

August 15, 2019

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**FIRST SEMIANNUAL 2019 MONITORING REPORT
SUNSHINE CANYON CITY/COUNTY LANDFILL, SYLMAR, CALIFORNIA**

Please find enclosed the first semiannual 2019 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 January 1 to June 30, 2019, semiannual monitoring period.

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 MONITORING REPORT
FIRST SEMI ANNUAL (JANUARY – JUNE) 2019**

**SUNSHINE CANYON LANDFILL
FACILITY WDID #L10006014618**

**AUGUST 2019
PROJECT NO. SO19.1074**

PREPARED FOR:

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CERTIFICATION

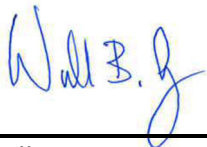
All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a Geo-Logic Associates' California Registered Professional Geologist and Certified Engineering Geologist.



August 9, 2019

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August 9, 2019

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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 first semiannual monitoring period of 2019 (January through June). 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 2019 monitoring period, routine environmental monitoring was conducted on a quarterly basis in March (first quarter) and June (second quarter), and included: depth to water measurements; sampling and analysis of groundwater, surface water, vadose zone liquid, and leachate; 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 first and second quarter 2019 monitoring events:

WELL	ANALYTE	QUARTER(S) OF WQPS EXCEEDANCE	RETEST RESULTS
MW-1	1,4-Dioxane	1 st & 2 nd	Not Applicable
	Alkalinity	2 nd	<i>Results Pending</i>
MW-5	1,4-Dioxane	1 st & 2 nd	Not Applicable
	Alkalinity	1 st & 2 nd	<i>Exceeded WQPS</i>
	t-Butanol	1 st & 2 nd	<i>Exceeded WQPS</i>
	Tetrahydrofuran	1 st	<i>Exceeded WQPS</i>
MW-13R	1,4-Dioxane	1 st & 2 nd	Not Applicable
	Chemical Oxygen Demand	2 nd	<i>Results Pending</i>
MW-14	Total Dissolved Solids	1 st	Not Applicable
DW-5	Allyl Chloride	2 nd	Not Applicable
PZ-2	Potassium	1 st	<i>Below WQPS</i>
PZ-4	Ammonia-N	1 st	<i>Exceeded WQPS</i>

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

These results are generally similar to past monitoring event results. Based on retest results for samples collected in response to first quarter 2019 WQPS exceedances, the following were added to tracking mode: alkalinity; t-butanol; and tetrahydrofuran at well MW-5; and ammonia-N at well PZ-4. Retest results are pending for second quarter 2019 WQPS exceedances and will be reported in the Second Semiannual 2019 Water Quality Monitoring Report.

During the first semiannual 2019 monitoring period, previously identified volatile organic compounds (VOCs) were again detected in the first and second 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 were reported dry during the first quarter 2019. Results from the sample collected from LY-7 during the second quarter 2019 include three VOCs detected historically (LY-6 was dry again during the second quarter 2019).

A retest sample from “Deep Leachate” was collected in April 2019 and the results confirm the presence of a few VOCs, semi-VOCs, and metals.

During the first semiannual 2019 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 29,354,788 gallons of liquid were collected at the site and disposed to the sewer during the first semiannual 2019 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 first semiannual 2019 monitoring period (January through June) 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, consisting of 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 alluvial 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 first semiannual 2019 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 first semiannual 2019 monitoring period, groundwater monitoring was conducted between March 25 through 28 (first quarter) and between June 24 through 27 (second 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 first and second quarter 2019 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 first quarter 2019 monitoring period, samples were analyzed for the indicator parameters listed on Table 2. During the second quarter 2019 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 first semiannual 2019 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:

First Quarter 2019 Monitoring Event

- 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 typically 16 percent or less. However, variation was high for three analytes: alkalinity (RPD of 36 percent), total dissolved solids (TDS; RPD of 50 percent) and chloride (RPD of 52 percent). As noted in the case narrative for the lab report, the matrix spike and matrix spike duplicate were outside of control limits. TA was notified of the variation in sample results and is reviewing their QA/QC procedures. TA notes that chloride was run twice with similar results.

