/18 14:27	1
Unknown	4.3	T J	ug/L		14.39			10/30/18 14:27	1
Unknown	2.5	T J	ug/L		16.67			10/30/18 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	112		80 - 128		10/29/18 11:39	1
4-Bromofluorobenzene (Surr)	108		80 - 120		10/29/18 11:39	1
Toluene-d8 (Surr)	106		80 - 128		10/30/18 14:27	1
4-Bromofluorobenzene (Surr)	92		80 - 120		10/30/18 14:27	1
Dibromofluoromethane (Surr)	111		76 - 132		10/29/18 11:39	1
Dibromofluoromethane (Surr)	101		76 - 132		10/30/18 14:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/31/18 10:41	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	540	T J	ug/L		1.87			10/31/18 10:41	1
Unknown	30	T J	ug/L		4.61			10/31/18 10:41	1
Unknown	4.1	T J	ug/L		5.96			10/31/18 10:41	1
Unknown	12	T J	ug/L		6.03			10/31/18 10:41	1
Butanal, 3-methyl-	3.5	T J N	ug/L		6.30	590-86-3		10/31/18 10:41	1
Unknown	13	T J	ug/L		8.58			10/31/18 10:41	1
Unknown	2.9	T J	ug/L		11.61			10/31/18 10:41	1
Unknown	6.9	T J	ug/L		13.28			10/31/18 10:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	90		80 - 128		10/31/18 10:41	1
4-Bromofluorobenzene (Surr)	84		80 - 120		10/31/18 10:41	1
Dibromofluoromethane (Surr)	104		76 - 132		10/31/18 10:41	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
1,2-Dichlorobenzene	**2.7**	**J**	5.0	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		10	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
1,3-Dichlorobenzene	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
1,4-Dichlorobenzene	**5.5**		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2,4,5-Trichlorophenol	ND		20	3.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2,4,6-Trichlorophenol	ND		10	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2,4-Dichlorophenol	ND		20	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2,4-Dimethylphenol	ND		20	5.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2,4-Dinitrophenol	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
2,4-Dinitrotoluene	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1

Client Sample ID: LR-2R
Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
2-Chloronaphthalene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2-Chlorophenol	ND		10	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2-Methylnaphthalene	**2.4**	**J**	10	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2-Methylphenol	ND		20	3.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
2-Nitroaniline	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
2-Nitrophenol	ND		20	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
3,3'-Dichlorobenzidine	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
3-Methylphenol + 4-Methylphenol	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
3-Nitroaniline	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
4,6-Dinitro-2-methylphenol	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
4-Bromophenyl phenyl ether	ND		10	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
4-Chloro-3-methylphenol	ND		20	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
4-Chloroaniline	ND		20	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
4-Chlorophenyl phenyl ether	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
4-Nitroaniline	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
4-Nitrophenol	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
Acenaphthene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Acenaphthylene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Aniline	ND		100	7.5	ug/L		10/30/18 07:54	11/01/18 15:12	1
Anthracene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzidine	ND	*	100	50	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzo[a]anthracene	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzo[a]pyrene	ND		20	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzo[b]fluoranthene	ND		20	3.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzo[g,h,i]perylene	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzo[k]fluoranthene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzoic acid	ND		100	40	ug/L		10/30/18 07:54	11/01/18 15:12	1
Benzyl alcohol	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
bis (2-chloroisopropyl) ether	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Bis(2-chloroethoxy)methane	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Bis(2-chloroethyl)ether	ND		5.0	0.50	ug/L		10/30/18 07:54	11/01/18 15:12	1
Bis(2-ethylhexyl) phthalate	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
Butyl benzyl phthalate	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
Chrysene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Dibenz(a,h)anthracene	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Dibenzofuran	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Diethyl phthalate	ND		10	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Dimethyl phthalate	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Di-n-butyl phthalate	ND		20	5.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Di-n-octyl phthalate	ND		50	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
Fluoranthene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Fluorene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Hexachlorobenzene	ND		10	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Hexachlorobutadiene	ND		20	5.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Hexachlorocyclopentadiene	ND		50	20	ug/L		10/30/18 07:54	11/01/18 15:12	1
Hexachloroethane	ND		30	5.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Indeno[1,2,3-cd]pyrene	ND		20	4.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Isophorone	ND		10	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1

Client Sample ID: LR-2R
Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**11**		10	0.50	ug/L		10/30/18 07:54	11/01/18 15:12	1
Nitrobenzene	ND		10	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
N-Nitrosodimethylamine	ND		20	3.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
N-Nitrosodi-n-propylamine	ND		20	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
N-Nitrosodiphenylamine	ND		10	2.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Pentachlorophenol	ND		20	10	ug/L		10/30/18 07:54	11/01/18 15:12	1
Phenanthrene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Phenol	ND		10	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1
Pyrene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*40 - 120*	*10/30/18 07:54*	*11/01/18 15:12*	*1*
2-Fluorobiphenyl	*67*		*50 - 120*	*10/30/18 07:54*	*11/01/18 15:12*	*1*
2-Fluorophenol (Surr)	*59*		*30 - 120*	*10/30/18 07:54*	*11/01/18 15:12*	*1*
Nitrobenzene-d5 (Surr)	*64*		*45 - 120*	*10/30/18 07:54*	*11/01/18 15:12*	*1*
Phenol-d6 (Surr)	*64*		*35 - 120*	*10/30/18 07:54*	*11/01/18 15:12*	*1*
Terphenyl-d14 (Surr)	*86*		*37 - 144*	*10/30/18 07:54*	*11/01/18 15:12*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		100	25	ug/L		10/27/18 16:35	11/05/18 02:31	1
1,4-Dioxane	**190**		10	2.5	ug/L		10/29/18 07:53	10/30/18 17:35	1
2,3,4,6-Tetrachlorophenol	ND		150	45	ug/L		10/27/18 16:35	11/05/18 02:31	1
2,6-Dichlorophenol	ND	*	150	20	ug/L		10/27/18 16:35	11/05/18 02:31	1
Acetophenone	ND		150	20	ug/L		10/27/18 16:35	11/05/18 02:31	1
Diphenylamine	ND		100	30	ug/L		10/27/18 16:35	11/05/18 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*48*		*30 - 120*	*10/29/18 07:53*	*10/30/18 17:35*	*1*
2,4,6-Tribromophenol (Surr)	*115*		*40 - 120*	*10/27/18 16:35*	*11/05/18 02:31*	*1*
2-Fluorobiphenyl	*90*		*50 - 120*	*10/27/18 16:35*	*11/05/18 02:31*	*1*
2-Fluorophenol (Surr)	*74*		*30 - 120*	*10/27/18 16:35*	*11/05/18 02:31*	*1*
Nitrobenzene-d5 (Surr)	*76*		*45 - 120*	*10/27/18 16:35*	*11/05/18 02:31*	*1*
Phenol-d6 (Surr)	*76*		*35 - 120*	*10/27/18 16:35*	*11/05/18 02:31*	*1*
Terphenyl-d14 (Surr)	*101*		*10 - 150*	*10/27/18 16:35*	*11/05/18 02:31*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Naphthoquinone	ND		100	40	ug/L		10/27/18 16:35	11/07/18 14:21	1
1,4-phenylenediamine	ND		600	250	ug/L		10/27/18 16:35	11/07/18 14:21	1
1-Naphthylamine	ND		150	55	ug/L		10/27/18 16:35	11/07/18 14:21	1
2-Acetylaminofluorene	ND		100	30	ug/L		10/27/18 16:35	11/07/18 14:21	1
2-Naphthylamine	ND		250	120	ug/L		10/27/18 16:35	11/07/18 14:21	1
3,3'-Dimethylbenzidine	ND		250	100	ug/L		10/27/18 16:35	11/07/18 14:21	1
3-Methylcholanthrene	ND		250	75	ug/L		10/27/18 16:35	11/07/18 14:21	1
4-Aminobiphenyl	ND		250	120	ug/L		10/27/18 16:35	11/07/18 14:21	1
5-Nitro-o-toluidine	ND		100	30	ug/L		10/27/18 16:35	11/07/18 14:21	1
7,12-Dimethylbenz(a)anthracene	ND		100	40	ug/L		10/27/18 16:35	11/07/18 14:21	1
alpha,alpha-Dimethyl phenethylamine	ND		600	340	ug/L		10/27/18 16:35	11/07/18 14:21	1
Diallate	ND		150	32	ug/L		10/27/18 16:35	11/07/18 14:21	1

Client Sample ID: LR-2R
Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl aminoazobenzene	ND		100	40	ug/L		10/27/18 16:35	11/07/18 14:21	1
Ethyl 4,4'-Dichlorobenzilate	ND		100	25	ug/L		10/27/18 16:35	11/07/18 14:21	1
Ethyl methanesulfonate	ND		100	30	ug/L		10/27/18 16:35	11/07/18 14:21	1
Isodrin	ND		100	25	ug/L		10/27/18 16:35	11/07/18 14:21	1
Isosafrole	ND		150	60	ug/L		10/27/18 16:35	11/07/18 14:21	1
Kepone	ND		1000	350	ug/L		10/27/18 16:35	11/07/18 14:21	1
Methapyrilene	ND		200	50	ug/L		10/27/18 16:35	11/07/18 14:21	1
Methyl methanesulfonate	ND		150	23	ug/L		10/27/18 16:35	11/07/18 14:21	1
N-Nitrosodiethylamine	ND		100	30	ug/L		10/27/18 16:35	11/07/18 14:21	1
N-Nitrosodi-n-butylamine	ND		100	33	ug/L		10/27/18 16:35	11/07/18 14:21	1
N-Nitrosomethylethylamine	ND		100	25	ug/L		10/27/18 16:35	11/07/18 14:21	1
N-Nitrosopiperidine	ND		100	37	ug/L		10/27/18 16:35	11/07/18 14:21	1
N-Nitrosopyrrolidine	ND		100	31	ug/L		10/27/18 16:35	11/07/18 14:21	1
o,o',o''-Triethylphosphorothioate	ND		150	31	ug/L		10/27/18 16:35	11/07/18 14:21	1
o-Toluidine	ND		100	25	ug/L		10/27/18 16:35	11/07/18 14:21	1
Pentachlorobenzene	ND		100	30	ug/L		10/27/18 16:35	11/07/18 14:21	1
Pentachloronitrobenzene	ND		100	25	ug/L		10/27/18 16:35	11/07/18 14:21	1
Phenacetin	ND		100	35	ug/L		10/27/18 16:35	11/07/18 14:21	1
Phorate	ND		100	50	ug/L		10/27/18 16:35	11/07/18 14:21	1
Pronamide	ND		150	50	ug/L		10/27/18 16:35	11/07/18 14:21	1
Safrole, Total	ND		100	37	ug/L		10/27/18 16:35	11/07/18 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*118*		*40 - 120*	*10/27/18 16:35*	*11/07/18 14:21*	*1*
2-Fluorobiphenyl	*85*		*50 - 120*	*10/27/18 16:35*	*11/07/18 14:21*	*1*
2-Fluorophenol (Surr)	*69*		*30 - 120*	*10/27/18 16:35*	*11/07/18 14:21*	*1*
Nitrobenzene-d5 (Surr)	*76*		*45 - 120*	*10/27/18 16:35*	*11/07/18 14:21*	*1*
Phenol-d6 (Surr)	*75*		*35 - 120*	*10/27/18 16:35*	*11/07/18 14:21*	*1*
Terphenyl-d14 (Surr)	*89*		*10 - 150*	*10/27/18 16:35*	*11/07/18 14:21*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
4,4'-DDE	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
4,4'-DDT	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Aldrin	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
alpha-BHC	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
beta-BHC	ND		0.096	0.029	ug/L		10/25/18 06:01	10/26/18 15:31	1
Chlordane (technical)	ND		0.96	0.19	ug/L		10/25/18 06:01	10/26/18 15:31	1
delta-BHC	ND		0.19	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Dieldrin	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Endosulfan I	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Endosulfan II	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Endosulfan sulfate	ND		0.19	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Endrin	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Endrin aldehyde	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Endrin ketone	ND		0.096	0.038	ug/L		10/25/18 06:01	10/26/18 15:31	1
gamma-BHC (Lindane)	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Heptachlor	ND		0.096	0.029	ug/L		10/25/18 06:01	10/26/18 15:31	1
Heptachlor epoxide	ND		0.096	0.029	ug/L		10/25/18 06:01	10/26/18 15:31	1

Client Sample ID: LR-2R
Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND		0.096	0.019	ug/L		10/25/18 06:01	10/26/18 15:31	1
Toxaphene	ND		4.8	0.48	ug/L		10/25/18 06:01	10/26/18 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*110*		*10 - 123*	*10/25/18 06:01*	*10/26/18 15:31*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*28 - 108*	*10/25/18 06:01*	*10/26/18 15:31*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1
Aroclor 1221	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1
Aroclor 1232	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1
Aroclor 1242	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1
Aroclor 1248	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1
Aroclor 1254	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1
Aroclor 1260	ND		0.96	0.24	ug/L		10/25/18 06:01	10/25/18 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*65*		*29 - 115*	*10/25/18 06:01*	*10/25/18 17:53*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.98	0.25	ug/L		10/26/18 12:35	10/29/18 23:15	1
Bolstar	ND		0.98	0.14	ug/L		10/26/18 12:35	10/29/18 23:15	1
Chlorpyrifos	ND		0.98	0.22	ug/L		10/26/18 12:35	10/29/18 23:15	1
Coumaphos	ND		0.98	0.13	ug/L		10/26/18 12:35	10/29/18 23:15	1
Demeton, Total	ND	*	2.0	0.16	ug/L		10/26/18 12:35	10/29/18 23:15	1
Diazinon	ND		0.98	0.18	ug/L		10/26/18 12:35	10/29/18 23:15	1
Dichlorvos	ND		0.98	0.11	ug/L		10/26/18 12:35	10/29/18 23:15	1
Dimethoate	ND		0.98	0.21	ug/L		10/26/18 12:35	10/29/18 23:15	1
Disulfoton	ND	*	0.98	0.23	ug/L		10/26/18 12:35	10/29/18 23:15	1
EPN	ND		0.98	0.25	ug/L		10/26/18 12:35	10/29/18 23:15	1
Famphur	ND		0.98	0.11	ug/L		10/26/18 12:35	10/29/18 23:15	1
Fensulfothion	ND		0.98	0.27	ug/L		10/26/18 12:35	10/29/18 23:15	1
Fenthion	ND		0.98	0.11	ug/L		10/26/18 12:35	10/29/18 23:15	1
Malathion	ND		0.98	0.21	ug/L		10/26/18 12:35	10/29/18 23:15	1
Methyl parathion	ND		0.98	0.17	ug/L		10/26/18 12:35	10/29/18 23:15	1
Mevinphos	ND		0.98	0.43	ug/L		10/26/18 12:35	10/29/18 23:15	1
Mocap	ND		0.98	0.16	ug/L		10/26/18 12:35	10/29/18 23:15	1
O,O,O-Triethyl phosphorothioate	ND		0.98	0.15	ug/L		10/26/18 12:35	10/29/18 23:15	1
Parathion	ND		0.98	0.19	ug/L		10/26/18 12:35	10/29/18 23:15	1
Phorate	ND		0.98	0.17	ug/L		10/26/18 12:35	10/29/18 23:15	1
Ronnel	ND		0.98	0.22	ug/L		10/26/18 12:35	10/29/18 23:15	1
Stirophos	ND		0.98	0.16	ug/L		10/26/18 12:35	10/29/18 23:15	1
Sulfotepp	ND		0.98	0.15	ug/L		10/26/18 12:35	10/29/18 23:15	1
Thionazin	ND		0.98	0.36	ug/L		10/26/18 12:35	10/29/18 23:15	1
Tokuthion	ND		0.98	0.22	ug/L		10/26/18 12:35	10/29/18 23:15	1
Trichloronate	ND		0.98	0.25	ug/L		10/26/18 12:35	10/29/18 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*101*		*79 - 116*	*10/26/18 12:35*	*10/29/18 23:15*	*1*

Client Sample ID: LR-2R

Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*102*		*55 - 106*	*10/26/18 12:35*	*10/29/18 23:15*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.95	0.20	ug/L		10/26/18 14:15	10/30/18 21:53	20
2,4-D	ND		3.8	0.71	ug/L		10/26/18 14:15	10/30/18 21:53	20
2,4-DB	ND		3.8	0.85	ug/L		10/26/18 14:15	10/30/18 21:53	20
Dalapon	ND		4.8	3.5	ug/L		10/26/18 14:15	10/30/18 21:53	20
Dicamba	ND		1.9	0.65	ug/L		10/26/18 14:15	10/30/18 21:53	20
Dichlorprop	ND		3.8	0.95	ug/L		10/26/18 14:15	10/30/18 21:53	20
Dinoseb	ND	*	0.86	0.54	ug/L		10/26/18 14:15	10/30/18 21:53	20
MCPA	ND		380	130	ug/L		10/26/18 14:15	10/30/18 21:53	20
MCPP	ND		380	280	ug/L		10/26/18 14:15	10/30/18 21:53	20
Pentachlorophenol	ND		0.48	0.22	ug/L		10/26/18 14:15	10/30/18 21:53	20
Silvex (2,4,5-TP)	ND		0.95	0.24	ug/L		10/26/18 14:15	10/30/18 21:53	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*20 - 105*	*10/26/18 14:15*	*10/30/18 21:53*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.025	0.013	mg/L		10/30/18 17:23	10/31/18 18:46	1

Client Sample ID: Field Blank

Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/29/18 15:51	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Acrolein	ND		50	2.5	ug/L			10/26/18 11:28	1
Acrylonitrile	ND		50	1.0	ug/L			10/26/18 11:28	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/29/18 15:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/29/18 15:51	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/29/18 15:51	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/29/18 15:51	1
2-Hexanone	ND		5.0	2.5	ug/L			10/29/18 15:51	1

Client Sample ID: Field Blank
Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			10/29/18 15:51	1
Acetonitrile	ND		20	10	ug/L			10/29/18 15:51	1
Acrolein	ND		5.0	2.5	ug/L			10/29/18 15:51	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/29/18 15:51	1
Benzene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Allyl chloride	ND		1.0	0.50	ug/L			10/29/18 15:51	1
Bromoform	ND		1.0	0.40	ug/L			10/29/18 15:51	1
Bromomethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/29/18 15:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Chloroethane	ND		1.0	0.40	ug/L			10/29/18 15:51	1
Chloroform	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Chloromethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Dibromomethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/29/18 15:51	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 15:51	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Iodomethane	ND		2.0	1.0	ug/L			10/29/18 15:51	1
Isobutyl alcohol	ND		25	13	ug/L			10/29/18 15:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/29/18 15:51	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/29/18 15:51	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 15:51	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/29/18 15:51	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Naphthalene	ND		1.0	0.40	ug/L			10/29/18 15:51	1
o-Xylene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Propionitrile	ND		20	10	ug/L			10/29/18 15:51	1
Styrene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
t-Butanol	ND	*	10	5.0	ug/L			10/29/18 15:51	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/29/18 15:51	1
Toluene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/29/18 15:51	1
Trichloroethene	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/29/18 15:51	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/29/18 15:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/29/18 15:51	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/29/18 15:51	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/29/18 15:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/29/18 15:51	1

Client Sample ID: Field Blank

Lab Sample ID: 440-222956-3

Date Collected: 10/24/18 00:01

Matrix: Water

Date Received: 10/24/18 18:50

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.9	T J	ug/L		7.36			10/29/18 15:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		10/26/18 11:28	1
4-Bromofluorobenzene (Surr)	114		80 - 120		10/26/18 11:28	1
Toluene-d8 (Surr)	115		80 - 128		10/29/18 15:51	1
4-Bromofluorobenzene (Surr)	115		80 - 120		10/29/18 15:51	1
Dibromofluoromethane (Surr)	96		76 - 132		10/26/18 11:28	1
Dibromofluoromethane (Surr)	95		76 - 132		10/29/18 15:51	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-222956-4

Date Collected: 10/24/18 00:01

Matrix: Water

Date Received: 10/24/18 18:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/29/18 16:16	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Acrolein	ND		50	2.5	ug/L			10/26/18 11:52	1
Acrylonitrile	ND		50	1.0	ug/L			10/26/18 11:52	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/29/18 16:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/29/18 16:16	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/29/18 16:16	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/29/18 16:16	1
2-Hexanone	ND		5.0	2.5	ug/L			10/29/18 16:16	1
Acetone	ND		20	10	ug/L			10/29/18 16:16	1
Acetonitrile	ND		20	10	ug/L			10/29/18 16:16	1
Acrolein	ND		5.0	2.5	ug/L			10/29/18 16:16	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/29/18 16:16	1
Benzene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Allyl chloride	ND		1.0	0.50	ug/L			10/29/18 16:16	1
Bromoform	ND		1.0	0.40	ug/L			10/29/18 16:16	1
Bromomethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/29/18 16:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Chloroethane	ND		1.0	0.40	ug/L			10/29/18 16:16	1

Client Sample ID: Trip Blank

Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Chloromethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Dibromomethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/29/18 16:16	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 16:16	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Iodomethane	ND		2.0	1.0	ug/L			10/29/18 16:16	1
Isobutyl alcohol	ND		25	13	ug/L			10/29/18 16:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/29/18 16:16	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/29/18 16:16	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 16:16	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/29/18 16:16	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Naphthalene	ND		1.0	0.40	ug/L			10/29/18 16:16	1
o-Xylene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Propionitrile	ND		20	10	ug/L			10/29/18 16:16	1
Styrene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
t-Butanol	ND	*	10	5.0	ug/L			10/29/18 16:16	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/29/18 16:16	1
Toluene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/29/18 16:16	1
Trichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/29/18 16:16	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/29/18 16:16	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/29/18 16:16	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/29/18 16:16	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/29/18 16:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/29/18 16:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*8.8*	*T J*	*ug/L*		*7.36*			*10/29/18 16:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/26/18 11:52*	*1*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*10/26/18 11:52*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/29/18 16:16*	*1*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*10/29/18 16:16*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*10/26/18 11:52*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*10/29/18 16:16*	*1*

Client Sample ID: Equip. Blank
Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/29/18 16:41	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Acrolein	ND		50	2.5	ug/L			10/26/18 12:17	1
Acrylonitrile	ND		50	1.0	ug/L			10/26/18 12:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/29/18 16:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/29/18 16:41	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/29/18 16:41	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/29/18 16:41	1
2-Hexanone	ND		5.0	2.5	ug/L			10/29/18 16:41	1
Acetone	ND		20	10	ug/L			10/29/18 16:41	1
Acetonitrile	ND		20	10	ug/L			10/29/18 16:41	1
Acrolein	ND		5.0	2.5	ug/L			10/29/18 16:41	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/29/18 16:41	1
Benzene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Allyl chloride	ND		1.0	0.50	ug/L			10/29/18 16:41	1
Bromoform	ND		1.0	0.40	ug/L			10/29/18 16:41	1
Bromomethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/29/18 16:41	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Chloroethane	ND		1.0	0.40	ug/L			10/29/18 16:41	1
Chloroform	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Chloromethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Dibromomethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/29/18 16:41	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 16:41	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Iodomethane	ND		2.0	1.0	ug/L			10/29/18 16:41	1
Isobutyl alcohol	ND		25	13	ug/L			10/29/18 16:41	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/29/18 16:41	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/29/18 16:41	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 16:41	1

Client Sample ID: Equip. Blank
Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			10/29/18 16:41	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Naphthalene	ND		1.0	0.40	ug/L			10/29/18 16:41	1
o-Xylene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Propionitrile	ND		20	10	ug/L			10/29/18 16:41	1
Styrene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
t-Butanol	ND	*	10	5.0	ug/L			10/29/18 16:41	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/29/18 16:41	1
Toluene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/29/18 16:41	1
Trichloroethene	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/29/18 16:41	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/29/18 16:41	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/29/18 16:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/29/18 16:41	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/29/18 16:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/29/18 16:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*8.9*	*T J*	*ug/L*		*7.36*			*10/29/18 16:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/26/18 12:17*	*1*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*10/26/18 12:17*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/29/18 16:41*	*1*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*10/29/18 16:41*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*10/26/18 12:17*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*10/29/18 16:41*	*1*

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-222956-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL IRV
8081A	Organochlorine Pesticides (GC)	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV
8141A	Organophosphorous Pesticides (GC)	SW846	TAL PIT
8151A	Herbicides (GC)	SW846	TAL PIT
SM 4500 CN E	Cyanide, Total	SM	TAL IRV
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL IRV
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL PIT
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
8151A	Extraction (Herbicides)	SW846	TAL PIT
Distill/CN	Distillation, Cyanide	None	TAL IRV

Protocol References:

None = None

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

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

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Client Sample ID: Composite CA-L

Lab Sample ID: 440-222956-1

Date Collected: 10/24/18 11:25

Matrix: Water

Date Received: 10/24/18 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	10 mL	10 mL	508121	10/30/18 05:44	JB	TAL IRV
Total/NA	Analysis	8260B		20	10 mL	10 mL	507938	10/29/18 11:09	TCN	TAL IRV
Total/NA	Prep	3520C			10 mL	1.0 mL	507970	10/29/18 07:53	JAA	TAL IRV
Total/NA	Analysis	8270C		1			508308	10/30/18 17:12	P1P	TAL IRV
Total/NA	Prep	3520C	RA		10 mL	2.0 mL	507858	10/27/18 16:35	JS1	TAL IRV
Total/NA	Analysis	8270C	RA	1			509704	11/07/18 13:57	L1B	TAL IRV
Total/NA	Prep	3520C			10 mL	2.0 mL	507858	10/27/18 16:35	JS1	TAL IRV
Total/NA	Analysis	8270C		1			509169	11/05/18 02:06	HN	TAL IRV
Total/NA	Prep	3520C			10 mL	2.0 mL	508213	10/30/18 07:54	JAA	TAL IRV
Total/NA	Analysis	8270C LL		4	1 mL	1.0 mL	509227	11/05/18 13:46	L1B	TAL IRV
Total/NA	Prep	3510C			1030 mL	2 mL	507372	10/25/18 06:01	L1H	TAL IRV
Total/NA	Analysis	8081A		1			507660	10/26/18 15:17	D1D	TAL IRV
Total/NA	Prep	3510C			1030 mL	2 mL	507372	10/25/18 06:01	L1H	TAL IRV
Total/NA	Analysis	8082		1			507423	10/25/18 17:39	JM	TAL IRV
Total/NA	Prep	3510C			100 mL	5.0 mL	261175	10/26/18 12:35	CBY	TAL PIT
Total/NA	Analysis	8141A		1			261333	10/29/18 22:42	DFE	TAL PIT
Total/NA	Prep	8151A			1050 mL	10.0 mL	261180	10/26/18 14:15	CBY	TAL PIT
Total/NA	Analysis	8151A		20			261477	10/30/18 19:45	JBF	TAL PIT