Second Quarter 2019 Monitoring Event

- All analyses were completed within the recommended holding times prescribed by the respective analytical method.
- As indicated on Table 3B, iron was measured at a trace concentration in a method blank sample. Similar concentrations of iron in primary samples are flagged in the comparison tables. No other constituents were detected in blank samples.
- The RPD for quantifiable primary and duplicate sample results was 14 percent or less.

The results of the QA/QC program completed during the first semiannual 2019 monitoring period are considered acceptable and representative of water quality at the site.

3.4 Groundwater Elevations and Flow Conditions

During the first semiannual 2019 monitoring period, quarterly depth to groundwater measurements were recorded on March 25 and June 24, 2019. Groundwater equipotential surface contours were developed for wells screened in bedrock using first and second quarter 2019 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 first quarter 2019 monitoring period, and for indicator and supplemental parameters during the second quarter 2019 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 Fourth Quarter 2018 Retest Groundwater Chemistry Results

Groundwater monitoring results for the fourth quarter 2018 monitoring event included a concentration of naphthalene that exceeded the Intrawell WQPS for well MW-6. Because this constituent/well pair is not in tracking mode, retest samples were collected on January 23, 2019. The results are summarized in the following table.

WELL	ANALYTE	UNITS	WQPS	4 TH QUARTER 2018 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-6	Naphthalene	µg/L	1.0	1.1	ND	ND

Note: "ND" – Not detected.

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

3.5.2 First Quarter 2019 Groundwater Chemistry Results

During the first quarter 2019 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 first quarter 2019 monitoring results with water quality protection standards (WQPS). The following table summarizes WQPS exceedances and verification retesting results (when applicable).

WELL	ANALYTE	UNITS	WQPS	1 st QUARTER 2019 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-1	1,4-Dioxane	µg/L	0.99 (PQL)	10	TM	TM
MW-5	1,4-Dioxane	µg/L	0.98 (PQL)	9.5	TM	TM
	t-Butanol	µg/L	10 (PQL)	100	79	80
	Tetrahydrofuran	µg/L	10 (PQL)	17	20	20
	Alkalinity	mg/L	727.34	880	930	920
MW-13R	1,4-Dioxane	µg/L	0.98 PQL	4.8	TM	TM
MW-14	Total Dissolved Solids	mg/L	5128.5	6000	TM	TM
PZ-2	Potassium	mg/L	4.693	5.5	3.4	3.5
PZ-4	Ammonia-N	mg/L	2.976	3.1	3.0	3.1

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 on June 20, 2019, to verify the initial results for the following: t-butanol, tetrahydrofuran, and alkalinity at well MW-5; potassium at well PZ-2; and ammonia-N at well PZ-4. Retest results were measured at concentrations below the respective WQPS at well PZ-2. All other retest results exceeded WQPS; and therefore, these constituent/well pairs are now in “tracking 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 and acetone were measured in wells MW-13R and PZ-4, respectively. With respect to corrective action evaluation monitoring wells, five VOCs (all 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 first quarter 2019 monitoring period exceeded a Federal or State drinking water Maximum Contaminant Level (Table 6A).

3.5.3 Second Quarter 2019 Groundwater Chemistry Results

Groundwater samples obtained during the second quarter 2019 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	2 nd QUARTER 2019 RESULT
MW-1	1,4-Dioxane	µg/L	0.98 (PQL)	7.0
	Alkalinity	mg/L	844.76	870
MW-5	t-Butanol	µg/L	10 (PQL)	63
	1,4-Dioxane	µg/L	1.0 (PQL)	8.6
	Alkalinity	mg/L	727.34	740
MW-13R	1,4-Dioxane	µg/L	1.1 (PQL)	7.7
	Chemical Oxygen Demand	mg/L	407.58	470
DW-5	Allyl Chloride	µg/L	1.0 (PQL)	1.8

Note: PQL – Practical Quantitation Limit.