Client Sample ID: LR-2R

Lab Sample ID: 440-222956-2

Date Collected: 10/24/18 08:50

Matrix: Water

Date Received: 10/24/18 18:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	508178	10/30/18 14:27	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	508410	10/31/18 10:41	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	507938	10/29/18 11:39	TCN	TAL IRV
Total/NA	Prep	3520C			100 mL	1.0 mL	507970	10/29/18 07:53	JAA	TAL IRV
Total/NA	Analysis	8270C		1			508308	10/30/18 17:35	P1P	TAL IRV
Total/NA	Prep	3520C	RA		100 mL	2.0 mL	507858	10/27/18 16:35	JS1	TAL IRV
Total/NA	Analysis	8270C	RA	1			509704	11/07/18 14:21	L1B	TAL IRV
Total/NA	Prep	3520C			100 mL	2.0 mL	507858	10/27/18 16:35	JS1	TAL IRV
Total/NA	Analysis	8270C		1			509169	11/05/18 02:31	HN	TAL IRV
Total/NA	Prep	3520C			100 mL	2.0 mL	508213	10/30/18 07:54	JAA	TAL IRV
Total/NA	Analysis	8270C LL		1			508740	11/01/18 15:12	L1B	TAL IRV
Total/NA	Prep	3510C			1040 mL	2 mL	507372	10/25/18 06:01	L1H	TAL IRV
Total/NA	Analysis	8081A		1			507660	10/26/18 15:31	D1D	TAL IRV
Total/NA	Prep	3510C			1040 mL	2 mL	507372	10/25/18 06:01	L1H	TAL IRV
Total/NA	Analysis	8082		1			507423	10/25/18 17:53	JM	TAL IRV
Total/NA	Prep	3510C			1020 mL	5.0 mL	261175	10/26/18 12:35	CBY	TAL PIT
Total/NA	Analysis	8141A		1			261333	10/29/18 23:15	DFE	TAL PIT
Total/NA	Prep	8151A			1050 mL	10.0 mL	261180	10/26/18 14:15	CBY	TAL PIT
Total/NA	Analysis	8151A		20			261477	10/30/18 21:53	JBF	TAL PIT

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-222956-1

Client Sample ID: LR-2R
Date Collected: 10/24/18 08:50
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			50 mL	50 mL	508346	10/30/18 17:23	QTN	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			508613	10/31/18 18:46	KMY	TAL IRV

Client Sample ID: Field Blank
Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	507645	10/26/18 11:28	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	507936	10/29/18 15:51	JB	TAL IRV

Client Sample ID: Trip Blank
Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	507645	10/26/18 11:52	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	507936	10/29/18 16:16	JB	TAL IRV

Client Sample ID: Equip. Blank
Date Collected: 10/24/18 00:01
Date Received: 10/24/18 18:50

Lab Sample ID: 440-222956-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	507645	10/26/18 12:17	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	507936	10/29/18 16:41	JB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

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

Lab Sample ID: MB 440-507645/4
Matrix: Water
Analysis Batch: 507645

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			10/26/18 09:00	1
Acrylonitrile	ND		50	1.0	ug/L			10/26/18 09:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*115*		*80 - 128*		*10/26/18 09:00*	*1*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*10/26/18 09:00*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*10/26/18 09:00*	*1*

Lab Sample ID: LCS 440-507645/5
Matrix: Water
Analysis Batch: 507645

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	28.8	J	ug/L		115	10 - 145		
Acrylonitrile			250	221		ug/L		88	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*114*		*80 - 128*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*

Lab Sample ID: 440-222575-B-2 MS
Matrix: Water
Analysis Batch: 507645

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND		125	150	J	ug/L		120	10 - 147		
Acrylonitrile	ND		1250	1070		ug/L		86	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*114*		*80 - 128*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*

Lab Sample ID: 440-222575-B-2 MSD
Matrix: Water
Analysis Batch: 507645

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		125	147	J	ug/L		117	10 - 147	2	40
Acrylonitrile	ND		1250	1070		ug/L		86	38 - 144	0	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*80 - 128*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

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

Lab Sample ID: MB 440-507936/4
Matrix: Water
Analysis Batch: 507936

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/29/18 07:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/29/18 07:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/29/18 07:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/29/18 07:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/29/18 07:47	1
2-Hexanone	ND		5.0	2.5	ug/L			10/29/18 07:47	1
Acetone	ND		20	10	ug/L			10/29/18 07:47	1
Acetonitrile	ND		20	10	ug/L			10/29/18 07:47	1
Acrolein	ND		5.0	2.5	ug/L			10/29/18 07:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/29/18 07:47	1
Benzene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Allyl chloride	ND		1.0	0.50	ug/L			10/29/18 07:47	1
Bromoform	ND		1.0	0.40	ug/L			10/29/18 07:47	1
Bromomethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/29/18 07:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Chloroethane	ND		1.0	0.40	ug/L			10/29/18 07:47	1
Chloroform	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Chloromethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Dibromomethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/29/18 07:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 07:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Iodomethane	ND		2.0	1.0	ug/L			10/29/18 07:47	1
Isobutyl alcohol	ND		25	13	ug/L			10/29/18 07:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/29/18 07:47	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/29/18 07:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 07:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/29/18 07:47	1

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

Lab Sample ID: MB 440-507936/4
Matrix: Water
Analysis Batch: 507936

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Naphthalene	ND		1.0	0.40	ug/L			10/29/18 07:47	1
o-Xylene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Propionitrile	ND		20	10	ug/L			10/29/18 07:47	1
Styrene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
t-Butanol	ND		10	5.0	ug/L			10/29/18 07:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/29/18 07:47	1
Toluene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/29/18 07:47	1
Trichloroethene	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/29/18 07:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/29/18 07:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/29/18 07:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/29/18 07:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/29/18 07:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/29/18 07:47	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/29/18 07:47*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 128*		*10/29/18 07:47*	*1*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*10/29/18 07:47*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*10/29/18 07:47*	*1*

Lab Sample ID: LCS 440-507936/5
Matrix: Water
Analysis Batch: 507936

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	21.1		ug/L		85	63 - 130
1,1,1,2-Tetrachloroethane	25.0	22.5		ug/L		90	60 - 141
1,1,1-Trichloroethane	25.0	22.0		ug/L		88	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.9		ug/L		92	63 - 130
1,1,2-Trichloroethane	25.0	23.3		ug/L		93	70 - 130
1,1-Dichloroethane	25.0	23.2		ug/L		93	64 - 130
1,1-Dichloroethene	25.0	22.4		ug/L		90	70 - 130
1,1-Dichloropropene	25.0	23.1		ug/L		92	70 - 130
1,2,4-Trichlorobenzene	25.0	22.8		ug/L		91	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	19.8		ug/L		79	52 - 140
1,2-Dichlorobenzene	25.0	23.2		ug/L		93	70 - 130
1,2-Dichloroethane	25.0	21.4		ug/L		86	57 - 138
1,2-Dichloropropane	25.0	24.8		ug/L		99	67 - 130
1,3-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130

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

Lab Sample ID: LCS 440-507936/5
Matrix: Water
Analysis Batch: 507936

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	23.0		ug/L		92	70 - 130
1,4-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130
2,2-Dichloropropane	25.0	23.6		ug/L		95	68 - 141
2-Hexanone	25.0	19.8		ug/L		79	10 - 150
Acetone	25.0	22.8		ug/L		91	10 - 150
Acrolein	25.0	29.6		ug/L		119	10 - 145
Acrylonitrile	250	218		ug/L		87	48 - 140
Benzene	25.0	22.7		ug/L		91	68 - 130
Bromoform	25.0	20.0		ug/L		80	60 - 148
Bromomethane	25.0	21.0		ug/L		84	64 - 139
Carbon disulfide	25.0	23.3		ug/L		93	52 - 136
Carbon tetrachloride	25.0	20.8		ug/L		83	60 - 150
Chlorobenzene	25.0	23.1		ug/L		93	70 - 130
Bromochloromethane	25.0	21.4		ug/L		86	70 - 130
Chloroethane	25.0	23.2		ug/L		93	64 - 135
Chloroform	25.0	22.3		ug/L		89	70 - 130
Chloromethane	25.0	20.9		ug/L		84	47 - 140
cis-1,2-Dichloroethene	25.0	21.7		ug/L		87	70 - 133
cis-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 133
Dibromochloromethane	25.0	22.5		ug/L		90	69 - 145
Dibromomethane	25.0	20.8		ug/L		83	70 - 130
Bromodichloromethane	25.0	22.4		ug/L		90	70 - 132
Dichlorodifluoromethane	25.0	17.9		ug/L		71	29 - 150
Ethylbenzene	25.0	23.1		ug/L		92	70 - 130
m,p-Xylene	25.0	23.7		ug/L		95	70 - 130
Methylene Chloride	25.0	21.2		ug/L		85	52 - 130
Methyl tert-butyl ether	25.0	21.3		ug/L		85	63 - 131
Naphthalene	25.0	20.0		ug/L		80	60 - 140
o-Xylene	25.0	23.2		ug/L		93	70 - 130
Styrene	25.0	22.7		ug/L		91	70 - 134
t-Butanol	250	329	*	ug/L		132	70 - 130
Tetrachloroethene	25.0	22.5		ug/L		90	70 - 130
Toluene	25.0	23.5		ug/L		94	70 - 130
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	23.2		ug/L		93	70 - 132
Trichloroethene	25.0	22.1		ug/L		88	70 - 130
Trichlorofluoromethane	25.0	21.1		ug/L		84	60 - 150
Vinyl acetate	25.0	20.2		ug/L		81	48 - 140
Vinyl chloride	25.0	20.6		ug/L		82	59 - 133
1,2-Dibromoethane (EDB)	25.0	21.9		ug/L		88	70 - 130
2-Butanone (MEK)	25.0	20.2		ug/L		81	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	20.5		ug/L		82	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*80 - 128*
4-Bromofluorobenzene (Surr)	*114*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*

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

Lab Sample ID: 440-223136-A-9 MS
Matrix: Water
Analysis Batch: 507936

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	23.1		ug/L		92	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.5		ug/L		102	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.6		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	24.5		ug/L		98	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.4		ug/L		102	70 - 130
1,1-Dichloroethane	ND		25.0	26.4		ug/L		106	65 - 130
1,1-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130
1,1-Dichloropropene	ND		25.0	26.4		ug/L		106	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.3		ug/L		101	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	21.4		ug/L		86	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130
1,2-Dichloroethane	ND		25.0	22.9		ug/L		92	56 - 146
1,2-Dichloropropane	ND		25.0	27.6		ug/L		110	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.6		ug/L		106	70 - 130
1,3-Dichloropropane	ND		25.0	24.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	27.7		ug/L		111	69 - 138
2-Hexanone	ND		25.0	20.1		ug/L		80	10 - 150
Acetone	ND		25.0	23.2		ug/L		93	10 - 150
Acrolein	ND		25.0	30.5		ug/L		122	10 - 147
Acrylonitrile	ND		250	226		ug/L		90	38 - 144
Benzene	ND		25.0	25.3		ug/L		101	66 - 130
Bromoform	ND		25.0	21.0		ug/L		84	59 - 150
Bromomethane	ND		25.0	23.8		ug/L		95	62 - 131
Carbon disulfide	ND		25.0	26.3		ug/L		105	49 - 140
Carbon tetrachloride	ND		25.0	23.5		ug/L		94	60 - 150
Chlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
Bromochloromethane	ND		25.0	23.6		ug/L		94	70 - 130
Chloroethane	ND		25.0	26.0		ug/L		104	68 - 130
Chloroform	ND		25.0	24.9		ug/L		99	70 - 130
Chloromethane	ND		25.0	23.3		ug/L		93	39 - 144
cis-1,2-Dichloroethene	4.0		25.0	28.2		ug/L		97	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.3		ug/L		113	70 - 133
Dibromochloromethane	ND		25.0	23.9		ug/L		96	70 - 148
Dibromomethane	ND		25.0	21.9		ug/L		88	70 - 130
Bromodichloromethane	ND		25.0	24.3		ug/L		97	70 - 138
Dichlorodifluoromethane	ND		25.0	19.3		ug/L		77	25 - 142
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
m,p-Xylene	ND		25.0	26.4		ug/L		106	70 - 133
Methylene Chloride	ND		25.0	23.7		ug/L		95	52 - 130
Methyl tert-butyl ether	ND		25.0	22.5		ug/L		90	70 - 130
Naphthalene	ND		25.0	21.8		ug/L		87	60 - 140
o-Xylene	ND		25.0	26.4		ug/L		106	70 - 133
Styrene	ND		25.0	25.3		ug/L		101	29 - 150
t-Butanol	ND	F1 *	250	341	F1	ug/L		136	70 - 130
Tetrachloroethene	ND		25.0	25.6		ug/L		102	70 - 137
Toluene	ND		25.0	26.8		ug/L		107	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.6		ug/L		103	70 - 130

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

Lab Sample ID: 440-223136-A-9 MS
Matrix: Water
Analysis Batch: 507936

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 138
Trichloroethene	110		25.0	134	4	ug/L		82	70 - 130
Trichlorofluoromethane	ND		25.0	24.1		ug/L		96	60 - 150
Vinyl acetate	ND		25.0	21.1		ug/L		84	23 - 150
Vinyl chloride	ND		25.0	22.9		ug/L		92	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	23.1		ug/L		93	70 - 131
2-Butanone (MEK)	ND		25.0	20.5		ug/L		82	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	21.0		ug/L		84	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*111*		*80 - 128*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*

Lab Sample ID: 440-223136-A-9 MSD
Matrix: Water
Analysis Batch: 507936

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	22.4		ug/L		90	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.9		ug/L		99	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	24.3		ug/L		97	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	23.9		ug/L		96	63 - 130	2	30
1,1,2-Trichloroethane	ND		25.0	25.2		ug/L		101	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	25.6		ug/L		102	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	25.0		ug/L		100	70 - 130	3	20
1,1-Dichloropropene	ND		25.0	25.9		ug/L		104	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		25.0	24.2		ug/L		97	60 - 140	5	20
1,2-Dibromo-3-Chloropropane	ND		25.0	20.6		ug/L		82	48 - 140	4	30
1,2-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	23.0		ug/L		92	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	27.5		ug/L		110	69 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	24.9		ug/L		100	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	3	20
2,2-Dichloropropane	ND		25.0	25.0		ug/L		100	69 - 138	10	25
2-Hexanone	ND		25.0	20.8		ug/L		83	10 - 150	3	35
Acetone	ND		25.0	23.0		ug/L		92	10 - 150	1	35
Acrolein	ND		25.0	29.7		ug/L		119	10 - 147	2	40
Acrylonitrile	ND		250	224		ug/L		90	38 - 144	1	40
Benzene	ND		25.0	25.0		ug/L		100	66 - 130	1	20
Bromoform	ND		25.0	21.0		ug/L		84	59 - 150	0	25
Bromomethane	ND		25.0	23.3		ug/L		93	62 - 131	2	25
Carbon disulfide	ND		25.0	25.6		ug/L		102	49 - 140	3	20
Carbon tetrachloride	ND		25.0	23.4		ug/L		94	60 - 150	1	25
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Bromochloromethane	ND		25.0	23.3		ug/L		93	70 - 130	1	25
Chloroethane	ND		25.0	25.6		ug/L		103	68 - 130	2	25

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

Lab Sample ID: 440-223136-A-9 MSD
Matrix: Water
Analysis Batch: 507936

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		25.0	24.5		ug/L		98	70 - 130	2	20
Chloromethane	ND		25.0	22.8		ug/L		91	39 - 144	2	25
cis-1,2-Dichloroethene	4.0		25.0	28.0		ug/L		96	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	28.2		ug/L		113	70 - 133	0	20
Dibromochloromethane	ND		25.0	24.0		ug/L		96	70 - 148	1	25
Dibromomethane	ND		25.0	22.3		ug/L		89	70 - 130	1	25
Bromodichloromethane	ND		25.0	24.7		ug/L		99	70 - 138	2	20
Dichlorodifluoromethane	ND		25.0	18.1		ug/L		73	25 - 142	6	30
Ethylbenzene	ND		25.0	25.9		ug/L		103	70 - 130	2	20
m,p-Xylene	ND		25.0	26.5		ug/L		106	70 - 133	0	25
Methylene Chloride	ND		25.0	23.3		ug/L		93	52 - 130	2	20
Methyl tert-butyl ether	ND		25.0	22.1		ug/L		89	70 - 130	2	25
Naphthalene	ND		25.0	20.8		ug/L		83	60 - 140	5	30
o-Xylene	ND		25.0	26.0		ug/L		104	70 - 133	2	20
Styrene	ND		25.0	25.1		ug/L		100	29 - 150	1	35
t-Butanol	ND	F1 *	250	335	F1	ug/L		134	70 - 130	2	25
Tetrachloroethene	ND		25.0	24.9		ug/L		100	70 - 137	3	20
Toluene	ND		25.0	26.3		ug/L		105	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	25.1		ug/L		100	70 - 138	1	25
Trichloroethene	110		25.0	135	4	ug/L		86	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	22.8		ug/L		91	60 - 150	5	25
Vinyl acetate	ND		25.0	22.0		ug/L		88	23 - 150	4	30
Vinyl chloride	ND		25.0	22.0		ug/L		88	50 - 137	4	30
1,2-Dibromoethane (EDB)	ND		25.0	23.4		ug/L		94	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	21.2		ug/L		85	48 - 140	3	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	21.2		ug/L		85	52 - 150	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*80 - 128*
4-Bromofluorobenzene (Surr)	*114*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*

Lab Sample ID: MB 440-507938/4
Matrix: Water
Analysis Batch: 507938

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			10/29/18 08:20	1
Acrylonitrile	ND		50	1.0	ug/L			10/29/18 08:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*118*		*80 - 128*		*10/29/18 08:20*	*1*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*10/29/18 08:20*	*1*
Dibromofluoromethane (Surr)	*112*		*76 - 132*		*10/29/18 08:20*	*1*

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

Lab Sample ID: LCS 440-507938/5
Matrix: Water
Analysis Batch: 507938

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	25.0	28.1	J	ug/L		113	10 - 145
Acrylonitrile	250	290		ug/L		116	48 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*80 - 128*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*76 - 132*

Lab Sample ID: 440-223103-C-1 MS
Matrix: Water
Analysis Batch: 507938

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	29.8	J	ug/L		119	10 - 147
Acrylonitrile	ND		250	295		ug/L		118	38 - 144

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*80 - 128*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*113*		*76 - 132*

Lab Sample ID: 440-223103-C-1 MSD
Matrix: Water
Analysis Batch: 507938

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND		25.0	30.3	J	ug/L		121	10 - 147	1	40
Acrylonitrile	ND		250	289		ug/L		116	38 - 144	2	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*109*		*80 - 128*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*76 - 132*

Lab Sample ID: MB 440-508121/7
Matrix: Water
Analysis Batch: 508121

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/29/18 20:36	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 20:36	1

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

Lab Sample ID: MB 440-508121/7
Matrix: Water
Analysis Batch: 508121

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/29/18 20:36	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/29/18 20:36	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/29/18 20:36	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/29/18 20:36	1
2-Hexanone	ND		5.0	2.5	ug/L			10/29/18 20:36	1
Acetone	ND		20	10	ug/L			10/29/18 20:36	1
Acetonitrile	ND		20	10	ug/L			10/29/18 20:36	1
Acrolein	ND		5.0	2.5	ug/L			10/29/18 20:36	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/29/18 20:36	1
Benzene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Allyl chloride	ND		1.0	0.50	ug/L			10/29/18 20:36	1
Bromoform	ND		1.0	0.40	ug/L			10/29/18 20:36	1
Bromomethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/29/18 20:36	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Chloroethane	ND		1.0	0.40	ug/L			10/29/18 20:36	1
Chloroform	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Chloromethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Dibromomethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/29/18 20:36	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 20:36	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Iodomethane	ND		2.0	1.0	ug/L			10/29/18 20:36	1
Isobutyl alcohol	ND		25	13	ug/L			10/29/18 20:36	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/29/18 20:36	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/29/18 20:36	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/29/18 20:36	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/29/18 20:36	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Naphthalene	ND		1.0	0.40	ug/L			10/29/18 20:36	1
o-Xylene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Propionitrile	ND		20	10	ug/L			10/29/18 20:36	1
Styrene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
t-Butanol	ND		10	5.0	ug/L			10/29/18 20:36	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/29/18 20:36	1

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

Lab Sample ID: MB 440-508121/7
Matrix: Water
Analysis Batch: 508121

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/29/18 20:36	1
Trichloroethene	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/29/18 20:36	1
Vinyl acetate	ND		4.0	2.0	ug/L			10/29/18 20:36	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/29/18 20:36	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/29/18 20:36	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/29/18 20:36	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/29/18 20:36	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/29/18 20:36*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 128*		*10/29/18 20:36*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*10/29/18 20:36*	*1*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*10/29/18 20:36*	*1*

Lab Sample ID: LCS 440-508121/8
Matrix: Water
Analysis Batch: 508121

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	22.2		ug/L		89	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.5		ug/L		110	60 - 141
1,1,1-Trichloroethane	25.0	27.9		ug/L		112	70 - 130
1,1,2,2-Tetrachloroethane	25.0	21.7		ug/L		87	63 - 130
1,1,2-Trichloroethane	25.0	26.7		ug/L		107	70 - 130
1,1-Dichloroethane	25.0	27.6		ug/L		110	64 - 130
1,1-Dichloroethene	25.0	24.2		ug/L		97	70 - 130
1,1-Dichloropropene	25.0	26.3		ug/L		105	70 - 130
1,2,4-Trichlorobenzene	25.0	24.3		ug/L		97	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	19.8		ug/L		79	52 - 140
1,2-Dichlorobenzene	25.0	24.4		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	31.7		ug/L		127	57 - 138
1,2-Dichloropropane	25.0	28.6		ug/L		114	67 - 130
1,3-Dichlorobenzene	25.0	23.1		ug/L		92	70 - 130
1,3-Dichloropropane	25.0	25.5		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130
2,2-Dichloropropane	25.0	26.8		ug/L		107	68 - 141
2-Hexanone	25.0	23.6		ug/L		94	10 - 150
Acetone	25.0	21.1		ug/L		84	10 - 150
Acrolein	25.0	22.6		ug/L		90	10 - 145
Acrylonitrile	250	253		ug/L		101	48 - 140
Benzene	25.0	24.6		ug/L		98	68 - 130

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

Lab Sample ID: LCS 440-508121/8
Matrix: Water
Analysis Batch: 508121

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	25.0	25.1		ug/L		100	60 - 148
Bromomethane	25.0	23.7		ug/L		95	64 - 139
Carbon disulfide	25.0	23.3		ug/L		93	52 - 136
Carbon tetrachloride	25.0	28.8		ug/L		115	60 - 150
Chlorobenzene	25.0	24.4		ug/L		98	70 - 130
Bromochloromethane	25.0	27.5		ug/L		110	70 - 130
Chloroethane	25.0	23.2		ug/L		93	64 - 135
Chloroform	25.0	28.8		ug/L		115	70 - 130
Chloromethane	25.0	20.1		ug/L		80	47 - 140
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 133
cis-1,3-Dichloropropene	25.0	26.6		ug/L		106	70 - 133
Dibromochloromethane	25.0	28.9		ug/L		115	69 - 145
Dibromomethane	25.0	29.8		ug/L		119	70 - 130
Bromodichloromethane	25.0	31.3		ug/L		125	70 - 132
Dichlorodifluoromethane	25.0	19.3		ug/L		77	29 - 150
Ethylbenzene	25.0	22.8		ug/L		91	70 - 130
m,p-Xylene	25.0	24.2		ug/L		97	70 - 130
Methylene Chloride	25.0	25.0		ug/L		100	52 - 130
Methyl tert-butyl ether	25.0	25.6		ug/L		102	63 - 131
Naphthalene	25.0	22.0		ug/L		88	60 - 140
o-Xylene	25.0	24.0		ug/L		96	70 - 130
Styrene	25.0	24.8		ug/L		99	70 - 134
t-Butanol	250	279		ug/L		112	70 - 130
Tetrachloroethene	25.0	23.4		ug/L		94	70 - 130
Toluene	25.0	22.5		ug/L		90	70 - 130
trans-1,2-Dichloroethene	25.0	25.8		ug/L		103	70 - 130
trans-1,3-Dichloropropene	25.0	27.0		ug/L		108	70 - 132
Trichloroethene	25.0	27.7		ug/L		111	70 - 130
Trichlorofluoromethane	25.0	24.8		ug/L		99	60 - 150
Vinyl acetate	25.0	25.1		ug/L		100	48 - 140
Vinyl chloride	25.0	22.1		ug/L		89	59 - 133
1,2-Dibromoethane (EDB)	25.0	25.9		ug/L		104	70 - 130
2-Butanone (MEK)	25.0	24.5		ug/L		98	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	23.1		ug/L		92	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 128*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*76 - 132*

Lab Sample ID: 440-223133-A-1 MS
Matrix: Water
Analysis Batch: 508121

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	21.0		ug/L		84	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	29.0		ug/L		116	60 - 149
1,1,1-Trichloroethane	ND		25.0	28.6		ug/L		114	70 - 130

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

Lab Sample ID: 440-223133-A-1 MS
Matrix: Water
Analysis Batch: 508121

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	ND		25.0	21.7		ug/L		87	63 - 130
1,1,2-Trichloroethane	ND		25.0	28.3		ug/L		113	70 - 130
1,1-Dichloroethane	ND		25.0	27.9		ug/L		111	65 - 130
1,1-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130
1,1-Dichloropropene	ND		25.0	26.7		ug/L		107	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	20.0		ug/L		80	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,2-Dichloroethane	ND		25.0	31.4		ug/L		126	56 - 146
1,2-Dichloropropane	ND		25.0	28.7		ug/L		115	69 - 130
1,3-Dichlorobenzene	ND		25.0	23.9		ug/L		95	70 - 130
1,3-Dichloropropane	ND		25.0	26.6		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.3		ug/L		97	70 - 130
2,2-Dichloropropane	ND		25.0	27.8		ug/L		111	69 - 138
2-Hexanone	ND		25.0	22.0		ug/L		88	10 - 150
Acetone	ND		25.0	24.1		ug/L		97	10 - 150
Acrolein	ND		25.0	24.6		ug/L		98	10 - 147
Acrylonitrile	ND		250	251		ug/L		100	38 - 144
Benzene	ND		25.0	25.1		ug/L		100	66 - 130
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150
Bromomethane	ND		25.0	24.2		ug/L		97	62 - 131
Carbon disulfide	ND		25.0	24.2		ug/L		97	49 - 140
Carbon tetrachloride	ND		25.0	28.8		ug/L		115	60 - 150
Chlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130
Bromochloromethane	ND		25.0	27.7		ug/L		111	70 - 130
Chloroethane	ND		25.0	23.3		ug/L		93	68 - 130
Chloroform	2.2		25.0	31.1		ug/L		116	70 - 130
Chloromethane	ND		25.0	20.6		ug/L		83	39 - 144
cis-1,2-Dichloroethene	ND		25.0	26.3		ug/L		105	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.1		ug/L		113	70 - 133
Dibromochloromethane	ND		25.0	29.9		ug/L		120	70 - 148
Dibromomethane	ND		25.0	30.0		ug/L		120	70 - 130
Bromodichloromethane	ND		25.0	31.0		ug/L		124	70 - 138
Dichlorodifluoromethane	ND		25.0	18.8		ug/L		75	25 - 142
Ethylbenzene	ND		25.0	23.8		ug/L		95	70 - 130
m,p-Xylene	ND		25.0	25.3		ug/L		101	70 - 133
Methylene Chloride	ND		25.0	24.8		ug/L		99	52 - 130
Methyl tert-butyl ether	ND		25.0	26.2		ug/L		105	70 - 130
Naphthalene	ND		25.0	22.4		ug/L		90	60 - 140
o-Xylene	ND		25.0	24.7		ug/L		99	70 - 133
Styrene	ND		25.0	24.9		ug/L		100	29 - 150
t-Butanol	ND		250	295		ug/L		118	70 - 130
Tetrachloroethene	ND		25.0	24.7		ug/L		99	70 - 137
Toluene	ND		25.0	23.4		ug/L		94	70 - 130
trans-1,2-Dichloroethene	ND		25.0	26.6		ug/L		106	70 - 130
trans-1,3-Dichloropropene	ND		25.0	29.6		ug/L		118	70 - 138
Trichloroethene	1.1		25.0	29.1		ug/L		112	70 - 130
Trichlorofluoromethane	ND		25.0	24.0		ug/L		96	60 - 150

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

Lab Sample ID: 440-223133-A-1 MS
Matrix: Water
Analysis Batch: 508121

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl acetate	ND		25.0	27.0		ug/L		108	23 - 150
Vinyl chloride	ND		25.0	21.7		ug/L		87	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	26.3		ug/L		105	70 - 131
2-Butanone (MEK)	ND		25.0	25.6		ug/L		102	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	23.2		ug/L		93	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 128*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*76 - 132*

Lab Sample ID: 440-223133-A-1 MSD
Matrix: Water
Analysis Batch: 508121

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	23.8		ug/L		95	60 - 130	12	30
1,1,1,2-Tetrachloroethane	ND		25.0	28.0		ug/L		112	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	29.1		ug/L		116	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.3		ug/L		97	63 - 130	11	30
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	28.5		ug/L		114	65 - 130	2	20
1,1-Dichloroethene	ND		25.0	25.4		ug/L		101	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	27.0		ug/L		108	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		25.0	27.1		ug/L		108	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		25.0	22.2		ug/L		89	48 - 140	10	30
1,2-Dichlorobenzene	ND		25.0	26.0		ug/L		104	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	32.5		ug/L		130	56 - 146	3	20
1,2-Dichloropropane	ND		25.0	29.3		ug/L		117	69 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	24.3		ug/L		97	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	27.5		ug/L		110	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	27.5		ug/L		110	69 - 138	1	25
2-Hexanone	ND		25.0	24.4		ug/L		98	10 - 150	10	35
Acetone	ND		25.0	27.5		ug/L		110	10 - 150	13	35
Acrolein	ND		25.0	26.7		ug/L		107	10 - 147	8	40
Acrylonitrile	ND		250	280		ug/L		112	38 - 144	11	40
Benzene	ND		25.0	25.7		ug/L		103	66 - 130	2	20
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150	0	25
Bromomethane	ND		25.0	24.7		ug/L		99	62 - 131	2	25
Carbon disulfide	ND		25.0	23.6		ug/L		94	49 - 140	3	20
Carbon tetrachloride	ND		25.0	28.9		ug/L		116	60 - 150	1	25
Chlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130	1	20
Bromochloromethane	ND		25.0	29.4		ug/L		118	70 - 130	6	25
Chloroethane	ND		25.0	24.2		ug/L		97	68 - 130	4	25
Chloroform	2.2		25.0	31.7		ug/L		118	70 - 130	2	20
Chloromethane	ND		25.0	20.6		ug/L		82	39 - 144	0	25
cis-1,2-Dichloroethene	ND		25.0	28.0		ug/L		112	70 - 130	6	20

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

Lab Sample ID: 440-223133-A-1 MSD
Matrix: Water
Analysis Batch: 508121

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	ND		25.0	28.0		ug/L		112	70 - 133	0	20
Dibromochloromethane	ND		25.0	29.8		ug/L		119	70 - 148	0	25
Dibromomethane	ND		25.0	31.2		ug/L		125	70 - 130	4	25
Bromodichloromethane	ND		25.0	32.5		ug/L		130	70 - 138	5	20
Dichlorodifluoromethane	ND		25.0	19.1		ug/L		76	25 - 142	2	30
Ethylbenzene	ND		25.0	23.0		ug/L		92	70 - 130	3	20
m,p-Xylene	ND		25.0	25.1		ug/L		100	70 - 133	1	25
Methylene Chloride	ND		25.0	25.9		ug/L		104	52 - 130	5	20
Methyl tert-butyl ether	ND		25.0	28.8		ug/L		115	70 - 130	10	25
Naphthalene	ND		25.0	24.6		ug/L		98	60 - 140	9	30
o-Xylene	ND		25.0	24.8		ug/L		99	70 - 133	1	20
Styrene	ND		25.0	24.0		ug/L		96	29 - 150	4	35
t-Butanol	ND		250	279		ug/L		111	70 - 130	6	25
Tetrachloroethene	ND		25.0	24.1		ug/L		97	70 - 137	2	20
Toluene	ND		25.0	23.1		ug/L		93	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	26.7		ug/L		107	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	29.5		ug/L		118	70 - 138	0	25
Trichloroethene	1.1		25.0	29.5		ug/L		114	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	24.3		ug/L		97	60 - 150	1	25
Vinyl acetate	ND		25.0	29.9		ug/L		120	23 - 150	10	30
Vinyl chloride	ND		25.0	21.9		ug/L		88	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	26.6		ug/L		106	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	28.8		ug/L		115	48 - 140	12	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	25.5		ug/L		102	52 - 150	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*90*		*80 - 128*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*76 - 132*

Lab Sample ID: MB 440-508178/4
Matrix: Water
Analysis Batch: 508178

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			10/30/18 08:42	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			10/30/18 08:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			10/30/18 08:42	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			10/30/18 08:42	1

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

Lab Sample ID: MB 440-508178/4
Matrix: Water
Analysis Batch: 508178

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			10/30/18 08:42	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			10/30/18 08:42	1
2-Hexanone	ND		5.0	2.5	ug/L			10/30/18 08:42	1
Acetone	ND		20	10	ug/L			10/30/18 08:42	1
Acetonitrile	ND		20	10	ug/L			10/30/18 08:42	1
Acrolein	ND		5.0	2.5	ug/L			10/30/18 08:42	1
Acrylonitrile	ND		2.0	1.0	ug/L			10/30/18 08:42	1
Benzene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Allyl chloride	ND		1.0	0.50	ug/L			10/30/18 08:42	1
Bromoform	ND		1.0	0.40	ug/L			10/30/18 08:42	1
Bromomethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			10/30/18 08:42	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Chlorobenzene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Bromochloromethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Chloroethane	ND		1.0	0.40	ug/L			10/30/18 08:42	1
Chloroform	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Chloromethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Dibromochloromethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Dibromomethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Bromodichloromethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			10/30/18 08:42	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			10/30/18 08:42	1
Ethylbenzene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Iodomethane	ND		2.0	1.0	ug/L			10/30/18 08:42	1
Isobutyl alcohol	ND		25	13	ug/L			10/30/18 08:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			10/30/18 08:42	1
Methylacrylonitrile	ND		10	2.5	ug/L			10/30/18 08:42	1
Methyl methacrylate	ND		2.0	1.0	ug/L			10/30/18 08:42	1
Methylene Chloride	ND		2.0	0.88	ug/L			10/30/18 08:42	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Naphthalene	ND		1.0	0.40	ug/L			10/30/18 08:42	1
o-Xylene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Propionitrile	ND		20	10	ug/L			10/30/18 08:42	1
Styrene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
t-Butanol	ND		10	5.0	ug/L			10/30/18 08:42	1
Tetrachloroethene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Tetrahydrofuran	ND		10	5.0	ug/L			10/30/18 08:42	1
Toluene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Trichloroethene	ND		0.50	0.25	ug/L			10/30/18 08:42	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			10/30/18 08:42	1

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

Lab Sample ID: MB 440-508178/4
Matrix: Water
Analysis Batch: 508178

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		4.0	2.0	ug/L			10/30/18 08:42	1
Vinyl chloride	ND		0.50	0.25	ug/L			10/30/18 08:42	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			10/30/18 08:42	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			10/30/18 08:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			10/30/18 08:42	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,3,5-Trichlorobenzene	*0.567*	*J*	*ug/L*		*14.50*	*108-70-3*		*10/30/18 08:42*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*10/30/18 08:42*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 128*		*10/30/18 08:42*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*10/30/18 08:42*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*10/30/18 08:42*	*1*

Lab Sample ID: LCS 440-508178/5
Matrix: Water
Analysis Batch: 508178

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.6		ug/L		98	63 - 130
1,1,1,2-Tetrachloroethane	25.0	24.3		ug/L		97	60 - 141
1,1,1-Trichloroethane	25.0	23.2		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.2		ug/L		97	63 - 130
1,1,2-Trichloroethane	25.0	23.0		ug/L		92	70 - 130
1,1-Dichloroethane	25.0	22.0		ug/L		88	64 - 130
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130
1,1-Dichloropropene	25.0	23.8		ug/L		95	70 - 130
1,2,4-Trichlorobenzene	25.0	20.9		ug/L		84	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	20.3		ug/L		81	52 - 140
1,2-Dichlorobenzene	25.0	24.4		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	21.2		ug/L		85	57 - 138
1,2-Dichloropropane	25.0	23.0		ug/L		92	67 - 130
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	23.0		ug/L		92	70 - 130
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130
2,2-Dichloropropane	25.0	22.6		ug/L		90	68 - 141
2-Hexanone	25.0	17.8		ug/L		71	10 - 150
Acetone	25.0	17.2	J	ug/L		69	10 - 150
Acrolein	25.0	26.2		ug/L		105	10 - 145
Acrylonitrile	250	212		ug/L		85	48 - 140
Benzene	25.0	23.8		ug/L		95	68 - 130
Bromoform	25.0	24.2		ug/L		97	60 - 148
Bromomethane	25.0	21.6		ug/L		86	64 - 139
Carbon disulfide	25.0	22.2		ug/L		89	52 - 136
Carbon tetrachloride	25.0	23.9		ug/L		96	60 - 150
Chlorobenzene	25.0	23.6		ug/L		95	70 - 130

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

Lab Sample ID: LCS 440-508178/5
Matrix: Water
Analysis Batch: 508178

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromochloromethane	25.0	26.6		ug/L		106	70 - 130
Chloroethane	25.0	19.8		ug/L		79	64 - 135
Chloroform	25.0	23.7		ug/L		95	70 - 130
Chloromethane	25.0	14.8		ug/L		59	47 - 140
cis-1,2-Dichloroethene	25.0	25.1		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	22.6		ug/L		91	70 - 133
Dibromochloromethane	25.0	23.9		ug/L		95	69 - 145
Dibromomethane	25.0	24.5		ug/L		98	70 - 130
Bromodichloromethane	25.0	23.0		ug/L		92	70 - 132
Dichlorodifluoromethane	25.0	18.5		ug/L		74	29 - 150
Ethylbenzene	25.0	22.7		ug/L		91	70 - 130
m,p-Xylene	25.0	23.4		ug/L		93	70 - 130
Methylene Chloride	25.0	23.0		ug/L		92	52 - 130
Methyl tert-butyl ether	25.0	22.3		ug/L		89	63 - 131
Naphthalene	25.0	21.8		ug/L		87	60 - 140
o-Xylene	25.0	23.3		ug/L		93	70 - 130
Styrene	25.0	20.0		ug/L		80	70 - 134
t-Butanol	250	239		ug/L		96	70 - 130
Tetrachloroethene	25.0	25.8		ug/L		103	70 - 130
Toluene	25.0	23.4		ug/L		94	70 - 130
trans-1,2-Dichloroethene	25.0	24.9		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	21.5		ug/L		86	70 - 132
Trichloroethene	25.0	26.2		ug/L		105	70 - 130
Trichlorofluoromethane	25.0	22.4		ug/L		90	60 - 150
Vinyl acetate	25.0	17.8		ug/L		71	48 - 140
Vinyl chloride	25.0	19.5		ug/L		78	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.3		ug/L		97	70 - 130
2-Butanone (MEK)	25.0	21.3		ug/L		85	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	18.1		ug/L		72	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 128*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*

Lab Sample ID: 440-223126-B-9 MS
Matrix: Water
Analysis Batch: 508178

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	23.7		ug/L		95	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	23.8		ug/L		95	60 - 149
1,1,1-Trichloroethane	ND		25.0	23.8		ug/L		95	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	23.4		ug/L		94	63 - 130
1,1,2-Trichloroethane	ND		25.0	23.0		ug/L		92	70 - 130
1,1-Dichloroethane	ND		25.0	21.6		ug/L		86	65 - 130
1,1-Dichloroethene	ND		25.0	25.3		ug/L		101	70 - 130
1,1-Dichloropropene	ND		25.0	23.8		ug/L		95	64 - 130

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

Lab Sample ID: 440-223126-B-9 MS
Matrix: Water
Analysis Batch: 508178

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		25.0	22.6		ug/L		90	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	19.0		ug/L		76	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130
1,2-Dichloroethane	ND		25.0	20.2		ug/L		81	56 - 146
1,2-Dichloropropane	ND		25.0	22.2		ug/L		89	69 - 130
1,3-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
1,3-Dichloropropane	ND		25.0	22.8		ug/L		91	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	ND		25.0	24.1		ug/L		97	69 - 138
2-Hexanone	ND		25.0	18.2		ug/L		73	10 - 150
Acetone	63		25.0	76.9		ug/L		56	10 - 150
Acrolein	ND		25.0	26.6		ug/L		106	10 - 147
Acrylonitrile	ND		250	195		ug/L		78	38 - 144
Benzene	0.55		25.0	24.2		ug/L		94	66 - 130
Bromoform	ND		25.0	23.2		ug/L		93	59 - 150
Bromomethane	ND		25.0	21.3		ug/L		85	62 - 131
Carbon disulfide	0.88	J	25.0	23.5		ug/L		90	49 - 140
Carbon tetrachloride	ND		25.0	24.2		ug/L		97	60 - 150
Chlorobenzene	ND		25.0	24.1		ug/L		97	70 - 130
Bromochloromethane	ND		25.0	26.2		ug/L		105	70 - 130
Chloroethane	ND		25.0	19.9		ug/L		80	68 - 130
Chloroform	ND		25.0	23.4		ug/L		94	70 - 130
Chloromethane	ND		25.0	14.9		ug/L		59	39 - 144
cis-1,2-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130
cis-1,3-Dichloropropene	ND		25.0	23.0		ug/L		92	70 - 133
Dibromochloromethane	ND		25.0	23.0		ug/L		92	70 - 148
Dibromomethane	ND		25.0	23.6		ug/L		95	70 - 130
Bromodichloromethane	ND		25.0	22.6		ug/L		90	70 - 138
Dichlorodifluoromethane	ND		25.0	18.3		ug/L		73	25 - 142
Ethylbenzene	ND		25.0	22.9		ug/L		92	70 - 130
m,p-Xylene	ND		25.0	23.6		ug/L		95	70 - 133
Methylene Chloride	ND		25.0	22.9		ug/L		92	52 - 130
Methyl tert-butyl ether	ND		25.0	21.7		ug/L		87	70 - 130
Naphthalene	ND		25.0	22.2		ug/L		89	60 - 140
o-Xylene	ND		25.0	23.3		ug/L		93	70 - 133
Styrene	ND		25.0	20.8		ug/L		83	29 - 150
t-Butanol	ND		250	243		ug/L		97	70 - 130
Tetrachloroethene	ND		25.0	26.4		ug/L		106	70 - 137
Toluene	0.29	J	25.0	23.8		ug/L		94	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		25.0	21.5		ug/L		86	70 - 138
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 130
Trichlorofluoromethane	ND		25.0	22.5		ug/L		90	60 - 150
Vinyl acetate	ND		25.0	17.4		ug/L		70	23 - 150
Vinyl chloride	ND		25.0	19.9		ug/L		80	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	24.3		ug/L		97	70 - 131
2-Butanone (MEK)	13		25.0	36.1		ug/L		93	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	17.2		ug/L		69	52 - 150

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

Lab Sample ID: 440-223126-B-9 MS
Matrix: Water
Analysis Batch: 508178

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 128*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*

Lab Sample ID: 440-223126-B-9 MSD
Matrix: Water
Analysis Batch: 508178

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	24.0		ug/L		96	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.3		ug/L		97	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	22.7		ug/L		91	70 - 130	4	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.4		ug/L		98	63 - 130	4	30
1,1,2-Trichloroethane	ND		25.0	23.6		ug/L		94	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	20.9		ug/L		84	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	24.2		ug/L		97	70 - 130	4	20
1,1-Dichloropropene	ND		25.0	22.6		ug/L		90	64 - 130	5	20
1,2,4-Trichlorobenzene	ND		25.0	22.1		ug/L		88	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	19.8		ug/L		79	48 - 140	4	30
1,2-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130	0	20
1,2-Dichloroethane	ND		25.0	20.0		ug/L		80	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	22.2		ug/L		89	69 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	23.2		ug/L		93	70 - 130	2	25
1,4-Dichlorobenzene	ND		25.0	24.9		ug/L		100	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	22.8		ug/L		91	69 - 138	6	25
2-Hexanone	ND		25.0	16.9		ug/L		68	10 - 150	8	35
Acetone	63		25.0	75.6		ug/L		51	10 - 150	2	35
Acrolein	ND		25.0	26.5		ug/L		106	10 - 147	0	40
Acrylonitrile	ND		250	200		ug/L		80	38 - 144	2	40
Benzene	0.55		25.0	23.4		ug/L		91	66 - 130	3	20
Bromoform	ND		25.0	23.8		ug/L		95	59 - 150	3	25
Bromomethane	ND		25.0	21.0		ug/L		84	62 - 131	1	25
Carbon disulfide	0.88	J	25.0	22.4		ug/L		86	49 - 140	4	20
Carbon tetrachloride	ND		25.0	23.0		ug/L		92	60 - 150	5	25
Chlorobenzene	ND		25.0	24.1		ug/L		96	70 - 130	0	20
Bromochloromethane	ND		25.0	25.9		ug/L		104	70 - 130	1	25
Chloroethane	ND		25.0	19.3		ug/L		77	68 - 130	3	25
Chloroform	ND		25.0	22.9		ug/L		92	70 - 130	2	20
Chloromethane	ND		25.0	14.1		ug/L		56	39 - 144	5	25
cis-1,2-Dichloroethene	ND		25.0	24.5		ug/L		98	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	23.1		ug/L		92	70 - 133	1	20
Dibromochloromethane	ND		25.0	23.6		ug/L		94	70 - 148	2	25
Dibromomethane	ND		25.0	24.2		ug/L		97	70 - 130	2	25
Bromodichloromethane	ND		25.0	22.5		ug/L		90	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	16.5		ug/L		66	25 - 142	10	30
Ethylbenzene	ND		25.0	22.7		ug/L		91	70 - 130	1	20
m,p-Xylene	ND		25.0	23.5		ug/L		94	70 - 133	1	25

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

Lab Sample ID: 440-223126-B-9 MSD
Matrix: Water
Analysis Batch: 508178

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Chloride	ND		25.0	22.2		ug/L		89	52 - 130	3	20
Methyl tert-butyl ether	ND		25.0	21.8		ug/L		87	70 - 130	0	25
Naphthalene	ND		25.0	22.7		ug/L		91	60 - 140	2	30
o-Xylene	ND		25.0	23.2		ug/L		93	70 - 133	0	20
Styrene	ND		25.0	21.2		ug/L		85	29 - 150	2	35
t-Butanol	ND		250	242		ug/L		97	70 - 130	0	25
Tetrachloroethene	ND		25.0	25.3		ug/L		101	70 - 137	4	20
Toluene	0.29	J	25.0	23.6		ug/L		93	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	22.1		ug/L		88	70 - 138	3	25
Trichloroethene	ND		25.0	24.9		ug/L		100	70 - 130	4	20
Trichlorofluoromethane	ND		25.0	21.4		ug/L		85	60 - 150	5	25
Vinyl acetate	ND		25.0	17.5		ug/L		70	23 - 150	0	30
Vinyl chloride	ND		25.0	18.9		ug/L		76	50 - 137	5	30
1,2-Dibromoethane (EDB)	ND		25.0	24.4		ug/L		98	70 - 131	0	25
2-Butanone (MEK)	13		25.0	36.5		ug/L		94	48 - 140	1	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	18.0		ug/L		72	52 - 150	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 128*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*

Lab Sample ID: MB 440-508410/4
Matrix: Water
Analysis Batch: 508410

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			10/31/18 08:41	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/31/18 08:41*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*88*		*80 - 128*		*10/31/18 08:41*	*1*
4-Bromofluorobenzene (Surr)	*84*		*80 - 120*		*10/31/18 08:41*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*10/31/18 08:41*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-507858/1-A
Matrix: Water
Analysis Batch: 508070

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		9.7	2.4	ug/L		10/27/18 16:35	10/29/18 14:28	1
2,3,4,6-Tetrachlorophenol	ND		15	4.4	ug/L		10/27/18 16:35	10/29/18 14:28	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-507858/1-A
Matrix: Water
Analysis Batch: 508070

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dichlorophenol	ND		15	1.9	ug/L		10/27/18 16:35	10/29/18 14:28	1
Acetophenone	ND		15	1.9	ug/L		10/27/18 16:35	10/29/18 14:28	1
Diphenylamine	ND		9.7	2.9	ug/L		10/27/18 16:35	10/29/18 14:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*40 - 120*	*10/27/18 16:35*	*10/29/18 14:28*	*1*
2-Fluorobiphenyl	*81*		*50 - 120*	*10/27/18 16:35*	*10/29/18 14:28*	*1*
2-Fluorophenol (Surr)	*68*		*30 - 120*	*10/27/18 16:35*	*10/29/18 14:28*	*1*
Nitrobenzene-d5 (Surr)	*75*		*45 - 120*	*10/27/18 16:35*	*10/29/18 14:28*	*1*
Phenol-d6 (Surr)	*69*		*35 - 120*	*10/27/18 16:35*	*10/29/18 14:28*	*1*
Terphenyl-d14 (Surr)	*128*		*10 - 150*	*10/27/18 16:35*	*10/29/18 14:28*	*1*

Lab Sample ID: MB 440-507858/1-A
Matrix: Water
Analysis Batch: 509704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Naphthoquinone	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
1,4-phenylenediamine	ND		58	24	ug/L		10/27/18 16:35	11/07/18 13:33	1
1-Naphthylamine	ND		15	5.3	ug/L		10/27/18 16:35	11/07/18 13:33	1
2-Acetylaminofluorene	ND		9.7	2.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
2-Naphthylamine	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
3,3'-Dimethylbenzidine	ND		24	9.7	ug/L		10/27/18 16:35	11/07/18 13:33	1
3-Methylcholanthrene	ND		9.7	2.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
4-Aminobiphenyl	ND		15	4.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
5-Nitro-o-toluidine	ND		9.7	2.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
7,12-Dimethylbenz(a)anthracene	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
alpha,alpha-Dimethyl phenethylamine	ND		120	39	ug/L		10/27/18 16:35	11/07/18 13:33	1
Diallate	ND		15	5.8	ug/L		10/27/18 16:35	11/07/18 13:33	1
Dimethyl aminoazobenzene	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
Ethyl 4,4'-Dichlorobenzilate	ND		9.7	2.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
Ethyl methanesulfonate	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
Isodrin	ND		9.7	3.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
Isosafrole	ND		15	5.8	ug/L		10/27/18 16:35	11/07/18 13:33	1
Kepone	ND		97	34	ug/L		10/27/18 16:35	11/07/18 13:33	1
Methapyrilene	ND		19	4.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
Methyl methanesulfonate	ND		15	4.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
N-Nitrosodiethylamine	ND		9.7	2.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
N-Nitrosodi-n-butylamine	ND		9.7	4.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
N-Nitrosomethylethylamine	ND		9.7	2.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
N-Nitrosopiperidine	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
N-Nitrosopyrrolidine	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
o,o',o''-Triethylphosphorothioate	ND		15	4.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
o-Toluidine	ND		9.7	2.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
Pentachlorobenzene	ND		9.7	2.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
Pentachloronitrobenzene	ND		9.7	2.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
Phenacetin	ND		9.7	3.4	ug/L		10/27/18 16:35	11/07/18 13:33	1
Phorate	ND		9.7	4.9	ug/L		10/27/18 16:35	11/07/18 13:33	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-507858/1-A
Matrix: Water
Analysis Batch: 509704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pronamide	ND		15	4.9	ug/L		10/27/18 16:35	11/07/18 13:33	1
Safrole, Total	ND		9.7	3.9	ug/L		10/27/18 16:35	11/07/18 13:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*40 - 120*	*10/27/18 16:35*	*11/07/18 13:33*	*1*
2-Fluorobiphenyl	*66*		*50 - 120*	*10/27/18 16:35*	*11/07/18 13:33*	*1*
2-Fluorophenol (Surr)	*57*		*30 - 120*	*10/27/18 16:35*	*11/07/18 13:33*	*1*
Nitrobenzene-d5 (Surr)	*61*		*45 - 120*	*10/27/18 16:35*	*11/07/18 13:33*	*1*
Phenol-d6 (Surr)	*60*		*35 - 120*	*10/27/18 16:35*	*11/07/18 13:33*	*1*
Terphenyl-d14 (Surr)	*87*		*10 - 150*	*10/27/18 16:35*	*11/07/18 13:33*	*1*