Many of the well/constituent pairs listed above are currently in “tracking mode” and retesting is therefore not required. However, retesting is currently scheduled at wells MW-1 for alkalinity and at MW-13R for chemical oxygen demand. Retest results will be reported in the upcoming Second Semiannual 2019 Monitoring Report.

In addition to quantifiable VOCs measured in samples from the detection monitoring wells shown in the table above, a trace concentration of tetrahydrofuran was reported in the sample from well MW-5. With respect to corrective action evaluation monitoring wells, four VOCs (all 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

Tetrahydrofuran and alkalinity at well MW-5 and ammonia-N at well PZ-4 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,	Alkalinity	Retest for Alkalinity; Continue Quarterly Monitoring
MW-5	1,4-Dioxane, t-Butanol, Tetrahydrofuran, Alkalinity, Ammonia-N	1,4-Dioxane, t-butanol, Tetrahydrofuran Alkalinity	None	Continue Quarterly Monitoring
MW-6	Chemical Oxygen Demand	None	None	Continue Quarterly Monitoring
MW-13R	1,4-Dioxane, Potassium, Ammonia-N	1,4-Dioxane, Chemical Oxygen Demand	Chemical Oxygen Demand	Retest for Chemical Oxygen Demand; Continue Quarterly Monitoring
MW-14	Alkalinity, TDS	TDS	None	Continue Quarterly Monitoring
DW-3	Alkalinity, Ammonia-N	None	None	Continue Quarterly Monitoring
DW-5	Ammonia-N, Allyl Chloride	Allyl Chloride	None	Continue Quarterly Monitoring
PZ-4	Alkalinity, Ammonia-N, Chloromethane	Ammonia-N	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	1st QUARTER RESULTS	2nd QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-1: 1,4-Dioxane	PQL	10	7.0	Decreasing trend over last 4 years.
MW-1: t-Butanol	PQL	ND	ND	Variable (cyclic) concentrations typically between 8 µg/L and 22 µg/L. No detections in 2019.
MW-5: 1,4-Dioxane	PQL	9.5	8.6	Variable concentrations with slight increasing long-term trend; consistently measured above the PQL.
MW-5: t-Butanol	PQL	100	63	Only four observations exceeding the WQPS. Intermittent detections. Elevated in 2019.
MW-5: Ammonia-N	5.714 mg/L	5.6	4.3	Slight increasing trend over past three years, currently below WQPS

WELL/ANALYTE PAIR	CONCENTRATION LIMIT	1st QUARTER RESULTS	2nd QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-5: Alkalinity	727.34 mg/L	880	740	Rarely at concentrations above WQPS.
MW-5: Tetrahydrofuran	PQL	17	9.2j	Only recently detected in 2019.
MW-6: Chemical Oxygen Demand	75.338 mg/L	ND	17j	Two sporadic results measured over the concentration limit.
MW-13R: 1,4-Dioxane	PQL	4.8	7.7	Variable concentrations between 4 µg/L and 11 µg/L during the last five years.
MW-13R: Potassium	27.224 mg/L	24	20	Overall increasing trend since 2012. First measurement over WQPS in 2017. Decreasing trend over last year.
MW-13R: Ammonia-N	7.732 mg/L	7.5	6.9	First measurement over WQPS in 2018; current concentrations below WQPS.
MW-14: Alkalinity	587.83	570	420	Variable concentrations typically below the WQPS.
MW-14: TDS	5128.5	6000	4000	Variable concentrations typically below the WQPS.
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	0.69	0.68	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	ND	0.24	Results are typically very near (both above and below) the WQPS, with a few outliers.
DW-5: Allyl Chloride	PQL	ND	1.8	Intermittent detections.
PZ-4: Alkalinity, total	341.13 mg/L	340	340	Concentrations are generally below or slightly above the WQPS.
PZ-4: Chloromethane	PQL	ND	ND	One historical detection.
PZ-4: Ammonia-N	2.976	3.1	2.6	Only two historical measurements slightly above the WQPS

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, MW-13R, and DW-5 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. During the monitoring period, vinyl chloride at well MW-14 and chloride at well DW-1 were removed from tracking mode.