Lab Sample ID: LCS 440-507858/2-A
Matrix: Water
Analysis Batch: 508070

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507858

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	97.6	49.4		ug/L		51	50 - 93
2,6-Dichlorophenol	97.6	60.3		ug/L		62	49 - 112
Diphenylamine	82.9	78.0		ug/L		94	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*102*		*40 - 120*
2-Fluorobiphenyl	*70*		*50 - 120*
2-Fluorophenol (Surr)	*45*		*30 - 120*
Nitrobenzene-d5 (Surr)	*53*		*45 - 120*
Phenol-d6 (Surr)	*45*		*35 - 120*
Terphenyl-d14 (Surr)	*93*		*10 - 150*

Lab Sample ID: LCSD 440-507858/3-A
Matrix: Water
Analysis Batch: 508070

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507858

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	98.5	70.5		ug/L		72	50 - 93	35	35
2,6-Dichlorophenol	98.5	92.6	*	ug/L		94	49 - 112	42	35
Diphenylamine	83.7	86.0		ug/L		103	60 - 140	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*113*		*40 - 120*
2-Fluorobiphenyl	*95*		*50 - 120*
2-Fluorophenol (Surr)	*52*		*30 - 120*
Nitrobenzene-d5 (Surr)	*71*		*45 - 120*
Phenol-d6 (Surr)	*76*		*35 - 120*
Terphenyl-d14 (Surr)	*91*		*10 - 150*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-507970/1-A
Matrix: Water
Analysis Batch: 508308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		10/29/18 07:53	10/30/18 14:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*51*		*30 - 120*	*10/29/18 07:53*	*10/30/18 14:36*	*1*

Lab Sample ID: LCS 440-507970/2-A
Matrix: Water
Analysis Batch: 508308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507970

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.24		ug/L		62	35 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*61*		*30 - 120*

Lab Sample ID: LCSD 440-507970/3-A
Matrix: Water
Analysis Batch: 508308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507970

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.02		ug/L		51	35 - 120	19	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*51*		*30 - 120*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 440-508213/1-A
Matrix: Water
Analysis Batch: 508740

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 508213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
1,2-Dichlorobenzene	ND		0.50	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
1,3-Dichlorobenzene	ND		0.50	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
1,4-Dichlorobenzene	ND		0.50	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,4,5-Trichlorophenol	ND		2.0	0.30	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,4,6-Trichlorophenol	ND		1.0	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,4-Dichlorophenol	ND		2.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,4-Dimethylphenol	ND		2.0	0.50	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,4-Dinitrophenol	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,4-Dinitrotoluene	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
2,6-Dinitrotoluene	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
2-Chloronaphthalene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
2-Chlorophenol	ND		1.0	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 440-508213/1-A
Matrix: Water
Analysis Batch: 508740

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 508213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		1.0	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
2-Methylphenol	ND		2.0	0.30	ug/L		10/30/18 07:54	11/01/18 12:01	1
2-Nitroaniline	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
2-Nitrophenol	ND		2.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
3,3'-Dichlorobenzidine	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
3-Methylphenol + 4-Methylphenol	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
3-Nitroaniline	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
4-Bromophenyl phenyl ether	ND		1.0	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
4-Chloro-3-methylphenol	ND		2.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
4-Chloroaniline	ND		2.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
4-Chlorophenyl phenyl ether	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
4-Nitroaniline	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
4-Nitrophenol	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Acenaphthene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Acenaphthylene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Aniline	ND		10	0.75	ug/L		10/30/18 07:54	11/01/18 12:01	1
Anthracene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzidine	ND		10	5.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzo[a]anthracene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzo[a]pyrene	ND		2.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzo[b]fluoranthene	ND		2.0	0.30	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzo[g,h,i]perylene	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzo[k]fluoranthene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzoic acid	ND		10	4.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Benzyl alcohol	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
bis (2-chloroisopropyl) ether	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Bis(2-chloroethoxy)methane	ND		0.50	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Bis(2-chloroethyl)ether	ND		0.50	0.050	ug/L		10/30/18 07:54	11/01/18 12:01	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Butyl benzyl phthalate	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Chrysene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Dibenz(a,h)anthracene	ND		0.50	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Dibenzofuran	ND		0.50	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Diethyl phthalate	ND		1.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Dimethyl phthalate	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Di-n-butyl phthalate	ND		2.0	0.50	ug/L		10/30/18 07:54	11/01/18 12:01	1
Di-n-octyl phthalate	ND		5.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Fluoranthene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Fluorene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Hexachlorobenzene	ND		1.0	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Hexachlorobutadiene	ND		2.0	0.50	ug/L		10/30/18 07:54	11/01/18 12:01	1
Hexachlorocyclopentadiene	ND		5.0	2.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Hexachloroethane	ND		3.0	0.50	ug/L		10/30/18 07:54	11/01/18 12:01	1
Indeno[1,2,3-cd]pyrene	ND		2.0	0.40	ug/L		10/30/18 07:54	11/01/18 12:01	1
Isophorone	ND		1.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Naphthalene	ND		1.0	0.050	ug/L		10/30/18 07:54	11/01/18 12:01	1
Nitrobenzene	ND		1.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 440-508213/1-A
Matrix: Water
Analysis Batch: 508740

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 508213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		2.0	0.30	ug/L		10/30/18 07:54	11/01/18 12:01	1
N-Nitrosodi-n-propylamine	ND		2.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
N-Nitrosodiphenylamine	ND		1.0	0.20	ug/L		10/30/18 07:54	11/01/18 12:01	1
Pentachlorophenol	ND		2.0	1.0	ug/L		10/30/18 07:54	11/01/18 12:01	1
Phenanthrene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Phenol	ND		1.0	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1
Pyrene	ND		0.50	0.10	ug/L		10/30/18 07:54	11/01/18 12:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*48*		*40 - 120*	*10/30/18 07:54*	*11/01/18 12:01*	*1*
2-Fluorobiphenyl	*52*		*50 - 120*	*10/30/18 07:54*	*11/01/18 12:01*	*1*
2-Fluorophenol (Surr)	*48*		*30 - 120*	*10/30/18 07:54*	*11/01/18 12:01*	*1*
Nitrobenzene-d5 (Surr)	*52*		*45 - 120*	*10/30/18 07:54*	*11/01/18 12:01*	*1*
Phenol-d6 (Surr)	*50*		*35 - 120*	*10/30/18 07:54*	*11/01/18 12:01*	*1*
Terphenyl-d14 (Surr)	*71*		*37 - 144*	*10/30/18 07:54*	*11/01/18 12:01*	*1*

Lab Sample ID: LCS 440-508213/2-A
Matrix: Water
Analysis Batch: 509227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 508213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	10.0	5.14		ug/L		51	44 - 88
1,2-Dichlorobenzene	10.0	5.15		ug/L		51	43 - 87
1,2-Diphenylhydrazine(as Azobenzene)	10.1	8.04		ug/L		80	50 - 115
1,3-Dichlorobenzene	10.0	4.83		ug/L		48	41 - 83
1,4-Dichlorobenzene	10.0	4.98		ug/L		50	41 - 84
2,4,5-Trichlorophenol	10.0	7.35		ug/L		74	49 - 112
2,4,6-Trichlorophenol	10.0	6.76		ug/L		68	50 - 108
2,4-Dichlorophenol	10.0	5.93		ug/L		59	44 - 109
2,4-Dimethylphenol	10.0	5.95		ug/L		59	38 - 110
2,4-Dinitrophenol	20.0	14.0		ug/L		70	42 - 109
2,4-Dinitrotoluene	10.0	8.49		ug/L		85	56 - 114
2,6-Dinitrotoluene	10.0	7.86		ug/L		79	57 - 112
2-Chloronaphthalene	10.0	6.20		ug/L		62	46 - 103
2-Chlorophenol	10.0	5.41		ug/L		54	42 - 101
2-Methylnaphthalene	10.0	5.98		ug/L		60	49 - 100
2-Methylphenol	10.0	6.11		ug/L		61	31 - 120
2-Nitroaniline	10.0	7.69		ug/L		77	51 - 114
2-Nitrophenol	10.0	5.36		ug/L		54	44 - 104
3,3'-Dichlorobenzidine	10.0	9.07		ug/L		91	10 - 106
3-Methylphenol + 4-Methylphenol	10.0	6.21		ug/L		62	40 - 117
3-Nitroaniline	10.0	10.1		ug/L		101	32 - 124
4,6-Dinitro-2-methylphenol	20.0	18.6		ug/L		93	50 - 112
4-Bromophenyl phenyl ether	10.0	8.22		ug/L		82	54 - 110
4-Chloro-3-methylphenol	10.0	7.42		ug/L		74	53 - 115
4-Chloroaniline	10.0	9.59		ug/L		96	18 - 127
4-Chlorophenyl phenyl ether	10.0	7.46		ug/L		75	54 - 111

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 440-508213/2-A
Matrix: Water
Analysis Batch: 509227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 508213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitroaniline	10.0	8.25		ug/L		82	39 - 123
4-Nitrophenol	20.0	17.6		ug/L		88	50 - 114
Acenaphthene	10.0	6.72		ug/L		67	55 - 105
Acenaphthylene	10.0	6.59		ug/L		66	52 - 111
Aniline	10.0	9.56	J	ug/L		96	30 - 115
Anthracene	10.0	8.73		ug/L		87	59 - 118
Benzidine	10.0	7.95	J *	ug/L		80	5 - 65
Benzo[a]anthracene	10.0	9.29		ug/L		93	59 - 116
Benzo[a]pyrene	10.0	9.61		ug/L		96	57 - 107
Benzo[b]fluoranthene	10.0	9.77		ug/L		98	60 - 112
Benzo[g,h,i]perylene	10.0	11.7		ug/L		117	26 - 150
Benzo[k]fluoranthene	10.0	9.84		ug/L		98	60 - 112
Benzoic acid	10.0	7.41	J	ug/L		74	21 - 142
Benzyl alcohol	10.0	6.18		ug/L		62	44 - 115
bis (2-chloroisopropyl) ether	10.0	5.60		ug/L		56	50 - 102
Bis(2-chloroethoxy)methane	10.0	6.27		ug/L		63	46 - 120
Bis(2-chloroethyl)ether	10.0	5.47		ug/L		55	50 - 101
Bis(2-ethylhexyl) phthalate	10.0	9.78		ug/L		98	52 - 121
Butyl benzyl phthalate	10.0	9.76		ug/L		98	57 - 123
Chrysene	10.0	9.21		ug/L		92	63 - 109
Dibenz(a,h)anthracene	10.0	10.6		ug/L		106	37 - 136
Dibenzofuran	10.0	6.96		ug/L		70	53 - 107
Diethyl phthalate	10.0	8.91		ug/L		89	58 - 118
Dimethyl phthalate	10.0	8.21		ug/L		82	55 - 115
Di-n-butyl phthalate	10.0	10.7		ug/L		107	59 - 129
Di-n-octyl phthalate	10.0	10.0		ug/L		100	47 - 127
Fluoranthene	10.0	10.2		ug/L		102	60 - 124
Fluorene	10.0	7.85		ug/L		78	54 - 113
Hexachlorobenzene	10.0	8.73		ug/L		87	53 - 105
Hexachlorobutadiene	10.0	4.35		ug/L		43	37 - 78
Hexachlorocyclopentadiene	10.0	3.56	J	ug/L		36	10 - 73
Hexachloroethane	10.0	4.47		ug/L		45	37 - 78
Indeno[1,2,3-cd]pyrene	10.0	11.5		ug/L		115	30 - 150
Isophorone	10.0	6.77		ug/L		68	47 - 131
Naphthalene	10.0	5.63		ug/L		56	32 - 117
Nitrobenzene	10.0	5.65		ug/L		56	51 - 104
N-Nitrosodimethylamine	10.0	6.26		ug/L		63	46 - 104
N-Nitrosodi-n-propylamine	10.0	6.63		ug/L		66	52 - 114
N-Nitrosodiphenylamine	10.0	8.44		ug/L		84	49 - 113
Pentachlorophenol	20.0	18.1		ug/L		90	54 - 116
Phenanthrene	10.0	8.74		ug/L		87	58 - 116
Phenol	10.0	5.61		ug/L		56	28 - 118
Pyrene	10.0	9.61		ug/L		96	62 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*88*		*40 - 120*
2-Fluorobiphenyl	*62*		*50 - 120*
2-Fluorophenol (Surr)	*47*		*30 - 120*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 440-508213/2-A
Matrix: Water
Analysis Batch: 509227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 508213

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*56*		*45 - 120*
Phenol-d6 (Surr)	*51*		*35 - 120*
Terphenyl-d14 (Surr)	*96*		*37 - 144*

Lab Sample ID: LCSD 440-508213/3-A
Matrix: Water
Analysis Batch: 508740

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 508213

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	10.0	4.70		ug/L		47	44 - 88	NaN	35
1,2-Dichlorobenzene	10.0	4.74		ug/L		47	43 - 87	NaN	35
1,2-Diphenylhydrazine(as Azobenzene)	10.1	6.91		ug/L		68	50 - 115	NaN	35
1,3-Dichlorobenzene	10.0	4.55		ug/L		45	41 - 83	NaN	35
1,4-Dichlorobenzene	10.0	4.64		ug/L		46	41 - 84	NaN	35
2,4,5-Trichlorophenol	10.0	6.16		ug/L		62	49 - 112	NaN	35
2,4,6-Trichlorophenol	10.0	5.74		ug/L		57	50 - 108	NaN	35
2,4-Dichlorophenol	10.0	5.39		ug/L		54	44 - 109	NaN	35
2,4-Dimethylphenol	10.0	5.24		ug/L		52	38 - 110	NaN	35
2,4-Dinitrophenol	20.0	12.5		ug/L		63	42 - 109	NaN	35
2,4-Dinitrotoluene	10.0	7.19		ug/L		72	56 - 114	NaN	35
2,6-Dinitrotoluene	10.0	6.94		ug/L		69	57 - 112	NaN	35
2-Chloronaphthalene	10.0	5.31		ug/L		53	46 - 103	NaN	35
2-Chlorophenol	10.0	5.25		ug/L		53	42 - 101	NaN	35
2-Methylnaphthalene	10.0	5.19		ug/L		52	49 - 100	NaN	35
2-Methylphenol	10.0	5.67		ug/L		57	31 - 120	NaN	35
2-Nitroaniline	10.0	6.75		ug/L		67	51 - 114	NaN	35
2-Nitrophenol	10.0	5.08		ug/L		51	44 - 104	NaN	35
3,3'-Dichlorobenzidine	10.0	7.48		ug/L		75	10 - 106	NaN	35
3-Methylphenol + 4-Methylphenol	10.0	5.48		ug/L		55	40 - 117	NaN	35
3-Nitroaniline	10.0	8.24		ug/L		82	32 - 124	NaN	35
4,6-Dinitro-2-methylphenol	20.0	16.1		ug/L		80	50 - 112	NaN	35
4-Bromophenyl phenyl ether	10.0	6.83		ug/L		68	54 - 110	NaN	35
4-Chloro-3-methylphenol	10.0	5.92		ug/L		59	53 - 115	NaN	35
4-Chloroaniline	10.0	7.80		ug/L		78	18 - 127	NaN	35
4-Chlorophenyl phenyl ether	10.0	6.37		ug/L		64	54 - 111	NaN	35
4-Nitroaniline	10.0	7.32		ug/L		73	39 - 123	NaN	35
4-Nitrophenol	20.0	14.2		ug/L		71	50 - 114	NaN	35
Acenaphthene	10.0	5.66		ug/L		57	55 - 105	NaN	35
Acenaphthylene	10.0	5.58		ug/L		56	52 - 111	NaN	35
Aniline	10.0	7.68	J	ug/L		77	30 - 115	NaN	35
Anthracene	10.0	7.24		ug/L		72	59 - 118	NaN	35
Benzidine	10.0	6.01	J	ug/L		60	5 - 65	NaN	35
Benzo[a]anthracene	10.0	7.59		ug/L		76	59 - 116	NaN	35
Benzo[a]pyrene	10.0	7.77		ug/L		78	57 - 107	NaN	35
Benzo[b]fluoranthene	10.0	7.63		ug/L		76	60 - 112	NaN	35
Benzo[g,h,i]perylene	10.0	9.18		ug/L		92	26 - 150	NaN	35
Benzo[k]fluoranthene	10.0	8.02		ug/L		80	60 - 112	NaN	35

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCSD 440-508213/3-A
Matrix: Water
Analysis Batch: 508740

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 508213

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzoic acid			10.0	5.39	J	ug/L		54	21 - 142	NaN	35
Benzyl alcohol			10.0	5.61		ug/L		56	44 - 115	NaN	35
bis (2-chloroisopropyl) ether			10.0	5.18		ug/L		52	50 - 102	NaN	35
Bis(2-chloroethoxy)methane			10.0	5.56		ug/L		56	46 - 120	NaN	35
Bis(2-chloroethyl)ether			10.0	5.43		ug/L		54	50 - 101	NaN	35
Bis(2-ethylhexyl) phthalate			10.0	8.42		ug/L		84	52 - 121	NaN	35
Butyl benzyl phthalate			10.0	8.25		ug/L		83	57 - 123	NaN	35
Chrysene			10.0	7.94		ug/L		79	63 - 109	NaN	35
Dibenz(a,h)anthracene			10.0	8.15		ug/L		81	37 - 136	NaN	35
Dibenzofuran			10.0	6.01		ug/L		60	53 - 107	NaN	35
Diethyl phthalate			10.0	7.59		ug/L		76	58 - 118	NaN	35
Dimethyl phthalate			10.0	7.02		ug/L		70	55 - 115	NaN	35
Di-n-butyl phthalate			10.0	8.71		ug/L		87	59 - 129	NaN	35
Di-n-octyl phthalate			10.0	8.43		ug/L		84	47 - 127	NaN	35
Fluoranthene			10.0	8.23		ug/L		82	60 - 124	NaN	35
Fluorene			10.0	6.73		ug/L		67	54 - 113	NaN	35
Hexachlorobenzene			10.0	7.06		ug/L		71	53 - 105	NaN	35
Hexachlorobutadiene			10.0	3.91		ug/L		39	37 - 78	NaN	35
Hexachlorocyclopentadiene			10.0	3.19	J	ug/L		32	10 - 73	NaN	35
Hexachloroethane			10.0	4.21		ug/L		42	37 - 78	NaN	35
Indeno[1,2,3-cd]pyrene			10.0	8.88		ug/L		89	30 - 150	NaN	35
Isophorone			10.0	5.64		ug/L		56	47 - 131	NaN	35
Naphthalene			10.0	5.05		ug/L		50	32 - 117	NaN	35
Nitrobenzene			10.0	5.26		ug/L		53	51 - 104	NaN	35
N-Nitrosodimethylamine			10.0	5.63		ug/L		56	46 - 104	NaN	35
N-Nitrosodi-n-propylamine			10.0	5.80		ug/L		58	52 - 114	NaN	35
N-Nitrosodiphenylamine			10.0	6.99		ug/L		70	49 - 113	NaN	35
Pentachlorophenol			20.0	15.1		ug/L		75	54 - 116	NaN	35
Phenanthrene			10.0	7.13		ug/L		71	58 - 116	NaN	35
Phenol			10.0	5.47		ug/L		55	28 - 118	NaN	35
Pyrene			10.0	8.03		ug/L		80	62 - 123	NaN	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*72*		*40 - 120*
2-Fluorobiphenyl	*54*		*50 - 120*
2-Fluorophenol (Surr)	*48*		*30 - 120*
Nitrobenzene-d5 (Surr)	*52*		*45 - 120*
Phenol-d6 (Surr)	*51*		*35 - 120*
Terphenyl-d14 (Surr)	*80*		*37 - 144*

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 440-507372/1-A
Matrix: Water
Analysis Batch: 507660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 440-507372/1-A
Matrix: Water
Analysis Batch: 507660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
4,4'-DDT	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Aldrin	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
alpha-BHC	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
beta-BHC	ND		0.10	0.030	ug/L		10/25/18 06:01	10/26/18 10:38	1
Chlordane (technical)	ND		1.0	0.20	ug/L		10/25/18 06:01	10/26/18 10:38	1
delta-BHC	ND		0.20	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Dieldrin	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Endosulfan I	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Endosulfan II	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Endosulfan sulfate	ND		0.20	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Endrin	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Endrin aldehyde	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Endrin ketone	ND		0.10	0.040	ug/L		10/25/18 06:01	10/26/18 10:38	1
gamma-BHC (Lindane)	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Heptachlor	ND		0.10	0.030	ug/L		10/25/18 06:01	10/26/18 10:38	1
Heptachlor epoxide	ND		0.10	0.030	ug/L		10/25/18 06:01	10/26/18 10:38	1
Methoxychlor	ND		0.10	0.020	ug/L		10/25/18 06:01	10/26/18 10:38	1
Toxaphene	ND		5.0	0.50	ug/L		10/25/18 06:01	10/26/18 10:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*36*		*10 - 123*	*10/25/18 06:01*	*10/26/18 10:38*	*1*
DCB Decachlorobiphenyl (Surr)	*58*		*28 - 108*	*10/25/18 06:01*	*10/26/18 10:38*	*1*

Lab Sample ID: LCS 440-507372/2-A
Matrix: Water
Analysis Batch: 507660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.200	0.138		ug/L		69	50 - 128
4,4'-DDE	0.200	0.116		ug/L		58	49 - 121
4,4'-DDT	0.200	0.138		ug/L		69	41 - 140
Aldrin	0.200	0.0962	J	ug/L		48	37 - 115
alpha-BHC	0.200	0.109		ug/L		54	44 - 115
beta-BHC	0.200	0.118		ug/L		59	46 - 121
delta-BHC	0.200	0.116	J	ug/L		58	32 - 129
Dieldrin	0.200	0.124		ug/L		62	39 - 126
Endosulfan I	0.200	0.121		ug/L		60	47 - 115
Endosulfan II	0.200	0.126		ug/L		63	47 - 120
Endosulfan sulfate	0.200	0.128	J	ug/L		64	48 - 126
Endrin	0.200	0.121		ug/L		60	43 - 127
Endrin aldehyde	0.200	0.122		ug/L		61	43 - 120
Endrin ketone	0.200	0.134		ug/L		67	47 - 123
gamma-BHC (Lindane)	0.200	0.116		ug/L		58	45 - 116
Heptachlor	0.200	0.117		ug/L		59	37 - 115
Heptachlor epoxide	0.200	0.120		ug/L		60	41 - 129
Methoxychlor	0.200	0.131		ug/L		65	44 - 141

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-507372/2-A
Matrix: Water
Analysis Batch: 507660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507372

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*44*		*10 - 123*
DCB Decachlorobiphenyl (Surr)	*58*		*28 - 108*

Lab Sample ID: LCSD 440-507372/3-A
Matrix: Water
Analysis Batch: 507660

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507372

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD			0.200	0.142		ug/L		71	50 - 128	3	26
4,4'-DDE			0.200	0.119		ug/L		59	49 - 121	3	22
4,4'-DDT			0.200	0.142		ug/L		71	41 - 140	3	20
Aldrin			0.200	0.0980	J	ug/L		49	37 - 115	2	24
alpha-BHC			0.200	0.111		ug/L		56	44 - 115	2	26
beta-BHC			0.200	0.120		ug/L		60	46 - 121	2	27
delta-BHC			0.200	0.117	J	ug/L		58	32 - 129	1	35
Dieldrin			0.200	0.127		ug/L		64	39 - 126	3	35
Endosulfan I			0.200	0.124		ug/L		62	47 - 115	3	27
Endosulfan II			0.200	0.129		ug/L		64	47 - 120	3	29
Endosulfan sulfate			0.200	0.133	J	ug/L		66	48 - 126	3	26
Endrin			0.200	0.123		ug/L		61	43 - 127	2	35
Endrin aldehyde			0.200	0.127		ug/L		63	43 - 120	4	35
Endrin ketone			0.200	0.137		ug/L		69	47 - 123	2	27
gamma-BHC (Lindane)			0.200	0.117		ug/L		59	45 - 116	2	28
Heptachlor			0.200	0.119		ug/L		60	37 - 115	2	35
Heptachlor epoxide			0.200	0.123		ug/L		62	41 - 129	2	35
Methoxychlor			0.200	0.137		ug/L		69	44 - 141	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*44*		*10 - 123*
DCB Decachlorobiphenyl (Surr)	*59*		*28 - 108*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 440-507372/1-A
Matrix: Water
Analysis Batch: 507423

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1
Aroclor 1221	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1
Aroclor 1232	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1
Aroclor 1242	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1
Aroclor 1248	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1
Aroclor 1254	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1
Aroclor 1260	ND		1.0	0.25	ug/L		10/25/18 06:01	10/25/18 15:07	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 440-507372/1-A
Matrix: Water
Analysis Batch: 507423

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507372

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	95		29 - 115	10/25/18 06:01	10/25/18 15:07	1

Lab Sample ID: LCS 440-507372/4-A
Matrix: Water
Analysis Batch: 507423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507372

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			4.00	3.29		ug/L		82	39 - 145		
Aroclor 1260			4.00	3.61		ug/L		90	37 - 137		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	101		29 - 115

Lab Sample ID: LCSD 440-507372/5-A
Matrix: Water
Analysis Batch: 507423

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507372

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			4.00	3.43		ug/L		86	39 - 145	4	30
Aroclor 1260			4.00	3.78		ug/L		95	37 - 137	5	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	103		29 - 115

Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 180-261175/1-A
Matrix: Water
Analysis Batch: 261333

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 261175

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.26	ug/L		10/26/18 12:00	10/29/18 20:29	1
Bolstar	ND		1.0	0.14	ug/L		10/26/18 12:00	10/29/18 20:29	1
Chlorpyrifos	ND		1.0	0.23	ug/L		10/26/18 12:00	10/29/18 20:29	1
Coumaphos	ND		1.0	0.13	ug/L		10/26/18 12:00	10/29/18 20:29	1
Demeton, Total	ND		2.0	0.16	ug/L		10/26/18 12:00	10/29/18 20:29	1
Diazinon	ND		1.0	0.18	ug/L		10/26/18 12:00	10/29/18 20:29	1
Dichlorvos	ND		1.0	0.11	ug/L		10/26/18 12:00	10/29/18 20:29	1
Dimethoate	ND		1.0	0.22	ug/L		10/26/18 12:00	10/29/18 20:29	1
Disulfoton	ND		1.0	0.24	ug/L		10/26/18 12:00	10/29/18 20:29	1
EPN	ND		1.0	0.26	ug/L		10/26/18 12:00	10/29/18 20:29	1
Famphur	ND		1.0	0.11	ug/L		10/26/18 12:00	10/29/18 20:29	1
Fensulfothion	ND		1.0	0.28	ug/L		10/26/18 12:00	10/29/18 20:29	1
Fenthion	ND		1.0	0.11	ug/L		10/26/18 12:00	10/29/18 20:29	1
Malathion	ND		1.0	0.21	ug/L		10/26/18 12:00	10/29/18 20:29	1
Methyl parathion	ND		1.0	0.17	ug/L		10/26/18 12:00	10/29/18 20:29	1
Mevinphos	ND		1.0	0.44	ug/L		10/26/18 12:00	10/29/18 20:29	1

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 180-261175/1-A
Matrix: Water
Analysis Batch: 261333

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 261175

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mocap	ND		1.0	0.16	ug/L		10/26/18 12:00	10/29/18 20:29	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.15	ug/L		10/26/18 12:00	10/29/18 20:29	1
Parathion	ND		1.0	0.19	ug/L		10/26/18 12:00	10/29/18 20:29	1
Phorate	ND		1.0	0.18	ug/L		10/26/18 12:00	10/29/18 20:29	1
Ronnel	ND		1.0	0.23	ug/L		10/26/18 12:00	10/29/18 20:29	1
Stirophos	ND		1.0	0.16	ug/L		10/26/18 12:00	10/29/18 20:29	1
Sulfotepp	ND		1.0	0.15	ug/L		10/26/18 12:00	10/29/18 20:29	1
Thionazin	ND		1.0	0.36	ug/L		10/26/18 12:00	10/29/18 20:29	1
Tokuthion	ND		1.0	0.22	ug/L		10/26/18 12:00	10/29/18 20:29	1
Trichloronate	ND		1.0	0.25	ug/L		10/26/18 12:00	10/29/18 20:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Triphenylphosphate	*86*		*79 - 116*	*10/26/18 12:00*	*10/29/18 20:29*	*1*
Tributyl phosphate	*51*	*X*	*55 - 106*	*10/26/18 12:00*	*10/29/18 20:29*	*1*

Lab Sample ID: LCS 180-261175/2-A
Matrix: Water
Analysis Batch: 261333

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 261175

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	8.97		ug/L		90	59 - 138
Bolstar	10.0	10.0		ug/L		100	86 - 126
Chlorpyrifos	10.0	11.1		ug/L		111	89 - 129
Coumaphos	10.0	10.2		ug/L		102	82 - 132
Demeton, Total	10.0	9.93		ug/L		99	66 - 150
Diazinon	10.0	9.80		ug/L		98	71 - 140
Dichlorvos	10.0	10.8		ug/L		108	61 - 150
Dimethoate	10.0	8.98		ug/L		90	68 - 139
Disulfoton	10.0	9.58	p	ug/L		96	60 - 150
EPN	10.0	9.26		ug/L		93	69 - 124
Famphur	10.0	9.58		ug/L		96	76 - 117
Fensulfothion	10.0	9.57		ug/L		96	77 - 136
Fenthion	10.0	10.1		ug/L		101	87 - 127
Malathion	10.0	10.3		ug/L		103	83 - 123
Methyl parathion	10.0	9.66		ug/L		97	82 - 124
Mevinphos	10.0	8.79		ug/L		88	72 - 131
Mocap	10.0	9.45		ug/L		94	75 - 131
O,O,O-Triethyl phosphorothioate	10.0	10.5		ug/L		105	77 - 117
Parathion	10.0	9.79		ug/L		98	81 - 121
Phorate	10.0	9.05		ug/L		90	77 - 117
Ronnel	10.0	10.3		ug/L		103	85 - 125
Stirophos	10.0	9.72		ug/L		97	77 - 128
Sulfotepp	10.0	9.73		ug/L		97	82 - 122
Tokuthion	10.0	9.91		ug/L		99	85 - 125
Trichloronate	10.0	10.8		ug/L		108	85 - 125

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-261175/2-A
Matrix: Water
Analysis Batch: 261333

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 261175

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Triphenylphosphate	*98*		*79 - 116*
Tributyl phosphate	*85*		*55 - 106*

Lab Sample ID: LCSD 180-261175/3-A
Matrix: Water
Analysis Batch: 261333

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 261175

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	10.0	9.07		ug/L		91	59 - 138	1	15
Bolstar	10.0	10.4		ug/L		104	86 - 126	3	15
Chlorpyrifos	10.0	11.4		ug/L		114	89 - 129	3	15
Coumaphos	10.0	10.6		ug/L		106	82 - 132	4	15
Demeton, Total	10.0	10.2		ug/L		102	66 - 150	3	19
Diazinon	10.0	10.2		ug/L		102	71 - 140	4	22
Dichlorvos	10.0	11.1		ug/L		111	61 - 150	3	17
Dimethoate	10.0	9.22		ug/L		92	68 - 139	3	29
Disulfoton	10.0	9.93	p	ug/L		99	60 - 150	4	35
EPN	10.0	9.39		ug/L		94	69 - 124	1	15
Famphur	10.0	9.85		ug/L		99	76 - 117	3	16
Fensulfothion	10.0	9.61		ug/L		96	77 - 136	0	31
Fenthion	10.0	10.4		ug/L		104	87 - 127	4	15
Malathion	10.0	10.7		ug/L		107	83 - 123	4	15
Methyl parathion	10.0	9.93		ug/L		99	82 - 124	3	15
Mevinphos	10.0	9.00		ug/L		90	72 - 131	2	26
Mocap	10.0	9.83		ug/L		98	75 - 131	4	15
O,O,O-Triethyl phosphorothioate	10.0	10.8		ug/L		108	77 - 117	3	15
Parathion	10.0	10.1		ug/L		101	81 - 121	3	15
Phorate	10.0	9.35		ug/L		94	77 - 117	3	15
Ronnel	10.0	10.7		ug/L		107	85 - 125	3	15
Stirophos	10.0	9.95		ug/L		100	77 - 128	2	15
Sulfotepp	10.0	10.1		ug/L		101	82 - 122	3	15
Tokuthion	10.0	10.3		ug/L		103	85 - 125	4	15
Trichloronate	10.0	11.2		ug/L		112	85 - 125	4	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Triphenylphosphate	*98*		*79 - 116*
Tributyl phosphate	*86*		*55 - 106*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 180-261180/1-A
Matrix: Water
Analysis Batch: 261477

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 261180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		1.0	0.21	ug/L		10/26/18 14:15	10/30/18 17:53	20
2,4-D	ND		4.0	0.74	ug/L		10/26/18 14:15	10/30/18 17:53	20

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: MB 180-261180/1-A
Matrix: Water
Analysis Batch: 261477

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 261180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-DB	ND		4.0	0.89	ug/L		10/26/18 14:15	10/30/18 17:53	20
Dalapon	ND		5.0	3.7	ug/L		10/26/18 14:15	10/30/18 17:53	20
Dicamba	ND		2.0	0.68	ug/L		10/26/18 14:15	10/30/18 17:53	20
Dichlorprop	ND		4.0	0.99	ug/L		10/26/18 14:15	10/30/18 17:53	20
Dinoseb	ND		0.90	0.57	ug/L		10/26/18 14:15	10/30/18 17:53	20
MCPA	ND		400	140	ug/L		10/26/18 14:15	10/30/18 17:53	20
MCPP	ND		400	290	ug/L		10/26/18 14:15	10/30/18 17:53	20
Pentachlorophenol	ND		0.50	0.23	ug/L		10/26/18 14:15	10/30/18 17:53	20
Silvex (2,4,5-TP)	ND		1.0	0.25	ug/L		10/26/18 14:15	10/30/18 17:53	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*40*		*20 - 105*	*10/26/18 14:15*	*10/30/18 17:53*	*20*

Lab Sample ID: LCS 180-261180/2-A
Matrix: Water
Analysis Batch: 261477

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 261180

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-T	5.00	3.24		ug/L		65	11 - 101
2,4-D	20.0	15.7		ug/L		78	10 - 100
2,4-DB	20.0	16.4		ug/L		82	13 - 109
Dalapon	20.0	13.7		ug/L		68	10 - 100
Dicamba	10.0	9.17		ug/L		92	10 - 119
Dichlorprop	20.0	14.2		ug/L		71	16 - 108
Dinoseb	20.0	29.9		ug/L		150	12 - 150
MCPA	2000	1210		ug/L		60	10 - 101
MCPP	2000	1480		ug/L		74	14 - 120
Pentachlorophenol	5.00	4.60		ug/L		92	31 - 125
Silvex (2,4,5-TP)	5.00	4.02		ug/L		80	23 - 109

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*75*		*20 - 105*

Lab Sample ID: LCSD 180-261180/3-A
Matrix: Water
Analysis Batch: 261477

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 261180

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-T	5.00	2.66		ug/L		53	11 - 101	20	35
2,4-D	20.0	16.9		ug/L		85	10 - 100	8	35
2,4-DB	20.0	15.3		ug/L		76	13 - 109	7	35
Dalapon	20.0	12.1		ug/L		60	10 - 100	13	35
Dicamba	10.0	9.57		ug/L		96	10 - 119	4	35
Dichlorprop	20.0	11.7		ug/L		58	16 - 108	19	35
Dinoseb	20.0	30.1		ug/L		150	12 - 150	1	35
MCPA	2000	1080		ug/L		54	10 - 101	11	35
MCPP	2000	1220		ug/L		61	14 - 120	20	35
Pentachlorophenol	5.00	4.77		ug/L		95	31 - 125	4	35

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCSD 180-261180/3-A
Matrix: Water
Analysis Batch: 261477

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 261180

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silvex (2,4,5-TP)			5.00	3.40		ug/L		68	23 - 109	17	33

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*64*		*20 - 105*

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 440-508346/1-A
Matrix: Water
Analysis Batch: 508613

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 508346

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.025	0.013	mg/L		10/30/18 17:23	10/31/18 18:45	1

Lab Sample ID: LCS 440-508346/2-A
Matrix: Water
Analysis Batch: 508613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 508346

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.200	0.199		mg/L		99	90 - 110		

Lab Sample ID: 440-222991-D-16-B MS
Matrix: Water
Analysis Batch: 508613

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 508346

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.200	0.200		mg/L		100	70 - 115		

Lab Sample ID: 440-222991-D-16-C MSD
Matrix: Water
Analysis Batch: 508613

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 508346

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.200	0.189		mg/L		95	70 - 115	6	15

GC/MS VOA

Analysis Batch: 507645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-3	Field Blank	Total/NA	Water	8260B	
440-222956-4	Trip Blank	Total/NA	Water	8260B	
440-222956-5	Equip. Blank	Total/NA	Water	8260B	
MB 440-507645/4	Method Blank	Total/NA	Water	8260B	
LCS 440-507645/5	Lab Control Sample	Total/NA	Water	8260B	
440-222575-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-222575-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 507936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-3	Field Blank	Total/NA	Water	8260B	
440-222956-4	Trip Blank	Total/NA	Water	8260B	
440-222956-5	Equip. Blank	Total/NA	Water	8260B	
MB 440-507936/4	Method Blank	Total/NA	Water	8260B	
LCS 440-507936/5	Lab Control Sample	Total/NA	Water	8260B	
440-223136-A-9 MS	Matrix Spike	Total/NA	Water	8260B	
440-223136-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 507938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8260B	
440-222956-2	LR-2R	Total/NA	Water	8260B	
MB 440-507938/4	Method Blank	Total/NA	Water	8260B	
LCS 440-507938/5	Lab Control Sample	Total/NA	Water	8260B	
440-223103-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-223103-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 508121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8260B	
MB 440-508121/7	Method Blank	Total/NA	Water	8260B	
LCS 440-508121/8	Lab Control Sample	Total/NA	Water	8260B	
440-223133-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-223133-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 508178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-2	LR-2R	Total/NA	Water	8260B	
MB 440-508178/4	Method Blank	Total/NA	Water	8260B	
LCS 440-508178/5	Lab Control Sample	Total/NA	Water	8260B	
440-223126-B-9 MS	Matrix Spike	Total/NA	Water	8260B	
440-223126-B-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 508410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-2 - RA	LR-2R	Total/NA	Water	8260B	
MB 440-508410/4	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 507858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1 - RA	Composite CA-L	Total/NA	Water	3520C	
440-222956-1	Composite CA-L	Total/NA	Water	3520C	
440-222956-2 - RA	LR-2R	Total/NA	Water	3520C	
440-222956-2	LR-2R	Total/NA	Water	3520C	
MB 440-507858/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-507858/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-507858/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 507970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	3520C	
440-222956-2	LR-2R	Total/NA	Water	3520C	
MB 440-507970/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-507970/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-507970/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 508070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-507858/1-A	Method Blank	Total/NA	Water	8270C	507858
LCS 440-507858/2-A	Lab Control Sample	Total/NA	Water	8270C	507858
LCSD 440-507858/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	507858

Prep Batch: 508213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	3520C	
440-222956-2	LR-2R	Total/NA	Water	3520C	
MB 440-508213/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-508213/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-508213/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 508308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8270C	507970
440-222956-2	LR-2R	Total/NA	Water	8270C	507970
MB 440-507970/1-A	Method Blank	Total/NA	Water	8270C	507970
LCS 440-507970/2-A	Lab Control Sample	Total/NA	Water	8270C	507970
LCSD 440-507970/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	507970

Analysis Batch: 508740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-2	LR-2R	Total/NA	Water	8270C LL	508213
MB 440-508213/1-A	Method Blank	Total/NA	Water	8270C LL	508213
LCSD 440-508213/3-A	Lab Control Sample Dup	Total/NA	Water	8270C LL	508213

Analysis Batch: 509169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8270C	507858
440-222956-2	LR-2R	Total/NA	Water	8270C	507858

GC/MS Semi VOA (Continued)

Analysis Batch: 509227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8270C LL	508213
LCS 440-508213/2-A	Lab Control Sample	Total/NA	Water	8270C LL	508213

Analysis Batch: 509704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1 - RA	Composite CA-L	Total/NA	Water	8270C	507858
440-222956-2 - RA	LR-2R	Total/NA	Water	8270C	507858
MB 440-507858/1-A	Method Blank	Total/NA	Water	8270C	507858

GC Semi VOA

Prep Batch: 261175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	3510C	
440-222956-2	LR-2R	Total/NA	Water	3510C	
MB 180-261175/1-A	Method Blank	Total/NA	Water	3510C	
LCS 180-261175/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 180-261175/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 261180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8151A	
440-222956-2	LR-2R	Total/NA	Water	8151A	
MB 180-261180/1-A	Method Blank	Total/NA	Water	8151A	
LCS 180-261180/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 180-261180/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	

Analysis Batch: 261333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8141A	261175
440-222956-2	LR-2R	Total/NA	Water	8141A	261175
MB 180-261175/1-A	Method Blank	Total/NA	Water	8141A	261175
LCS 180-261175/2-A	Lab Control Sample	Total/NA	Water	8141A	261175
LCSD 180-261175/3-A	Lab Control Sample Dup	Total/NA	Water	8141A	261175

Analysis Batch: 261477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8151A	261180
440-222956-2	LR-2R	Total/NA	Water	8151A	261180
MB 180-261180/1-A	Method Blank	Total/NA	Water	8151A	261180
LCS 180-261180/2-A	Lab Control Sample	Total/NA	Water	8151A	261180
LCSD 180-261180/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	261180

Prep Batch: 507372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	3510C	
440-222956-2	LR-2R	Total/NA	Water	3510C	
MB 440-507372/1-A	Method Blank	Total/NA	Water	3510C	
LCS 440-507372/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 440-507372/4-A	Lab Control Sample	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 507372 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 440-507372/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 440-507372/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 507423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8082	507372
440-222956-2	LR-2R	Total/NA	Water	8082	507372
MB 440-507372/1-A	Method Blank	Total/NA	Water	8082	507372
LCS 440-507372/4-A	Lab Control Sample	Total/NA	Water	8082	507372
LCSD 440-507372/5-A	Lab Control Sample Dup	Total/NA	Water	8082	507372

Analysis Batch: 507660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-1	Composite CA-L	Total/NA	Water	8081A	507372
440-222956-2	LR-2R	Total/NA	Water	8081A	507372
MB 440-507372/1-A	Method Blank	Total/NA	Water	8081A	507372
LCS 440-507372/2-A	Lab Control Sample	Total/NA	Water	8081A	507372
LCSD 440-507372/3-A	Lab Control Sample Dup	Total/NA	Water	8081A	507372

General Chemistry

Prep Batch: 508346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-2	LR-2R	Total/NA	Water	Distill/CN	
MB 440-508346/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-508346/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
440-222991-D-16-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-222991-D-16-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 508613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-222956-2	LR-2R	Total/NA	Water	SM 4500 CN E	508346
MB 440-508346/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	508346
LCS 440-508346/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	508346
440-222991-D-16-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	508346
440-222991-D-16-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	508346

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-222956-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-19
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19
Hawaii	State Program	9	N/A	01-29-19
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19
Oregon	NELAP	10	4028	01-29-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

Laboratory: TestAmerica Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-19
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-19
North Carolina (WW/SW)	State Program	4	434	12-31-18
Oregon	NELAP	10	PA-2151	01-28-19
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-19
Texas	NELAP	6	T104704528-15-2	03-31-19
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-19
Wisconsin	State Program	5	998027800	08-31-19

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

201044

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TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		
Company Name: GLA / Republic	Project Manager: Kyle Welchans	Site Contact: Josh Mills
Address: 11415 W. Bernardo Ct	Tel/Fax: 858-451-1136	Lab Contact: Ressing
City/State/Zip: S.D., CA 92127	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS	Date:
Phone: 858-451-1136	TAT if different from Below ____	Carrier:
Fax: 858-451-1087	☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day	COC No: 1 of 1 COCs
Project Name: Republic Services		Sampler: BS
Site: Sunshine Cyn.		For Lab Use Only: Walk-in Client: Lab Sampling:
P O #		Job / SDG No:

Filtered Sample (Y / N); Perform MS / MSD (Y / N); EPA 8260B [illegible]; Acrolein & Acrylonitrile; Nitrate [illegible]; EPA 8270C [illegible]; 1,4-Dioxane; EPA 8081A Organochlorine Pesticides; EPA 8082 PCBs; Organophosphorus Pesticides; Herbicides EPA 8151A; Chlorinated [illegible]; Cyanide (335.1)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Analyses	Sample Specific Notes
Composite CA-L	10/24/18	1125	G	WW	14	X X X X X X X X X X X X X X	
LR-2R	↓	0850	G	WW	16	X X X X X X X X X X X X X X X	
Field Blank	↓	—	↓	Lab H2O	4	X X X	
Trip Blank	↓	—	↓	↓	6	X X X	
Equip. Blank	↓	—	↓	↓	4	X X X	

440-222956 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp (°C) Obs'd: 2.6/2.0 Corr'd: 2.6/2.0 Therm ID No:

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	Geo-Logic	10-24-18 1313	[signature]	TA-IRV	10.24.18 1313
[signature]	TA-IRV	10.24.18 1850			
			Received in Laboratory by: [signature]	TA Irv	10/24/18 18:50

#1 2.6/2.6 #2 2.0/2.0 IR-89

10/24/18

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

stAmerica
ADEX IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Tomova, Rossina D	3396.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: rossina.tomova@testamer.	Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):	Job #: 440-222956-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 11/5/2018		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: Republic Sunshine Canyon	Project #: 44007851		
Site:	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)	8141A/3510C (MOD) 8141-Fenthion	8151A/8151A_AP (MOD) 8151A (Herbicides) -custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Composite CA-L (440-222956-1)	10/24/18	11:25 Pacific		Water			X	X	2	J flag
LR-2R (440-222956-2)	10/24/18	08:50 Pacific		Water			X	X	2	J flag

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 *Unconfirmed*	***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) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 10/25/18 0730	Company: TAW	Received by:	Date/Time: 10/26/18 0900	Company: TAW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-222956-1

Login Number: 222956
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-222956-1

Login Number: 222956
List Number: 2
Creator: Neri, Tom

List Source: TestAmerica Pittsburgh
List Creation: 10/26/18 12:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	2.6/2.8
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received 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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-227295-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
12/28/2018 12:41:44 PM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-227295-1	MW-6	Water	12/10/18 14:00	12/11/18 17:00
440-227295-2	MW-14	Water	12/10/18 12:55	12/11/18 17:00
440-227295-3	PZ-2	Water	12/10/18 10:55	12/11/18 17:00
440-227295-4	CM-9R3	Water	12/10/18 15:30	12/11/18 17:00
440-227295-5	CM-11R	Water	12/10/18 14:15	12/11/18 17:00
440-227295-6	Field Blank	Water	12/10/18 00:01	12/11/18 17:00
440-227295-7	Trip Blank	Water	12/10/18 00:01	12/11/18 17:00

Job ID: 440-227295-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-227295-1

Comments
No additional comments.

Receipt
The samples were received on 12/11/2018 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.5º C and 0.9º C.

GC/MS VOA
Method(s) 8260B: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-516445 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following samples were diluted for Bromide and/or Fluoride due to the nature of the sample matrix: MW-6 (440-227295-1), MW-14 (440-227295-2), PZ-2 (440-227295-3), CM-9R3 (440-227295-4) and CM-11R (440-227295-5). Elevated reporting limits (RLs) are provided.

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

Metals
Method(s) 6010B: The continuing calibration blank (CCB) for analytical batch 440-517461 contained Sodium above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method(s) 6010B: Due to the high concentration of Sodium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 440-517352 and analytical batch 440-517461 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

General Chemistry
Method(s) SM 4500 S2 D: The following samples were analyzed outside of analytical holding time due to login error; analysis was added to the job past the samples holding time. MW-6 (440-227295-1), MW-14 (440-227295-2), PZ-2 (440-227295-3), CM-9R3 (440-227295-4) and CM-11R (440-227295-5).

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

Organic Prep
Method(s) 3520C/8270-1,4 DXN : Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-516522.

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

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

Client Sample ID: MW-6
Date Collected: 12/10/18 14:00
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 09:02	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Acrolein	ND	F1	50	2.5	ug/L			12/12/18 08:27	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 08:27	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,2,4-Trichlorobenzene	**0.49**	**J**	1.0	0.40	ug/L			12/18/18 09:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 09:02	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 09:02	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 09:02	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 09:02	1
Acetone	ND		20	10	ug/L			12/18/18 09:02	1
Acetonitrile	ND		20	10	ug/L			12/18/18 09:02	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 09:02	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 09:02	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 09:02	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 09:02	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 09:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 09:02	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 09:02	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 09:02	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 09:02	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 09:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 09:02	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 09:02	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 09:02	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Client Sample ID: MW-6
Date Collected: 12/10/18 14:00
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 09:02	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Naphthalene	**1.1**		1.0	0.40	ug/L			12/18/18 09:02	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Propionitrile	ND		20	10	ug/L			12/18/18 09:02	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 09:02	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 09:02	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 09:02	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 09:02	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 09:02	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 09:02	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 09:02	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 09:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 09:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,2,3-Trichlorobenzene	*1.0*		*ug/L*		*15.42*	*87-61-6*		*12/18/18 09:02*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*12/18/18 09:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 128*		*12/12/18 08:27*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*12/12/18 08:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 128*		*12/18/18 09:02*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/18/18 09:02*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*12/12/18 08:27*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*12/18/18 09:02*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.24	ug/L		12/12/18 10:50	12/13/18 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*64*		*30 - 120*	*12/12/18 10:50*	*12/13/18 14:53*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.84**	**J**	1.0	0.50	mg/L			12/11/18 20:42	2
Nitrate as N	ND		0.22	0.11	mg/L			12/11/18 20:42	2
Chloride	**31**		1.0	0.50	mg/L			12/11/18 20:42	2
Fluoride	**1.8**		1.0	0.50	mg/L			12/11/18 20:42	2
Sulfate	**1700**		50	25	mg/L			12/11/18 22:05	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.66**		0.050	0.025	mg/L		12/16/18 07:13	12/16/18 19:38	1

Client Sample ID: MW-6

Lab Sample ID: 440-227295-1

Date Collected: 12/10/18 14:00

Matrix: Water

Date Received: 12/11/18 17:00

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	320		0.10	0.050	mg/L		12/16/18 07:13	12/16/18 19:38	1
Iron	0.82		0.10	0.050	mg/L		12/16/18 07:13	12/16/18 19:38	1
Magnesium	180		0.020	0.010	mg/L		12/16/18 07:13	12/16/18 19:38	1
Manganese	1.0		0.020	0.015	mg/L		12/16/18 07:13	12/16/18 19:38	1
Potassium	6.0		0.50	0.25	mg/L		12/16/18 07:13	12/16/18 19:38	1
Sodium	270		0.50	0.26	mg/L		12/16/18 07:13	12/16/18 19:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.72		0.20	0.10	mg/L			12/17/18 13:32	1
Chemical Oxygen Demand	ND		20	10	mg/L			12/20/18 10:11	1
Total Dissolved Solids	2900		20	10	mg/L			12/13/18 16:05	1
Total Sulfide	1.2	H	0.10	0.054	mg/L			12/27/18 15:57	2
Total Organic Carbon	4.4		0.10	0.050	mg/L			12/14/18 13:41	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		4.0	4.0	mg/L			12/12/18 05:33	1
Bicarbonate Alkalinity as CaCO3	430		4.0	4.0	mg/L			12/12/18 05:33	1
Carbon Dioxide, Free	40		2.0	2.0	mg/L			12/26/18 15:49	1

Client Sample ID: MW-14

Lab Sample ID: 440-227295-2

Date Collected: 12/10/18 12:55

Matrix: Water

Date Received: 12/11/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 12:38	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Acrolein	ND		50	2.5	ug/L			12/12/18 09:40	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 09:40	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 12:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 12:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 12:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 12:38	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 12:38	1
Acetone	ND		20	10	ug/L			12/18/18 12:38	1
Acetonitrile	ND		20	10	ug/L			12/18/18 12:38	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 12:38	1

Client Sample ID: MW-14
Date Collected: 12/10/18 12:55
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 12:38	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 12:38	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 12:38	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 12:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 12:38	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 12:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 12:38	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 12:38	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 12:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 12:38	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 12:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 12:38	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 12:38	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 12:38	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Propionitrile	ND		20	10	ug/L			12/18/18 12:38	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 12:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 12:38	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 12:38	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 12:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 12:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 12:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 12:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 12:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 12:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*8.7*	*T J*	*ug/L*		*7.21*			*12/18/18 12:38*	*1*

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Client Sample ID: MW-14

Date Collected: 12/10/18 12:55
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 128*		*12/12/18 09:40*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*12/12/18 09:40*	*1*
Toluene-d8 (Surr)	*100*		*80 - 128*		*12/18/18 12:38*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/18/18 12:38*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*12/12/18 09:40*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*12/18/18 12:38*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		12/12/18 10:50	12/13/18 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*58*		*30 - 120*	*12/12/18 10:50*	*12/13/18 15:16*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.64**	**J**	1.0	0.50	mg/L			12/11/18 20:59	2
Nitrate as N	ND		0.22	0.11	mg/L			12/11/18 20:59	2
Chloride	**27**		1.0	0.50	mg/L			12/11/18 20:59	2
Fluoride	**1.8**		1.0	0.50	mg/L			12/11/18 20:59	2
Sulfate	**1700**		50	25	mg/L			12/11/18 22:22	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.38**		0.050	0.025	mg/L		12/16/18 07:13	12/16/18 19:44	1
Calcium	**360**		0.10	0.050	mg/L		12/16/18 07:13	12/16/18 19:44	1
Iron	**0.11**		0.10	0.050	mg/L		12/16/18 07:13	12/16/18 19:44	1
Magnesium	**160**		0.020	0.010	mg/L		12/16/18 07:13	12/16/18 19:44	1
Manganese	**4.1**		0.020	0.015	mg/L		12/16/18 07:13	12/16/18 19:44	1
Potassium	**7.7**		0.50	0.25	mg/L		12/16/18 07:13	12/16/18 19:44	1
Sodium	**240**		0.50	0.26	mg/L		12/16/18 07:13	12/16/18 19:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**0.11**	**J**	0.20	0.10	mg/L			12/17/18 13:47	1
Chemical Oxygen Demand	ND		20	10	mg/L			12/20/18 10:11	1
Total Dissolved Solids	**3000**		20	10	mg/L			12/13/18 16:05	1
Total Sulfide	ND	H	0.050	0.027	mg/L			12/27/18 15:57	1
Total Organic Carbon	**3.9**		0.10	0.050	mg/L			12/14/18 13:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**340**		4.0	4.0	mg/L			12/12/18 05:42	1
Bicarbonate Alkalinity as CaCO3	**340**		4.0	4.0	mg/L			12/12/18 05:42	1
Carbon Dioxide, Free	**42**		2.0	2.0	mg/L			12/26/18 15:49	1

Client Sample ID: PZ-2

Date Collected: 12/10/18 10:55
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 13:02	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Client Sample ID: PZ-2
Date Collected: 12/10/18 10:55
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Acrolein	ND		50	2.5	ug/L			12/12/18 10:05	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 10:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 13:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 13:02	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 13:02	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 13:02	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 13:02	1
Acetone	ND		20	10	ug/L			12/18/18 13:02	1
Acetonitrile	ND		20	10	ug/L			12/18/18 13:02	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 13:02	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 13:02	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 13:02	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 13:02	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 13:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 13:02	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 13:02	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 13:02	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 13:02	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 13:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 13:02	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 13:02	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 13:02	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 13:02	1

Client Sample ID: PZ-2
Date Collected: 12/10/18 10:55
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 13:02	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Propionitrile	ND		20	10	ug/L			12/18/18 13:02	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 13:02	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 13:02	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 13:02	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 13:02	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 13:02	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 13:02	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 13:02	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 13:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 13:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.0*	*T J*	*ug/L*		*7.21*			*12/18/18 13:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*12/12/18 10:05*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*12/12/18 10:05*	*1*
Toluene-d8 (Surr)	*98*		*80 - 128*		*12/18/18 13:02*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/18/18 13:02*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*12/12/18 10:05*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*12/18/18 13:02*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		12/12/18 10:50	12/13/18 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*57*		*30 - 120*	*12/12/18 10:50*	*12/13/18 15:38*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			12/11/18 21:15	10
Nitrate as N	ND		1.1	0.55	mg/L			12/11/18 21:15	10
Chloride	**12**		5.0	2.5	mg/L			12/11/18 21:15	10
Fluoride	ND		5.0	2.5	mg/L			12/11/18 21:15	10
Sulfate	**2400**		250	130	mg/L			12/11/18 22:38	500

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.4**		0.050	0.025	mg/L		12/16/18 07:10	12/16/18 17:12	1
Calcium	**17**		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 17:12	1
Iron	ND		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 17:12	1

Client Sample ID: PZ-2

Lab Sample ID: 440-227295-3

Date Collected: 12/10/18 10:55

Matrix: Water

Date Received: 12/11/18 17:00

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**14**		0.020	0.010	mg/L		12/16/18 07:10	12/16/18 17:12	1
Manganese	**0.031**		0.020	0.015	mg/L		12/16/18 07:10	12/16/18 17:12	1
Potassium	**3.9**		0.50	0.25	mg/L		12/16/18 07:10	12/16/18 17:12	1
Sodium	**1300**		2.5	1.3	mg/L		12/16/18 07:10	12/17/18 12:40	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**3.1**		0.20	0.10	mg/L			12/17/18 13:53	1
Chemical Oxygen Demand	ND		20	10	mg/L			12/20/18 10:11	1
Total Dissolved Solids	**4200**		100	50	mg/L			12/13/18 16:05	1
Total Sulfide	ND	H	0.050	0.027	mg/L			12/27/18 15:57	1
Total Organic Carbon	**2.1**		0.10	0.050	mg/L			12/14/18 14:07	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**350**		4.0	4.0	mg/L			12/12/18 05:52	1
Bicarbonate Alkalinity as CaCO3	**340**		4.0	4.0	mg/L			12/12/18 05:52	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/26/18 15:49	1

Client Sample ID: CM-9R3

Lab Sample ID: 440-227295-4

Date Collected: 12/10/18 15:30

Matrix: Water

Date Received: 12/11/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 13:26	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Acrolein	ND		50	2.5	ug/L			12/12/18 10:29	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 10:29	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 13:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 13:26	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 13:26	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 13:26	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 13:26	1
Acetone	ND		20	10	ug/L			12/18/18 13:26	1
Acetonitrile	ND		20	10	ug/L			12/18/18 13:26	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 13:26	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 13:26	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 13:26	1

Client Sample ID: CM-9R3
Date Collected: 12/10/18 15:30
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 13:26	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 13:26	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 13:26	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 13:26	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 13:26	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 13:26	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 13:26	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 13:26	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 13:26	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 13:26	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 13:26	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 13:26	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 13:26	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Propionitrile	ND		20	10	ug/L			12/18/18 13:26	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 13:26	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 13:26	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 13:26	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 13:26	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 13:26	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 13:26	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 13:26	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 13:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 13:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.4*	*T J*	*ug/L*		*7.21*			*12/18/18 13:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 128*		*12/12/18 10:29*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*12/12/18 10:29*	*1*

Client Sample ID: CM-9R3

Date Collected: 12/10/18 15:30
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-4
Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 128*		*12/18/18 13:26*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/18/18 13:26*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*12/12/18 10:29*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*12/18/18 13:26*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		12/12/18 10:50	12/13/18 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*60*		*30 - 120*	*12/12/18 10:50*	*12/13/18 16:01*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			12/11/18 21:32	10
Nitrate as N	**9.1**		1.1	0.55	mg/L			12/11/18 21:32	10
Chloride	**18**		5.0	2.5	mg/L			12/11/18 21:32	10
Fluoride	**8.3**		5.0	2.5	mg/L			12/11/18 21:32	10
Sulfate	**3200**		100	50	mg/L			12/11/18 23:35	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.1**		0.050	0.025	mg/L		12/16/18 07:10	12/16/18 17:50	1
Calcium	**430**		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 17:50	1
Iron	**9.7**		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 17:50	1
Magnesium	**340**		0.020	0.010	mg/L		12/16/18 07:10	12/16/18 17:50	1
Manganese	**6.2**		0.020	0.015	mg/L		12/16/18 07:10	12/16/18 17:50	1
Potassium	**14**		0.50	0.25	mg/L		12/16/18 07:10	12/16/18 17:50	1
Sodium	**400**		0.50	0.26	mg/L		12/16/18 07:10	12/16/18 17:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**0.60**		0.20	0.10	mg/L			12/17/18 13:58	1
Chemical Oxygen Demand	**12**	**J**	20	10	mg/L			12/20/18 10:11	1
Total Dissolved Solids	**5100**		50	25	mg/L			12/13/18 16:05	1
Total Sulfide	ND	H	0.050	0.027	mg/L			12/27/18 15:58	1
Total Organic Carbon	**9.0**		0.10	0.050	mg/L			12/14/18 10:31	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**64**		4.0	4.0	mg/L			12/12/18 05:58	1
Bicarbonate Alkalinity as CaCO3	**64**		4.0	4.0	mg/L			12/12/18 05:58	1
Carbon Dioxide, Free	**120**		2.0	2.0	mg/L			12/26/18 15:49	1

Client Sample ID: CM-11R

Date Collected: 12/10/18 14:15
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 13:50	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1

Client Sample ID: CM-11R
Date Collected: 12/10/18 14:15
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			12/12/18 10:53	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 10:53	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 13:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 13:50	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 13:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 13:50	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 13:50	1
Acetone	ND		20	10	ug/L			12/18/18 13:50	1
Acetonitrile	ND		20	10	ug/L			12/18/18 13:50	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 13:50	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 13:50	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 13:50	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 13:50	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 13:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 13:50	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 13:50	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 13:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 13:50	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 13:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 13:50	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 13:50	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 13:50	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 13:50	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 13:50	1

Client Sample ID: CM-11R
Date Collected: 12/10/18 14:15
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 13:50	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Propionitrile	ND		20	10	ug/L			12/18/18 13:50	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 13:50	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 13:50	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 13:50	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 13:50	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 13:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 13:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 13:50	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 13:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 13:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.4*	*T J*	*ug/L*		*7.21*			*12/18/18 13:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 128*		*12/12/18 10:53*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*12/12/18 10:53*	*1*
Toluene-d8 (Surr)	*96*		*80 - 128*		*12/18/18 13:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/18/18 13:50*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*12/12/18 10:53*	*1*
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*12/18/18 13:50*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		12/12/18 10:50	12/13/18 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*35*		*30 - 120*	*12/12/18 10:50*	*12/13/18 16:24*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			12/11/18 21:48	10
Nitrate as N	ND		1.1	0.55	mg/L			12/11/18 21:48	10
Chloride	**12**		5.0	2.5	mg/L			12/11/18 21:48	10
Fluoride	**2.5**	**J**	5.0	2.5	mg/L			12/11/18 21:48	10
Sulfate	**2800**		100	50	mg/L			12/11/18 23:51	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.7**		0.050	0.025	mg/L		12/16/18 07:10	12/16/18 17:44	1
Calcium	**270**		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 17:44	1
Iron	**0.15**		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 17:44	1
Magnesium	**180**		0.020	0.010	mg/L		12/16/18 07:10	12/16/18 17:44	1

Client Sample ID: CM-11R

Lab Sample ID: 440-227295-5

Date Collected: 12/10/18 14:15

Matrix: Water

Date Received: 12/11/18 17:00

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**4.9**		0.020	0.015	mg/L		12/16/18 07:10	12/16/18 17:44	1
Potassium	**12**		0.50	0.25	mg/L		12/16/18 07:10	12/16/18 17:44	1
Sodium	**700**		2.5	1.3	mg/L		12/16/18 07:10	12/17/18 12:43	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	**2.5**		0.20	0.10	mg/L			12/17/18 14:03	1
Chemical Oxygen Demand	ND		20	10	mg/L			12/20/18 10:11	1
Total Dissolved Solids	**4300**		50	25	mg/L			12/13/18 16:05	1
Total Sulfide	ND	H	0.050	0.027	mg/L			12/27/18 15:58	1
Total Organic Carbon	**4.5**		0.10	0.050	mg/L			12/20/18 11:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**41**		4.0	4.0	mg/L			12/12/18 06:04	1
Bicarbonate Alkalinity as CaCO3	**41**		4.0	4.0	mg/L			12/12/18 06:04	1
Carbon Dioxide, Free	**35**		2.0	2.0	mg/L			12/26/18 15:49	1

Client Sample ID: Field Blank

Lab Sample ID: 440-227295-6

Date Collected: 12/10/18 00:01

Matrix: Water

Date Received: 12/11/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 21:38	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Acrolein	ND		50	2.5	ug/L			12/12/18 11:17	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 11:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 21:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 21:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 21:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 21:38	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 21:38	1
Acetone	ND		20	10	ug/L			12/18/18 21:38	1
Acetonitrile	ND		20	10	ug/L			12/18/18 21:38	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 21:38	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 21:38	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 21:38	1

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Client Sample ID: Field Blank
Date Collected: 12/10/18 00:01
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0	0.40	ug/L			12/18/18 21:38	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 21:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 21:38	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 21:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 21:38	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 21:38	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 21:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 21:38	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 21:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 21:38	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 21:38	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Propionitrile	ND		20	10	ug/L			12/18/18 21:38	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 21:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 21:38	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 21:38	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 21:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 21:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 21:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 21:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 21:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 21:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.4*	*T J*	*ug/L*		*7.21*			*12/18/18 21:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 128*		*12/12/18 11:17*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*12/12/18 11:17*	*1*
Toluene-d8 (Surr)	*95*		*80 - 128*		*12/18/18 21:38*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*12/18/18 21:38*	*1*

Client Sample ID: Field Blank

Lab Sample ID: 440-227295-6

Date Collected: 12/10/18 00:01

Matrix: Water

Date Received: 12/11/18 17:00

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*12/12/18 11:17*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*12/18/18 21:38*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	230		10	4.4	ug/L			12/18/18 14:14	5

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	*47*	*T J*	*ug/L*		*7.21*			*12/18/18 14:14*	*5*

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*97*		*80 - 128*		*12/18/18 14:14*	*5*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*12/18/18 14:14*	*5*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*12/18/18 14:14*	*5*

Client Sample ID: Trip Blank

Lab Sample ID: 440-227295-7

Date Collected: 12/10/18 00:01

Matrix: Water

Date Received: 12/11/18 17:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 14:38	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Acrolein	ND		50	2.5	ug/L			12/12/18 11:42	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 11:42	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 14:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 14:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 14:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 14:38	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 14:38	1
Acetone	ND		20	10	ug/L			12/18/18 14:38	1
Acetonitrile	ND		20	10	ug/L			12/18/18 14:38	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 14:38	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 14:38	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 14:38	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 14:38	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1

Client Sample ID: Trip Blank
Date Collected: 12/10/18 00:01
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 14:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 14:38	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 14:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 14:38	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 14:38	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 14:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 14:38	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 14:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 14:38	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 14:38	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 14:38	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Propionitrile	ND		20	10	ug/L			12/18/18 14:38	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 14:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 14:38	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 14:38	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 14:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 14:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 14:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 14:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 14:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 14:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.4*	*T J*	*ug/L*		*7.21*			*12/18/18 14:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 128*		*12/12/18 11:42*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*12/12/18 11:42*	*1*
Toluene-d8 (Surr)	*96*		*80 - 128*		*12/18/18 14:38*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/18/18 14:38*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*12/12/18 11:42*	*1*

Client Sample ID: Trip Blank
Date Collected: 12/10/18 00:01
Date Received: 12/11/18 17:00

Lab Sample ID: 440-227295-7
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*100*		*76 - 132*		*12/18/18 14:38*	*1*

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV
410.4	COD	MCAWW	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV
SM 4500 CO2 C	Free Carbon Dioxide	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5310C	TOC	SM	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol 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.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Client Sample ID: MW-6

Lab Sample ID: 440-227295-1

Date Collected: 12/10/18 14:00

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	517782	12/18/18 09:02	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 08:27	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	516522	12/12/18 10:50	JAA	TAL IRV
Total/NA	Analysis	8270C		1			516871	12/13/18 14:53	L1B	TAL IRV
Total/NA	Analysis	300.0		2			516254	12/11/18 20:42	NTN	TAL IRV
Total/NA	Analysis	300.0		2			516255	12/11/18 20:42	NTN	TAL IRV
Total/NA	Analysis	300.0		100			516255	12/11/18 22:05	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517352	12/16/18 07:13	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			517461	12/16/18 19:38	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	517678	12/17/18 13:32	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	518400	12/20/18 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			516476	12/12/18 05:33	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	516960	12/13/18 16:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1			519373	12/26/18 15:49	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		2	7.5 mL	7.5 mL	519637	12/27/18 15:57	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	517284	12/14/18 13:41	YZ	TAL IRV

Client Sample ID: MW-14

Lab Sample ID: 440-227295-2

Date Collected: 12/10/18 12:55

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	517782	12/18/18 12:38	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 09:40	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	516522	12/12/18 10:50	JAA	TAL IRV
Total/NA	Analysis	8270C		1			516871	12/13/18 15:16	L1B	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	516254	12/11/18 20:59	NTN	TAL IRV
Total/NA	Analysis	300.0		2			516255	12/11/18 20:59	NTN	TAL IRV
Total/NA	Analysis	300.0		100			516255	12/11/18 22:22	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517352	12/16/18 07:13	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			517461	12/16/18 19:44	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	517678	12/17/18 13:47	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	518400	12/20/18 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			516476	12/12/18 05:42	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	516960	12/13/18 16:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1			519373	12/26/18 15:49	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	519637	12/27/18 15:57	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	517284	12/14/18 13:54	YZ	TAL IRV

Client Sample ID: PZ-2

Lab Sample ID: 440-227295-3

Date Collected: 12/10/18 10:55

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	517782	12/18/18 13:02	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 10:05	RM	TAL IRV
Total/NA	Prep	3520C			1000 mL	1.0 mL	516522	12/12/18 10:50	JAA	TAL IRV
Total/NA	Analysis	8270C		1			516871	12/13/18 15:38	L1B	TAL IRV
Total/NA	Analysis	300.0		10			516254	12/11/18 21:15	NTN	TAL IRV
Total/NA	Analysis	300.0		10			516255	12/11/18 21:15	NTN	TAL IRV
Total/NA	Analysis	300.0		500			516255	12/11/18 22:38	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517351	12/16/18 07:10	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			517461	12/16/18 17:12	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517351	12/16/18 07:10	KE	TAL IRV
Total Recoverable	Analysis	6010B		5			517627	12/17/18 12:40	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	517678	12/17/18 13:53	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	518400	12/20/18 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			516476	12/12/18 05:52	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	516960	12/13/18 16:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1			519373	12/26/18 15:49	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	519637	12/27/18 15:57	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	517284	12/14/18 14:07	YZ	TAL IRV

Client Sample ID: CM-9R3

Lab Sample ID: 440-227295-4

Date Collected: 12/10/18 15:30

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	517782	12/18/18 13:26	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 10:29	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	516522	12/12/18 10:50	JAA	TAL IRV
Total/NA	Analysis	8270C		1			516871	12/13/18 16:01	L1B	TAL IRV
Total/NA	Analysis	300.0		10			516254	12/11/18 21:32	NTN	TAL IRV
Total/NA	Analysis	300.0		10			516255	12/11/18 21:32	NTN	TAL IRV
Total/NA	Analysis	300.0		200			516255	12/11/18 23:35	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517351	12/16/18 07:10	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			517461	12/16/18 17:50	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	517678	12/17/18 13:58	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	518400	12/20/18 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			516476	12/12/18 05:58	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	516960	12/13/18 16:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1			519373	12/26/18 15:49	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	519637	12/27/18 15:58	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	517284	12/14/18 10:31	YZ	TAL IRV

Client Sample ID: CM-11R

Lab Sample ID: 440-227295-5

Date Collected: 12/10/18 14:15

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	517782	12/18/18 13:50	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 10:53	RM	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	516522	12/12/18 10:50	JAA	TAL IRV
Total/NA	Analysis	8270C		1			516871	12/13/18 16:24	L1B	TAL IRV
Total/NA	Analysis	300.0		10			516254	12/11/18 21:48	NTN	TAL IRV
Total/NA	Analysis	300.0		10			516255	12/11/18 21:48	NTN	TAL IRV
Total/NA	Analysis	300.0		200			516255	12/11/18 23:51	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517351	12/16/18 07:10	KE	TAL IRV
Total Recoverable	Analysis	6010B		1			517461	12/16/18 17:44	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	517351	12/16/18 07:10	KE	TAL IRV
Total Recoverable	Analysis	6010B		5			517627	12/17/18 12:43	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	517678	12/17/18 14:03	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	518400	12/20/18 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			516476	12/12/18 06:04	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	516960	12/13/18 16:05	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1			519373	12/26/18 15:49	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	519637	12/27/18 15:58	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	518624	12/20/18 11:16	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-227295-6

Date Collected: 12/10/18 00:01

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	517782	12/18/18 14:14	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	517983	12/18/18 21:38	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 11:17	RM	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-227295-7

Date Collected: 12/10/18 00:01

Matrix: Water

Date Received: 12/11/18 17:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	517782	12/18/18 14:38	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	516445	12/12/18 11:42	RM	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Lab Sample ID: MB 440-516445/3
Matrix: Water
Analysis Batch: 516445

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	2.5	ug/L			12/12/18 07:39	1
Acrylonitrile	ND		50	1.0	ug/L			12/12/18 07:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 128*		*12/12/18 07:39*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*12/12/18 07:39*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*12/12/18 07:39*	*1*

Lab Sample ID: LCS 440-516445/4
Matrix: Water
Analysis Batch: 516445

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein			25.0	25.8	J	ug/L		103	10 - 145		
Acrylonitrile			250	249		ug/L		99	48 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 128*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*

Lab Sample ID: 440-227295-1 MS
Matrix: Water
Analysis Batch: 516445

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	ND	F1	25.0	ND	F1	ug/L		0	10 - 147		
Acrylonitrile	ND		250	223		ug/L		89	38 - 144		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

Lab Sample ID: 440-227295-1 MSD
Matrix: Water
Analysis Batch: 516445

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	ND	F1	25.0	ND	F1	ug/L		0	10 - 147	NC	40
Acrylonitrile	ND		250	229		ug/L		92	38 - 144	3	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 128*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

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

Lab Sample ID: MB 440-517782/4
Matrix: Water
Analysis Batch: 517782

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 08:15	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 08:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 08:15	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 08:15	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 08:15	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 08:15	1
Acetone	ND		20	10	ug/L			12/18/18 08:15	1
Acetonitrile	ND		20	10	ug/L			12/18/18 08:15	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 08:15	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 08:15	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 08:15	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 08:15	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 08:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 08:15	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 08:15	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 08:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 08:15	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 08:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 08:15	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 08:15	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 08:15	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 08:15	1

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

Lab Sample ID: MB 440-517782/4
Matrix: Water
Analysis Batch: 517782

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 08:15	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Propionitrile	ND		20	10	ug/L			12/18/18 08:15	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 08:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 08:15	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 08:15	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 08:15	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 08:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 08:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 08:15	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 08:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 08:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*12/18/18 08:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*12/18/18 08:15*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/18/18 08:15*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*12/18/18 08:15*	*1*

Lab Sample ID: LCS 440-517782/5
Matrix: Water
Analysis Batch: 517782

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.8		ug/L		99	63 - 130
1,1,1,2-Tetrachloroethane	25.0	23.4		ug/L		94	60 - 141
1,1,1-Trichloroethane	25.0	21.4		ug/L		85	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	24.6		ug/L		98	70 - 130
1,1-Dichloroethane	25.0	23.4		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	21.1		ug/L		84	70 - 130
1,1-Dichloropropene	25.0	21.3		ug/L		85	70 - 130
1,2,4-Trichlorobenzene	25.0	20.8		ug/L		83	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	23.5		ug/L		94	52 - 140
1,2-Dichlorobenzene	25.0	22.1		ug/L		88	70 - 130
1,2-Dichloroethane	25.0	21.8		ug/L		87	57 - 138
1,2-Dichloropropane	25.0	25.3		ug/L		101	67 - 130
1,3-Dichlorobenzene	25.0	22.7		ug/L		91	70 - 130

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

Lab Sample ID: LCS 440-517782/5
Matrix: Water
Analysis Batch: 517782

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	23.7		ug/L		95	70 - 130
1,4-Dichlorobenzene	25.0	22.4		ug/L		90	70 - 130
2,2-Dichloropropane	25.0	22.4		ug/L		90	68 - 141
2-Hexanone	25.0	28.1		ug/L		113	10 - 150
Acetone	25.0	24.2		ug/L		97	10 - 150
Acrolein	25.0	22.2		ug/L		89	10 - 145
Acrylonitrile	250	248		ug/L		99	48 - 140
Benzene	25.0	22.1		ug/L		88	68 - 130
Bromoform	25.0	23.3		ug/L		93	60 - 148
Bromomethane	25.0	22.1		ug/L		88	64 - 139
Carbon disulfide	25.0	19.0		ug/L		76	52 - 136
Carbon tetrachloride	25.0	20.6		ug/L		83	60 - 150
Chlorobenzene	25.0	21.9		ug/L		88	70 - 130
Bromochloromethane	25.0	22.6		ug/L		90	70 - 130
Chloroethane	25.0	22.1		ug/L		88	64 - 135
Chloroform	25.0	22.6		ug/L		91	70 - 130
Chloromethane	25.0	18.7		ug/L		75	47 - 140
cis-1,2-Dichloroethene	25.0	21.7		ug/L		87	70 - 133
cis-1,3-Dichloropropene	25.0	25.5		ug/L		102	70 - 133
Dibromochloromethane	25.0	23.2		ug/L		93	69 - 145
Dibromomethane	25.0	20.7		ug/L		83	70 - 130
Bromodichloromethane	25.0	23.3		ug/L		93	70 - 132
Dichlorodifluoromethane	25.0	13.5		ug/L		54	29 - 150
Ethylbenzene	25.0	22.3		ug/L		89	70 - 130
m,p-Xylene	25.0	22.6		ug/L		90	70 - 130
Methylene Chloride	25.0	20.8		ug/L		83	52 - 130
Methyl tert-butyl ether	25.0	23.3		ug/L		93	63 - 131
Naphthalene	25.0	20.1		ug/L		80	60 - 140
o-Xylene	25.0	21.8		ug/L		87	70 - 130
Styrene	25.0	22.3		ug/L		89	70 - 134
t-Butanol	250	244		ug/L		98	70 - 130
Tetrachloroethene	25.0	20.8		ug/L		83	70 - 130
Toluene	25.0	22.2		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	21.6		ug/L		86	70 - 130
trans-1,3-Dichloropropene	25.0	25.2		ug/L		101	70 - 132
Trichloroethene	25.0	20.8		ug/L		83	70 - 130
Trichlorofluoromethane	25.0	20.5		ug/L		82	60 - 150
Vinyl acetate	25.0	27.2		ug/L		109	48 - 140
Vinyl chloride	25.0	18.6		ug/L		74	59 - 133
1,2-Dibromoethane (EDB)	25.0	22.4		ug/L		90	70 - 130
2-Butanone (MEK)	25.0	22.9		ug/L		92	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	27.7		ug/L		111	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

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

Lab Sample ID: 440-227295-1 MS
Matrix: Water
Analysis Batch: 517782

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	24.5		ug/L		98	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	23.4		ug/L		94	60 - 149
1,1,1-Trichloroethane	ND		25.0	22.2		ug/L		89	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.5		ug/L		102	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.0		ug/L		100	70 - 130
1,1-Dichloroethane	ND		25.0	23.2		ug/L		93	65 - 130
1,1-Dichloroethene	ND		25.0	21.9		ug/L		88	70 - 130
1,1-Dichloropropene	ND		25.0	22.2		ug/L		89	64 - 130
1,2,4-Trichlorobenzene	0.49	J	25.0	21.6		ug/L		85	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	24.2		ug/L		97	48 - 140
1,2-Dichlorobenzene	ND		25.0	22.0		ug/L		88	70 - 130
1,2-Dichloroethane	ND		25.0	22.3		ug/L		89	56 - 146
1,2-Dichloropropane	ND		25.0	25.5		ug/L		102	69 - 130
1,3-Dichlorobenzene	ND		25.0	22.4		ug/L		89	70 - 130
1,3-Dichloropropane	ND		25.0	24.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	ND		25.0	22.3		ug/L		89	70 - 130
2,2-Dichloropropane	ND		25.0	23.2		ug/L		93	69 - 138
2-Hexanone	ND		25.0	29.7		ug/L		119	10 - 150
Acetone	ND		25.0	29.0		ug/L		116	10 - 150
Acrolein	ND		25.0	19.9		ug/L		80	10 - 147
Acrylonitrile	ND		250	272		ug/L		109	38 - 144
Benzene	ND		25.0	22.5		ug/L		90	66 - 130
Bromoform	ND		25.0	23.6		ug/L		94	59 - 150
Bromomethane	ND		25.0	23.1		ug/L		92	62 - 131
Carbon disulfide	ND		25.0	21.0		ug/L		84	49 - 140
Carbon tetrachloride	ND		25.0	22.0		ug/L		88	60 - 150
Chlorobenzene	ND		25.0	21.7		ug/L		87	70 - 130
Bromochloromethane	ND		25.0	23.6		ug/L		94	70 - 130
Chloroethane	ND		25.0	23.7		ug/L		95	68 - 130
Chloroform	ND		25.0	23.0		ug/L		92	70 - 130
Chloromethane	ND		25.0	21.0		ug/L		84	39 - 144
cis-1,2-Dichloroethene	ND		25.0	22.2		ug/L		89	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.1		ug/L		100	70 - 133
Dibromochloromethane	ND		25.0	23.7		ug/L		95	70 - 148
Dibromomethane	ND		25.0	21.7		ug/L		87	70 - 130
Bromodichloromethane	ND		25.0	24.0		ug/L		96	70 - 138
Dichlorodifluoromethane	ND		25.0	17.1		ug/L		68	25 - 142
Ethylbenzene	ND		25.0	22.4		ug/L		90	70 - 130
m,p-Xylene	ND		25.0	22.2		ug/L		89	70 - 133
Methylene Chloride	ND		25.0	21.4		ug/L		86	52 - 130
Methyl tert-butyl ether	ND		25.0	24.4		ug/L		98	70 - 130
Naphthalene	1.1		25.0	20.9		ug/L		79	60 - 140
o-Xylene	ND		25.0	21.5		ug/L		86	70 - 133
Styrene	ND		25.0	21.9		ug/L		88	29 - 150
t-Butanol	ND		250	239		ug/L		96	70 - 130
Tetrachloroethene	ND		25.0	21.1		ug/L		84	70 - 137
Toluene	ND		25.0	21.9		ug/L		88	70 - 130
trans-1,2-Dichloroethene	ND		25.0	22.2		ug/L		89	70 - 130

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

Lab Sample ID: 440-227295-1 MS
Matrix: Water
Analysis Batch: 517782

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	ND		25.0	25.8		ug/L		103	70 - 138
Trichloroethene	ND		25.0	21.3		ug/L		85	70 - 130
Trichlorofluoromethane	ND		25.0	22.2		ug/L		89	60 - 150
Vinyl acetate	ND		25.0	28.9		ug/L		116	23 - 150
Vinyl chloride	ND		25.0	20.6		ug/L		83	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	22.9		ug/L		92	70 - 131
2-Butanone (MEK)	ND		25.0	26.9		ug/L		108	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.4		ug/L		118	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 128*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*

Lab Sample ID: 440-227295-1 MSD
Matrix: Water
Analysis Batch: 517782

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	24.3		ug/L		97	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	22.6		ug/L		90	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	21.4		ug/L		86	70 - 130	4	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.1		ug/L		96	63 - 130	6	30
1,1,2-Trichloroethane	ND		25.0	23.5		ug/L		94	70 - 130	6	25
1,1-Dichloroethane	ND		25.0	22.1		ug/L		88	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	21.4		ug/L		86	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	21.3		ug/L		85	64 - 130	4	20
1,2,4-Trichlorobenzene	0.49	J	25.0	21.3		ug/L		83	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	22.6		ug/L		90	48 - 140	7	30
1,2-Dichlorobenzene	ND		25.0	21.5		ug/L		86	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	21.0		ug/L		84	56 - 146	6	20
1,2-Dichloropropane	ND		25.0	24.2		ug/L		97	69 - 130	5	20
1,3-Dichlorobenzene	ND		25.0	22.2		ug/L		89	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	22.8		ug/L		91	70 - 130	8	25
1,4-Dichlorobenzene	ND		25.0	22.3		ug/L		89	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	21.8		ug/L		87	69 - 138	6	25
2-Hexanone	ND		25.0	27.8		ug/L		111	10 - 150	6	35
Acetone	ND		25.0	25.1		ug/L		100	10 - 150	14	35
Acrolein	ND		25.0	18.1		ug/L		72	10 - 147	9	40
Acrylonitrile	ND		250	246		ug/L		98	38 - 144	10	40
Benzene	ND		25.0	21.4		ug/L		85	66 - 130	5	20
Bromoform	ND		25.0	22.6		ug/L		90	59 - 150	4	25
Bromomethane	ND		25.0	21.5		ug/L		86	62 - 131	7	25
Carbon disulfide	ND		25.0	19.8		ug/L		79	49 - 140	6	20
Carbon tetrachloride	ND		25.0	21.2		ug/L		85	60 - 150	4	25
Chlorobenzene	ND		25.0	21.1		ug/L		84	70 - 130	3	20
Bromochloromethane	ND		25.0	21.5		ug/L		86	70 - 130	9	25
Chloroethane	ND		25.0	22.2		ug/L		89	68 - 130	6	25

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

Lab Sample ID: 440-227295-1 MSD
Matrix: Water
Analysis Batch: 517782

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		25.0	21.7		ug/L		87	70 - 130	6	20
Chloromethane	ND		25.0	19.6		ug/L		78	39 - 144	7	25
cis-1,2-Dichloroethene	ND		25.0	20.8		ug/L		83	70 - 130	7	20
cis-1,3-Dichloropropene	ND		25.0	24.2		ug/L		97	70 - 133	4	20
Dibromochloromethane	ND		25.0	22.6		ug/L		90	70 - 148	5	25
Dibromomethane	ND		25.0	20.8		ug/L		83	70 - 130	4	25
Bromodichloromethane	ND		25.0	22.7		ug/L		91	70 - 138	6	20
Dichlorodifluoromethane	ND		25.0	16.1		ug/L		64	25 - 142	6	30
Ethylbenzene	ND		25.0	21.9		ug/L		88	70 - 130	2	20
m,p-Xylene	ND		25.0	21.8		ug/L		87	70 - 133	2	25
Methylene Chloride	ND		25.0	20.2		ug/L		81	52 - 130	6	20
Methyl tert-butyl ether	ND		25.0	22.6		ug/L		90	70 - 130	8	25
Naphthalene	1.1		25.0	21.1		ug/L		80	60 - 140	1	30
o-Xylene	ND		25.0	21.0		ug/L		84	70 - 133	2	20
Styrene	ND		25.0	21.6		ug/L		86	29 - 150	2	35
t-Butanol	ND		250	225		ug/L		90	70 - 130	6	25
Tetrachloroethene	ND		25.0	20.6		ug/L		83	70 - 137	2	20
Toluene	ND		25.0	21.3		ug/L		85	70 - 130	3	20
trans-1,2-Dichloroethene	ND		25.0	21.1		ug/L		84	70 - 130	5	20
trans-1,3-Dichloropropene	ND		25.0	23.6		ug/L		95	70 - 138	9	25
Trichloroethene	ND		25.0	20.9		ug/L		83	70 - 130	2	20
Trichlorofluoromethane	ND		25.0	20.9		ug/L		84	60 - 150	6	25
Vinyl acetate	ND		25.0	26.6		ug/L		107	23 - 150	8	30
Vinyl chloride	ND		25.0	19.0		ug/L		76	50 - 137	8	30
1,2-Dibromoethane (EDB)	ND		25.0	22.0		ug/L		88	70 - 131	4	25
2-Butanone (MEK)	ND		25.0	21.9		ug/L		88	48 - 140	21	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.6		ug/L		110	52 - 150	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 128*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

Lab Sample ID: MB 440-517983/4
Matrix: Water
Analysis Batch: 517983

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/18/18 18:52	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/18/18 18:52	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/18/18 18:52	1

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

Lab Sample ID: MB 440-517983/4
Matrix: Water
Analysis Batch: 517983

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/18/18 18:52	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/18/18 18:52	1
2-Hexanone	ND		5.0	2.5	ug/L			12/18/18 18:52	1
Acetone	ND		20	10	ug/L			12/18/18 18:52	1
Acetonitrile	ND		20	10	ug/L			12/18/18 18:52	1
Acrolein	ND		5.0	2.5	ug/L			12/18/18 18:52	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/18/18 18:52	1
Benzene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Allyl chloride	ND		1.0	0.50	ug/L			12/18/18 18:52	1
Bromoform	ND		1.0	0.40	ug/L			12/18/18 18:52	1
Bromomethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/18/18 18:52	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Chloroethane	ND		1.0	0.40	ug/L			12/18/18 18:52	1
Chloroform	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Chloromethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Dibromomethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/18/18 18:52	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 18:52	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Iodomethane	ND		2.0	1.0	ug/L			12/18/18 18:52	1
Isobutyl alcohol	ND		25	13	ug/L			12/18/18 18:52	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/18/18 18:52	1
Methylacrylonitrile	ND		10	2.5	ug/L			12/18/18 18:52	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/18/18 18:52	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/18/18 18:52	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Naphthalene	ND		1.0	0.40	ug/L			12/18/18 18:52	1
o-Xylene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Propionitrile	ND		20	10	ug/L			12/18/18 18:52	1
Styrene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
t-Butanol	ND		10	5.0	ug/L			12/18/18 18:52	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/18/18 18:52	1
Toluene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/18/18 18:52	1

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

Lab Sample ID: MB 440-517983/4
Matrix: Water
Analysis Batch: 517983

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/18/18 18:52	1
Trichloroethene	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/18/18 18:52	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/18/18 18:52	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/18/18 18:52	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/18/18 18:52	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/18/18 18:52	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/18/18 18:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*12/18/18 18:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 128*		*12/18/18 18:52*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*12/18/18 18:52*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*12/18/18 18:52*	*1*

Lab Sample ID: LCS 440-517983/5
Matrix: Water
Analysis Batch: 517983

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	23.9		ug/L		96	63 - 130
1,1,1,2-Tetrachloroethane	25.0	26.1		ug/L		104	60 - 141
1,1,1-Trichloroethane	25.0	27.5		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	25.0	21.6		ug/L		86	63 - 130
1,1,2-Trichloroethane	25.0	23.8		ug/L		95	70 - 130
1,1-Dichloroethane	25.0	24.4		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	23.5		ug/L		94	70 - 130
1,1-Dichloropropene	25.0	23.6		ug/L		95	70 - 130
1,2,4-Trichlorobenzene	25.0	21.3		ug/L		85	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	23.8		ug/L		95	52 - 140
1,2-Dichlorobenzene	25.0	22.6		ug/L		91	70 - 130
1,2-Dichloroethane	25.0	27.1		ug/L		109	57 - 138
1,2-Dichloropropane	25.0	24.0		ug/L		96	67 - 130
1,3-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130
1,3-Dichloropropane	25.0	23.5		ug/L		94	70 - 130
1,4-Dichlorobenzene	25.0	23.2		ug/L		93	70 - 130
2,2-Dichloropropane	25.0	26.7		ug/L		107	68 - 141
2-Hexanone	25.0	28.3		ug/L		113	10 - 150
Acetone	25.0	30.0		ug/L		120	10 - 150
Acrolein	25.0	20.4		ug/L		81	10 - 145
Acrylonitrile	250	256		ug/L		102	48 - 140
Benzene	25.0	23.2		ug/L		93	68 - 130
Bromoform	25.0	26.8		ug/L		107	60 - 148
Bromomethane	25.0	23.0		ug/L		92	64 - 139

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

Lab Sample ID: LCS 440-517983/5
Matrix: Water
Analysis Batch: 517983

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	25.0	20.3		ug/L		81	52 - 136
Carbon tetrachloride	25.0	27.9		ug/L		112	60 - 150
Chlorobenzene	25.0	22.9		ug/L		92	70 - 130
Bromochloromethane	25.0	24.9		ug/L		100	70 - 130
Chloroethane	25.0	22.4		ug/L		90	64 - 135
Chloroform	25.0	26.1		ug/L		104	70 - 130
Chloromethane	25.0	18.6		ug/L		75	47 - 140
cis-1,2-Dichloroethene	25.0	23.6		ug/L		94	70 - 133
cis-1,3-Dichloropropene	25.0	24.8		ug/L		99	70 - 133
Dibromochloromethane	25.0	26.3		ug/L		105	69 - 145
Dibromomethane	25.0	23.4		ug/L		94	70 - 130
Bromodichloromethane	25.0	27.7		ug/L		111	70 - 132
Dichlorodifluoromethane	25.0	17.2		ug/L		69	29 - 150
Ethylbenzene	25.0	23.5		ug/L		94	70 - 130
m,p-Xylene	25.0	23.8		ug/L		95	70 - 130
Methylene Chloride	25.0	22.8		ug/L		91	52 - 130
Methyl tert-butyl ether	25.0	25.3		ug/L		101	63 - 131
Naphthalene	25.0	20.3		ug/L		81	60 - 140
o-Xylene	25.0	23.0		ug/L		92	70 - 130
Styrene	25.0	23.9		ug/L		96	70 - 134
t-Butanol	250	270		ug/L		108	70 - 130
Tetrachloroethene	25.0	23.0		ug/L		92	70 - 130
Toluene	25.0	22.3		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	23.9		ug/L		96	70 - 130
trans-1,3-Dichloropropene	25.0	26.2		ug/L		105	70 - 132
Trichloroethene	25.0	24.6		ug/L		99	70 - 130
Trichlorofluoromethane	25.0	27.8		ug/L		111	60 - 150
Vinyl acetate	25.0	27.6		ug/L		110	48 - 140
Vinyl chloride	25.0	20.5		ug/L		82	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.6		ug/L		94	70 - 130
2-Butanone (MEK)	25.0	27.7		ug/L		111	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	27.1		ug/L		108	59 - 149

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*80 - 128*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*

Lab Sample ID: 440-227298-A-6 MS
Matrix: Water
Analysis Batch: 517983

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		25.0	23.4		ug/L		94	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	24.3		ug/L		97	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.2		ug/L		101	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	20.7		ug/L		83	63 - 130
1,1,2-Trichloroethane	ND		25.0	22.1		ug/L		89	70 - 130

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

Lab Sample ID: 440-227298-A-6 MS
Matrix: Water
Analysis Batch: 517983

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		25.0	22.4		ug/L		90	65 - 130
1,1-Dichloroethene	ND		25.0	21.6		ug/L		86	70 - 130
1,1-Dichloropropene	ND		25.0	21.5		ug/L		86	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	21.6		ug/L		86	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	22.4		ug/L		90	48 - 140
1,2-Dichlorobenzene	ND		25.0	22.1		ug/L		88	70 - 130
1,2-Dichloroethane	ND		25.0	25.2		ug/L		101	56 - 146
1,2-Dichloropropane	ND		25.0	22.6		ug/L		90	69 - 130
1,3-Dichlorobenzene	ND		25.0	22.7		ug/L		91	70 - 130
1,3-Dichloropropane	ND		25.0	21.7		ug/L		87	70 - 130
1,4-Dichlorobenzene	ND		25.0	22.5		ug/L		90	70 - 130
2,2-Dichloropropane	ND		25.0	25.7		ug/L		103	69 - 138
2-Hexanone	ND		25.0	26.2		ug/L		105	10 - 150
Acetone	ND		25.0	26.0		ug/L		104	10 - 150
Acrolein	ND		25.0	16.8		ug/L		67	10 - 147
Acrylonitrile	ND		250	229		ug/L		92	38 - 144
Benzene	ND		25.0	21.2		ug/L		85	66 - 130
Bromoform	ND		25.0	24.6		ug/L		98	59 - 150
Bromomethane	ND		25.0	21.0		ug/L		84	62 - 131
Carbon disulfide	ND		25.0	19.1		ug/L		76	49 - 140
Carbon tetrachloride	ND		25.0	25.5		ug/L		102	60 - 150
Chlorobenzene	ND		25.0	21.8		ug/L		87	70 - 130
Bromochloromethane	ND		25.0	23.4		ug/L		93	70 - 130
Chloroethane	ND		25.0	20.2		ug/L		81	68 - 130
Chloroform	ND		25.0	23.7		ug/L		95	70 - 130
Chloromethane	ND		25.0	18.1		ug/L		72	39 - 144
cis-1,2-Dichloroethene	ND		25.0	21.7		ug/L		87	70 - 130
cis-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 133
Dibromochloromethane	ND		25.0	24.1		ug/L		96	70 - 148
Dibromomethane	ND		25.0	21.3		ug/L		85	70 - 130
Bromodichloromethane	ND		25.0	24.8		ug/L		99	70 - 138
Dichlorodifluoromethane	ND		25.0	16.7		ug/L		67	25 - 142
Ethylbenzene	ND		25.0	22.2		ug/L		89	70 - 130
m,p-Xylene	ND		25.0	22.3		ug/L		89	70 - 133
Methylene Chloride	ND		25.0	19.8		ug/L		79	52 - 130
Methyl tert-butyl ether	ND		25.0	23.6		ug/L		95	70 - 130
Naphthalene	ND		25.0	20.1		ug/L		80	60 - 140
o-Xylene	ND		25.0	21.7		ug/L		87	70 - 133
Styrene	ND		25.0	22.5		ug/L		90	29 - 150
t-Butanol	ND		250	253		ug/L		101	70 - 130
Tetrachloroethene	ND		25.0	22.0		ug/L		88	70 - 137
Toluene	ND		25.0	21.1		ug/L		84	70 - 130
trans-1,2-Dichloroethene	ND		25.0	22.1		ug/L		88	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.2		ug/L		97	70 - 138
Trichloroethene	ND		25.0	22.3		ug/L		89	70 - 130
Trichlorofluoromethane	ND		25.0	25.7		ug/L		103	60 - 150
Vinyl acetate	ND		25.0	25.8		ug/L		103	23 - 150
Vinyl chloride	ND		25.0	18.8		ug/L		75	50 - 137

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

Lab Sample ID: 440-227298-A-6 MS
Matrix: Water
Analysis Batch: 517983

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane (EDB)	ND		25.0	21.6		ug/L		86	70 - 131
2-Butanone (MEK)	ND		25.0	22.6		ug/L		90	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	25.9		ug/L		104	52 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*80 - 128*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*

Lab Sample ID: 440-227298-A-6 MSD
Matrix: Water
Analysis Batch: 517983

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	23.6		ug/L		95	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.5		ug/L		98	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	26.4		ug/L		106	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		25.0	19.8		ug/L		79	63 - 130	4	30
1,1,2-Trichloroethane	ND		25.0	21.4		ug/L		86	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	23.3		ug/L		93	65 - 130	4	20
1,1-Dichloroethene	ND		25.0	22.6		ug/L		91	70 - 130	5	20
1,1-Dichloropropene	ND		25.0	22.6		ug/L		90	64 - 130	5	20
1,2,4-Trichlorobenzene	ND		25.0	21.2		ug/L		85	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	22.8		ug/L		91	48 - 140	2	30
1,2-Dichlorobenzene	ND		25.0	21.1		ug/L		84	70 - 130	5	20
1,2-Dichloroethane	ND		25.0	25.5		ug/L		102	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	23.3		ug/L		93	69 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	22.0		ug/L		88	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	21.6		ug/L		86	70 - 130	0	25
1,4-Dichlorobenzene	ND		25.0	22.1		ug/L		88	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	26.2		ug/L		105	69 - 138	2	25
2-Hexanone	ND		25.0	25.9		ug/L		104	10 - 150	1	35
Acetone	ND		25.0	28.2		ug/L		113	10 - 150	8	35
Acrolein	ND		25.0	19.7		ug/L		79	10 - 147	16	40
Acrylonitrile	ND		250	231		ug/L		92	38 - 144	1	40
Benzene	ND		25.0	21.9		ug/L		88	66 - 130	3	20
Bromoform	ND		25.0	24.1		ug/L		96	59 - 150	2	25
Bromomethane	ND		25.0	21.7		ug/L		87	62 - 131	3	25
Carbon disulfide	ND		25.0	19.6		ug/L		78	49 - 140	3	20
Carbon tetrachloride	ND		25.0	26.9		ug/L		108	60 - 150	5	25
Chlorobenzene	ND		25.0	21.7		ug/L		87	70 - 130	1	20
Bromochloromethane	ND		25.0	24.2		ug/L		97	70 - 130	4	25
Chloroethane	ND		25.0	21.6		ug/L		86	68 - 130	7	25
Chloroform	ND		25.0	24.4		ug/L		97	70 - 130	3	20
Chloromethane	ND		25.0	19.0		ug/L		76	39 - 144	5	25
cis-1,2-Dichloroethene	ND		25.0	22.3		ug/L		89	70 - 130	3	20
cis-1,3-Dichloropropene	ND		25.0	23.1		ug/L		92	70 - 133	3	20
Dibromochloromethane	ND		25.0	24.3		ug/L		97	70 - 148	1	25

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

Lab Sample ID: 440-227298-A-6 MSD
Matrix: Water
Analysis Batch: 517983

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromomethane	ND		25.0	21.3		ug/L		85	70 - 130	0	25
Bromodichloromethane	ND		25.0	26.0		ug/L		104	70 - 138	5	20
Dichlorodifluoromethane	ND		25.0	16.7		ug/L		67	25 - 142	0	30
Ethylbenzene	ND		25.0	22.6		ug/L		91	70 - 130	2	20
m,p-Xylene	ND		25.0	22.0		ug/L		88	70 - 133	1	25
Methylene Chloride	ND		25.0	20.5		ug/L		82	52 - 130	3	20
Methyl tert-butyl ether	ND		25.0	23.5		ug/L		94	70 - 130	1	25
Naphthalene	ND		25.0	19.7		ug/L		79	60 - 140	2	30
o-Xylene	ND		25.0	21.6		ug/L		86	70 - 133	0	20
Styrene	ND		25.0	22.0		ug/L		88	29 - 150	2	35
t-Butanol	ND		250	258		ug/L		103	70 - 130	2	25
Tetrachloroethene	ND		25.0	22.3		ug/L		89	70 - 137	1	20
Toluene	ND		25.0	20.8		ug/L		83	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	23.2		ug/L		93	70 - 130	5	20
trans-1,3-Dichloropropene	ND		25.0	23.5		ug/L		94	70 - 138	3	25
Trichloroethene	ND		25.0	23.7		ug/L		95	70 - 130	6	20
Trichlorofluoromethane	ND		25.0	26.5		ug/L		106	60 - 150	3	25
Vinyl acetate	ND		25.0	26.2		ug/L		105	23 - 150	1	30
Vinyl chloride	ND		25.0	19.5		ug/L		78	50 - 137	4	30
1,2-Dibromoethane (EDB)	ND		25.0	20.9		ug/L		84	70 - 131	3	25
2-Butanone (MEK)	ND		25.0	22.7		ug/L		91	48 - 140	1	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.9		ug/L		100	52 - 150	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*80 - 128*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*76 - 132*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-516522/1-A
Matrix: Water
Analysis Batch: 516871

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516522

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.25	ug/L		12/12/18 10:50	12/13/18 12:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*66*		*30 - 120*	*12/12/18 10:50*	*12/13/18 12:57*	*1*

Lab Sample ID: LCS 440-516522/3-A
Matrix: Water
Analysis Batch: 516871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516522

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.95	1.51		ug/L		77	35 - 120		

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-516522/3-A
Matrix: Water
Analysis Batch: 516871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516522

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*68*		*30 - 120*

Lab Sample ID: LCSD 440-516522/4-A
Matrix: Water
Analysis Batch: 516871

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 516522

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.99	1.53		ug/L		77	35 - 120	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*68*		*30 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-516254/6
Matrix: Water
Analysis Batch: 516254

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			12/11/18 11:46	1

Lab Sample ID: LCS 440-516254/5
Matrix: Water
Analysis Batch: 516254

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N			1.13	1.14		mg/L		101	90 - 110		

Lab Sample ID: 440-227051-A-1 MS
Matrix: Water
Analysis Batch: 516254

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	42		22.6	66.4		mg/L		106	80 - 120		

Lab Sample ID: 440-227051-A-1 MSD
Matrix: Water
Analysis Batch: 516254

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	42		22.6	66.6		mg/L		107	80 - 120	0	20

Lab Sample ID: MB 440-516255/6
Matrix: Water
Analysis Batch: 516255

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			12/11/18 11:46	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-516255/6
Matrix: Water
Analysis Batch: 516255

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			12/11/18 11:46	1
Fluoride	ND		0.50	0.25	mg/L			12/11/18 11:46	1
Sulfate	ND		0.50	0.25	mg/L			12/11/18 11:46	1

Lab Sample ID: LCS 440-516255/5
Matrix: Water
Analysis Batch: 516255

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.11		mg/L		102	90 - 110
Chloride	5.00	4.91		mg/L		98	90 - 110
Fluoride	5.00	4.58		mg/L		92	90 - 110
Sulfate	5.00	4.89		mg/L		98	90 - 110

Lab Sample ID: 440-227051-A-1 MS
Matrix: Water
Analysis Batch: 516255

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		100	101		mg/L		101	80 - 120
Chloride	260		100	375		mg/L		118	80 - 120
Fluoride	ND		100	91.5		mg/L		91	80 - 120
Sulfate	650		100	766	4	mg/L		111	80 - 120

Lab Sample ID: 440-227051-A-1 MSD
Matrix: Water
Analysis Batch: 516255

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND		100	100		mg/L		100	80 - 120	1	20
Chloride	260		100	376		mg/L		120	80 - 120	0	20
Fluoride	ND		100	92.0		mg/L		92	80 - 120	0	20
Sulfate	650		100	769	4	mg/L		114	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-517351/1-A
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517351

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.025	mg/L		12/16/18 07:10	12/16/18 15:34	1
Calcium	ND		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 15:34	1
Iron	ND		0.10	0.050	mg/L		12/16/18 07:10	12/16/18 15:34	1
Magnesium	ND		0.020	0.010	mg/L		12/16/18 07:10	12/16/18 15:34	1
Manganese	ND		0.020	0.015	mg/L		12/16/18 07:10	12/16/18 15:34	1
Potassium	ND		0.50	0.25	mg/L		12/16/18 07:10	12/16/18 15:34	1
Sodium	ND		0.50	0.26	mg/L		12/16/18 07:10	12/16/18 15:34	1

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

Lab Sample ID: LCS 440-517351/2-A
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517351

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.484		mg/L		97	80 - 120
Calcium	2.50	2.49		mg/L		100	80 - 120
Iron	0.500	0.489		mg/L		98	80 - 120
Magnesium	2.50	2.47		mg/L		99	80 - 120
Manganese	0.500	0.494		mg/L		99	80 - 120
Potassium	5.00	4.81		mg/L		96	80 - 120
Sodium	5.00	5.06		mg/L		101	80 - 120

Lab Sample ID: 440-227298-K-7-B MS
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 517351

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.8		0.500	3.04	4	mg/L		54	75 - 125
Calcium	5.6		2.50	7.59		mg/L		79	75 - 125
Iron	0.13		0.500	0.620		mg/L		97	75 - 125
Magnesium	0.96		2.50	3.26		mg/L		92	75 - 125
Manganese	0.097		0.500	0.570		mg/L		95	75 - 125
Potassium	0.96		5.00	5.77		mg/L		96	75 - 125
Sodium	430		5.00	397	4	mg/L		-654	75 - 125

Lab Sample ID: 440-227298-K-7-C MSD
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 517351

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.8		0.500	3.11	4	mg/L		68	75 - 125	2	20
Calcium	5.6		2.50	7.66		mg/L		82	75 - 125	1	20
Iron	0.13		0.500	0.607		mg/L		95	75 - 125	2	20
Magnesium	0.96		2.50	3.25		mg/L		91	75 - 125	0	20
Manganese	0.097		0.500	0.568		mg/L		94	75 - 125	0	20
Potassium	0.96		5.00	5.81		mg/L		97	75 - 125	1	20
Sodium	430		5.00	405	4	mg/L		-510	75 - 125	2	20

Lab Sample ID: MB 440-517352/1-A
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 517352

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.025	mg/L		12/16/18 07:13	12/16/18 18:56	1
Calcium	ND		0.10	0.050	mg/L		12/16/18 07:13	12/16/18 18:56	1
Iron	ND		0.10	0.050	mg/L		12/16/18 07:13	12/16/18 18:56	1
Magnesium	ND		0.020	0.010	mg/L		12/16/18 07:13	12/16/18 18:56	1
Manganese	ND		0.020	0.015	mg/L		12/16/18 07:13	12/16/18 18:56	1
Potassium	ND		0.50	0.25	mg/L		12/16/18 07:13	12/16/18 18:56	1
Sodium	ND		0.50	0.26	mg/L		12/16/18 07:13	12/16/18 18:56	1

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

Lab Sample ID: LCS 440-517352/2-A
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 517352

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.485		mg/L		97	80 - 120
Calcium	2.50	2.51		mg/L		100	80 - 120
Iron	0.500	0.504		mg/L		101	80 - 120
Magnesium	2.50	2.53		mg/L		101	80 - 120
Manganese	0.500	0.497		mg/L		99	80 - 120
Potassium	5.00	4.77		mg/L		95	80 - 120
Sodium	5.00	5.03		mg/L		101	80 - 120

Lab Sample ID: 440-227545-G-9-B MS
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 517352

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.8		0.500	2.21		mg/L		90	75 - 125
Calcium	180		2.50	179	4	mg/L		-168	75 - 125
Iron	ND		0.500	0.474		mg/L		95	75 - 125
Magnesium	88		2.50	87.6	4	mg/L		-6	75 - 125
Manganese	ND		0.500	0.466		mg/L		93	75 - 125
Potassium	23		5.00	27.1	4	mg/L		80	75 - 125

Lab Sample ID: 440-227545-G-9-C MSD
Matrix: Water
Analysis Batch: 517461

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 517352

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.8		0.500	2.27		mg/L		101	75 - 125	3	20
Calcium	180		2.50	183	4	mg/L		-36	75 - 125	2	20
Iron	ND		0.500	0.488		mg/L		98	75 - 125	3	20
Magnesium	88		2.50	89.3	4	mg/L		61	75 - 125	2	20
Manganese	ND		0.500	0.479		mg/L		96	75 - 125	3	20
Potassium	23		5.00	28.2	4	mg/L		101	75 - 125	4	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-517678/10
Matrix: Water
Analysis Batch: 517678

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			12/17/18 13:21	1

Lab Sample ID: LCS 440-517678/11
Matrix: Water
Analysis Batch: 517678

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	5.00	5.05		mg/L		101	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: MRL 440-517678/9
Matrix: Water
Analysis Batch: 517678

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.200	0.151	J	mg/L		76	50 - 150

Lab Sample ID: 440-227295-1 MS
Matrix: Water
Analysis Batch: 517678

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.72		5.00	5.67		mg/L		99	90 - 110

Lab Sample ID: 440-227295-1 MSD
Matrix: Water
Analysis Batch: 517678

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.72		5.00	5.61		mg/L		98	90 - 110	1	15

Method: 410.4 - COD

Lab Sample ID: MB 440-518400/3
Matrix: Water
Analysis Batch: 518400

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			12/20/18 10:11	1

Lab Sample ID: LCS 440-518400/4
Matrix: Water
Analysis Batch: 518400

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	211		mg/L		105	90 - 110

Lab Sample ID: 440-226778-K-1 MS
Matrix: Water
Analysis Batch: 518400

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	42		200	252		mg/L		105	70 - 120

Lab Sample ID: 440-226778-K-1 MSD
Matrix: Water
Analysis Batch: 518400

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	42		200	240		mg/L		99	70 - 120	5	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-516476/3
Matrix: Water
Analysis Batch: 516476

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/12/18 05:01	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/12/18 05:01	1

Lab Sample ID: LCS 440-516476/2
Matrix: Water
Analysis Batch: 516476

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	80.7	80.5		mg/L		100	80 - 120

Lab Sample ID: 580-82473-A-2 DU
Matrix: Water
Analysis Batch: 516476

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		140		mg/L		0.4	20
Bicarbonate Alkalinity as CaCO3	140		140		mg/L		0.4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-516960/1
Matrix: Water
Analysis Batch: 516960

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			12/13/18 16:03	1

Lab Sample ID: LCS 440-516960/2
Matrix: Water
Analysis Batch: 516960

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	956		mg/L		96	90 - 110

Lab Sample ID: 440-227157-D-1 DU
Matrix: Water
Analysis Batch: 516960

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	560		564		mg/L		1	5

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-519373/1
Matrix: Water
Analysis Batch: 519373

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/26/18 15:49	1

Lab Sample ID: 440-227295-4 DU
Matrix: Water
Analysis Batch: 519373

Client Sample ID: CM-9R3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Carbon Dioxide, Free	120			124		mg/L				1	20

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-519637/3
Matrix: Water
Analysis Batch: 519637

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Sulfide	ND		0.050	0.027	mg/L			12/27/18 15:56	1

Lab Sample ID: LCS 440-519637/4
Matrix: Water
Analysis Batch: 519637

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Sulfide			0.500	0.406		mg/L		81	80 - 120		

Lab Sample ID: 440-228688-J-1 MS
Matrix: Water
Analysis Batch: 519637

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Sulfide	ND		0.500	0.477		mg/L		95	70 - 130		

Lab Sample ID: 440-228688-J-1 MSD
Matrix: Water
Analysis Batch: 519637

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Sulfide	ND		0.500	0.446		mg/L		89	70 - 130	7	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-517284/6
Matrix: Water
Analysis Batch: 517284

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			12/14/18 08:02	1

Lab Sample ID: LCS 440-517284/5
Matrix: Water
Analysis Batch: 517284

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	9.84		mg/L		98	90 - 110		

Method: SM 5310C - TOC (Continued)

Lab Sample ID: MRL 440-517284/4
Matrix: Water
Analysis Batch: 517284

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			0.100	0.0881	J	mg/L		88	50 - 150		

Lab Sample ID: 580-82472-A-1 MS
Matrix: Water
Analysis Batch: 517284

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	5.7		10.0	15.4		mg/L		97	80 - 120		

Lab Sample ID: 580-82472-A-1 MSD
Matrix: Water
Analysis Batch: 517284

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.7		10.0	15.8		mg/L		101	80 - 120	3	20

Lab Sample ID: MB 440-518624/6
Matrix: Water
Analysis Batch: 518624

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			12/20/18 07:30	1

Lab Sample ID: LCS 440-518624/5
Matrix: Water
Analysis Batch: 518624

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	9.70		mg/L		97	90 - 110		

Lab Sample ID: MRL 440-518624/4
Matrix: Water
Analysis Batch: 518624

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			0.100	0.0673	J	mg/L		67	50 - 150		

Lab Sample ID: 440-227777-G-2 MS
Matrix: Water
Analysis Batch: 518624

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	0.35		10.0	9.88		mg/L		95	80 - 120		

Lab Sample ID: 440-227777-G-2 MSD
Matrix: Water
Analysis Batch: 518624

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.35		10.0	9.81		mg/L		95	80 - 120	1	20

GC/MS VOA

Analysis Batch: 516445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	8260B	
440-227295-2	MW-14	Total/NA	Water	8260B	
440-227295-3	PZ-2	Total/NA	Water	8260B	
440-227295-4	CM-9R3	Total/NA	Water	8260B	
440-227295-5	CM-11R	Total/NA	Water	8260B	
440-227295-6	Field Blank	Total/NA	Water	8260B	
440-227295-7	Trip Blank	Total/NA	Water	8260B	
MB 440-516445/3	Method Blank	Total/NA	Water	8260B	
LCS 440-516445/4	Lab Control Sample	Total/NA	Water	8260B	
440-227295-1 MS	MW-6	Total/NA	Water	8260B	
440-227295-1 MSD	MW-6	Total/NA	Water	8260B	

Analysis Batch: 517782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	8260B	
440-227295-2	MW-14	Total/NA	Water	8260B	
440-227295-3	PZ-2	Total/NA	Water	8260B	
440-227295-4	CM-9R3	Total/NA	Water	8260B	
440-227295-5	CM-11R	Total/NA	Water	8260B	
440-227295-6 - DL	Field Blank	Total/NA	Water	8260B	
440-227295-7	Trip Blank	Total/NA	Water	8260B	
MB 440-517782/4	Method Blank	Total/NA	Water	8260B	
LCS 440-517782/5	Lab Control Sample	Total/NA	Water	8260B	
440-227295-1 MS	MW-6	Total/NA	Water	8260B	
440-227295-1 MSD	MW-6	Total/NA	Water	8260B	

Analysis Batch: 517983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-6	Field Blank	Total/NA	Water	8260B	
MB 440-517983/4	Method Blank	Total/NA	Water	8260B	
LCS 440-517983/5	Lab Control Sample	Total/NA	Water	8260B	
440-227298-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-227298-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 516522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	3520C	
440-227295-2	MW-14	Total/NA	Water	3520C	
440-227295-3	PZ-2	Total/NA	Water	3520C	
440-227295-4	CM-9R3	Total/NA	Water	3520C	
440-227295-5	CM-11R	Total/NA	Water	3520C	
MB 440-516522/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-516522/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-516522/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 516871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	8270C	516522

GC/MS Semi VOA (Continued)

Analysis Batch: 516871 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-2	MW-14	Total/NA	Water	8270C	516522
440-227295-3	PZ-2	Total/NA	Water	8270C	516522
440-227295-4	CM-9R3	Total/NA	Water	8270C	516522
440-227295-5	CM-11R	Total/NA	Water	8270C	516522
MB 440-516522/1-A	Method Blank	Total/NA	Water	8270C	516522
LCS 440-516522/3-A	Lab Control Sample	Total/NA	Water	8270C	516522
LCSD 440-516522/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	516522

HPLC/IC

Analysis Batch: 516254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	300.0	
440-227295-2	MW-14	Total/NA	Water	300.0	
440-227295-3	PZ-2	Total/NA	Water	300.0	
440-227295-4	CM-9R3	Total/NA	Water	300.0	
440-227295-5	CM-11R	Total/NA	Water	300.0	
MB 440-516254/6	Method Blank	Total/NA	Water	300.0	
LCS 440-516254/5	Lab Control Sample	Total/NA	Water	300.0	
440-227051-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-227051-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 516255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	300.0	
440-227295-1	MW-6	Total/NA	Water	300.0	
440-227295-2	MW-14	Total/NA	Water	300.0	
440-227295-2	MW-14	Total/NA	Water	300.0	
440-227295-3	PZ-2	Total/NA	Water	300.0	
440-227295-3	PZ-2	Total/NA	Water	300.0	
440-227295-4	CM-9R3	Total/NA	Water	300.0	
440-227295-4	CM-9R3	Total/NA	Water	300.0	
440-227295-5	CM-11R	Total/NA	Water	300.0	
440-227295-5	CM-11R	Total/NA	Water	300.0	
MB 440-516255/6	Method Blank	Total/NA	Water	300.0	
LCS 440-516255/5	Lab Control Sample	Total/NA	Water	300.0	
440-227051-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-227051-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 517351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-3	PZ-2	Total Recoverable	Water	3005A	
440-227295-4	CM-9R3	Total Recoverable	Water	3005A	
440-227295-5	CM-11R	Total Recoverable	Water	3005A	
MB 440-517351/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-517351/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-227298-K-7-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-227298-K-7-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 517352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total Recoverable	Water	3005A	
440-227295-2	MW-14	Total Recoverable	Water	3005A	
MB 440-517352/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-517352/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-227545-G-9-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-227545-G-9-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 517461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total Recoverable	Water	6010B	517352
440-227295-2	MW-14	Total Recoverable	Water	6010B	517352
440-227295-3	PZ-2	Total Recoverable	Water	6010B	517351
440-227295-4	CM-9R3	Total Recoverable	Water	6010B	517351
440-227295-5	CM-11R	Total Recoverable	Water	6010B	517351
MB 440-517351/1-A	Method Blank	Total Recoverable	Water	6010B	517351
MB 440-517352/1-A	Method Blank	Total Recoverable	Water	6010B	517352
LCS 440-517351/2-A	Lab Control Sample	Total Recoverable	Water	6010B	517351
LCS 440-517352/2-A	Lab Control Sample	Total Recoverable	Water	6010B	517352
440-227298-K-7-B MS	Matrix Spike	Total Recoverable	Water	6010B	517351
440-227298-K-7-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	517351
440-227545-G-9-B MS	Matrix Spike	Total Recoverable	Water	6010B	517352
440-227545-G-9-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	517352

Analysis Batch: 517627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-3	PZ-2	Total Recoverable	Water	6010B	517351
440-227295-5	CM-11R	Total Recoverable	Water	6010B	517351

General Chemistry

Analysis Batch: 516476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	SM 2320B	
440-227295-2	MW-14	Total/NA	Water	SM 2320B	
440-227295-3	PZ-2	Total/NA	Water	SM 2320B	
440-227295-4	CM-9R3	Total/NA	Water	SM 2320B	
440-227295-5	CM-11R	Total/NA	Water	SM 2320B	
MB 440-516476/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-516476/2	Lab Control Sample	Total/NA	Water	SM 2320B	
580-82473-A-2 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 516960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	SM 2540C	
440-227295-2	MW-14	Total/NA	Water	SM 2540C	
440-227295-3	PZ-2	Total/NA	Water	SM 2540C	
440-227295-4	CM-9R3	Total/NA	Water	SM 2540C	
440-227295-5	CM-11R	Total/NA	Water	SM 2540C	
MB 440-516960/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-516960/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 516960 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227157-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 517284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	SM 5310C	
440-227295-2	MW-14	Total/NA	Water	SM 5310C	
440-227295-3	PZ-2	Total/NA	Water	SM 5310C	
440-227295-4	CM-9R3	Total/NA	Water	SM 5310C	
MB 440-517284/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-517284/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-517284/4	Lab Control Sample	Total/NA	Water	SM 5310C	
580-82472-A-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
580-82472-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 517678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	350.1	
440-227295-2	MW-14	Total/NA	Water	350.1	
440-227295-3	PZ-2	Total/NA	Water	350.1	
440-227295-4	CM-9R3	Total/NA	Water	350.1	
440-227295-5	CM-11R	Total/NA	Water	350.1	
MB 440-517678/10	Method Blank	Total/NA	Water	350.1	
LCS 440-517678/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-517678/9	Lab Control Sample	Total/NA	Water	350.1	
440-227295-1 MS	MW-6	Total/NA	Water	350.1	
440-227295-1 MSD	MW-6	Total/NA	Water	350.1	

Analysis Batch: 518400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	410.4	
440-227295-2	MW-14	Total/NA	Water	410.4	
440-227295-3	PZ-2	Total/NA	Water	410.4	
440-227295-4	CM-9R3	Total/NA	Water	410.4	
440-227295-5	CM-11R	Total/NA	Water	410.4	
MB 440-518400/3	Method Blank	Total/NA	Water	410.4	
LCS 440-518400/4	Lab Control Sample	Total/NA	Water	410.4	
440-226778-K-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-226778-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 518624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-5	CM-11R	Total/NA	Water	SM 5310C	
MB 440-518624/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-518624/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-518624/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-227777-G-2 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-227777-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 519373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	SM 4500 CO2 C	

General Chemistry (Continued)

Analysis Batch: 519373 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-2	MW-14	Total/NA	Water	SM 4500 CO2 C	
440-227295-3	PZ-2	Total/NA	Water	SM 4500 CO2 C	
440-227295-4	CM-9R3	Total/NA	Water	SM 4500 CO2 C	
440-227295-5	CM-11R	Total/NA	Water	SM 4500 CO2 C	
MB 440-519373/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-227295-4 DU	CM-9R3	Total/NA	Water	SM 4500 CO2 C	

Analysis Batch: 519637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-227295-1	MW-6	Total/NA	Water	SM 4500 S2 D	
440-227295-2	MW-14	Total/NA	Water	SM 4500 S2 D	
440-227295-3	PZ-2	Total/NA	Water	SM 4500 S2 D	
440-227295-4	CM-9R3	Total/NA	Water	SM 4500 S2 D	
440-227295-5	CM-11R	Total/NA	Water	SM 4500 S2 D	
MB 440-519637/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-519637/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-228688-J-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
440-228688-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227295-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-19
Arizona	State Program	9	AZ0671	10-14-19
California	LA Cty Sanitation Districts	9	10256	06-30-19
California	State Program	9	CA ELAP 2706	06-30-19
Guam	State Program	9	Cert. No. 17-003R	01-23-19 *
Hawaii	State Program	9	N/A	01-29-19 *
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-19 *
Oregon	NELAP	10	4028	01-29-19 *
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record 206792

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Kyle Welchans	Site Contact: Josh Mills	Date: 12/10/18	COC No:
Company Name: Geologix Associates	Tel/Fax: 858-451-1136	Lab Contact: Rossina	Carrier: TA	1 of 1 COCs
Address: 11415 W. Bernardo Ct	Analysis Turnaround Time			Sampler: KR, MB, BJ
City/State/Zip: San Diego CA 92127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 858-451-1136	TAT if different from Below ____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Republic Services	☐ 1 week			Job / SDG No.:
Site: Sunshine Canyon Landfill	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 8260B VOCs - incl. 40 CFR Part 258 Appx I VOCs	Dichlorodifluoromethane, MTBE	1,4-Dioxane	EPA 8270 1,4 Dioxane	EPA 310.1 Total Alkalinity as CaCO3	Bicarbonate	EPA 350.1 - Ammonia as N	EPA 410.4 - COD	EPA 300.0 - Chloride, Bromide	Nitrate-N, Sulfate	EPA 160.1 - TDS	EPA 415.1 - Total Organic Carbon	EPA 340.2 - Fluoride	EPA 376.2 - Sulfide	SM 4500-CO2 C Carbon, Dioxide	EPA 6010B - Total Ca, Fe, Mg, K, Na	Sample Specific Notes:
MW-6	12/10/18	1400	G	GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-14	12/10/18	1255		GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PZ-2	12/10/18	1055		GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CM-9R3		1530		GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CM-11R		1415		GW	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank		—		EQB WG	6			X																	
Trip Blank		—		"	6			X																	

440-227295 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

.7/.9, 3/.5 IR 38

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: *	Corr'd: *	Therm ID No.

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	Geologix	12-11-18 1410	[signature]	TA IRV	12.11.18 1410
[signature]	TA IRV	12.11.18 1700			
			Received in Laboratory by: [signature]	Company: TA-IRV	Date/Time 12/11/18 1700

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-227295-1

Login Number: 227295

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-227298-1
Client Project/Site: Republic Sunshine Canyon

For:
Geo-Logic Associates
11415 West Bernardo Court
Suite 200
San Diego, California 92127

Attn: Kyle Welchans

Authorized for release by:
1/2/2019 1:14:52 PM

Rossina Tomova, Project Manager I
(949)261-1022
rossina.tomova@testamericainc.com

Table of Contents

Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-227298-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-227298-1	MW-1	Water	12/11/18 09:44	12/11/18 17:00
440-227298-2	MW-5	Water	12/11/18 11:30	12/11/18 17:00
440-227298-3	MW-9	Water	12/11/18 13:50	12/11/18 17:00
440-227298-4	MW-13R	Water	12/11/18 09:43	12/11/18 17:00
440-227298-5	CM-10R	Water	12/11/18 07:55	12/11/18 17:00
440-227298-6	DW-1	Water	12/11/18 12:50	12/11/18 17:00
440-227298-7	DW-5	Water	12/11/18 12:40	12/11/18 17:00
440-227298-8	Duplicate	Water	12/11/18 00:01	12/11/18 17:00
440-227298-9	LX-7	Water	12/11/18 11:00	12/11/18 17:00
440-227298-10	Field Blank	Water	12/11/18 00:01	12/11/18 17:00
440-227298-11	Trip Blank	Water	12/11/18 00:01	12/11/18 17:00

Job ID: 440-227298-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-227298-1

Comments
No additional comments.

Receipt
The samples were received on 12/11/2018 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4º C, 2.6º C and 2.6º C.

GC/MS VOA
Method(s) 8260B: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-516445 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: LX-7 (440-227298-9).
The sample was analyzed within 7 days per EPA recommendation.

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

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following samples were diluted for Bromide and/or Fluoride due to the nature of the sample matrix: MW-1 (440-227298-1), MW-9 (440-227298-3), CM-10R (440-227298-5) and DW-1 (440-227298-6). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted for Bromide and/or Fluoride due to the nature of the sample matrix: LX-7 (440-227298-9). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Nitrate as N due to the nature of the sample matrix: MW-1 (440-227298-1), MW-5 (440-227298-2), MW-9 (440-227298-3), CM-10R (440-227298-5) and DW-1 (440-227298-6). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Nitrate as N due to the nature of the sample matrix: Duplicate (440-227298-8) and LX-7 (440-227298-9). Elevated reporting limits (RLs) are provided.

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

Metals
Method(s) 3005A: The reference method requires samples to be preserved to a pH of <2. The following sample was received with insufficient preservation at a pH of 6: LX-7 (440-227298-9). The sample(s) was preserved to the appropriate pH in the laboratory.

1.0mL HNO3 added 12/16/18 @ 6:54 to 7:03
HNO3 lot#0000203839

Method(s) 6010B: The continuing calibration blank (CCB) for analytical batch 440-517461 contained Sodium above the method detection limit (MDL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

General Chemistry
Method(s) 350.1: The matrix spike duplicate (MSD) recovery for analytical batch 440-519818 were outside control limits. Sample matrix