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 analysis.

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 First Quarter 2019 Subdrain Monitoring Results

During the first quarter 2019 monitoring event, samples from each subdrain monitoring point were collected on March 25, 2018. Samples were delivered to TestAmerica Labs for the indicator parameters.

As shown on Table 8A, the sample from Subdrain N contained six VOCs with a total concentration of 37.5 µg/L. The sample from Combined Subdrains contained two VOCs with a total concentration of 4.46 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 in both samples and the field-measured pH value at combined subdrains exceeded the state secondary drinking water standard.

4.1.3 Second Quarter 2019 Subdrain Monitoring Results

During the second quarter 2019 monitoring event, samples from subdrain monitoring points were collected on June 24, 2019. Samples were delivered to TestAmerica Labs for the analysis of indicator and supplemental parameters.

As shown on Table 8B, six 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 91.9 µg/L and 13.72 µg/L (respectively). All VOC concentrations were measured below State and federal drinking water standards.

Concentrations of fluoride, sulfate, TDS, iron, manganese, and the field-measured pH exceeded State of California secondary drinking water standards in both second quarter 2019 subdrain samples.

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 First Quarter 2019 Lysimeter Monitoring Results

During the first quarter 2019, both lysimeters were reported dry.

4.2.3 Second Quarter 2019 Lysimeter Monitoring Results

A sample was collected from LY-7 on June 27, 2019. As shown on Table 8B, three VOCs were detected in the sample from LY-7. The total concentration of VOCs was 389.9 µg/L is similar to recent results. No VOC concentrations exceeded a State or federal drinking water standard, though the concentrations of chloride, sulfate, TDS, iron, manganese, and field-measured pH exceeded State of California secondary (e.g., aesthetic) drinking water standards.

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 first semiannual 2019 monitoring period, screening of the permanent vadose zone monitoring locations (monthly) was conducted during the following dates: January 15-24, February 12-21, March 26-28, April 23-25, May 21-23, and June 18-20, 2019. 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).

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 first semiannual 2019 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 January 7, 14, and 31 and on February 14, 2019. Sampling results are summarized in Table 10.

6.2 Stream Diversion Monitoring

During the first semiannual 2019 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 two discrete leachate monitoring points (Figure 2):

- Leachate sample location “LR-2R” monitors leachate accumulation near the base of unlined City Landfill Unit 1.
- 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” which represents a composite mixture of leachate from all lined cells at the SCLF. Samples are collected from a sample port on a pipe prior to the above ground tanks.

A sample was collected from new leachate monitoring point “Deep Leachate” on December 12, 2018. Based on the results obtained, retesting of “Deep Leachate” was performed on April 10, 2019 and retested for VOCs, SVOCs, sulfide, and select metals measured above respective practical quantitation limits. Retesting results are summarized on Table 11.

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 first semiannual 2019 monitoring period, approximately 29,354,788 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 24,583,768 gallons of water from the City of Los Angeles Department of Water and Power (Table 12).

As noted in Table 12, no leachate was pumped in May and June. The issue was investigated and it was discovered that a pump had failed. The pump was repaired and the system was back online as of August 6, 2019.

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 first semiannual 2019 monitoring period, the required standard observations were made by site personnel. The site's NPDES certification of completion for the first semiannual 2019 monitoring period is included in Appendix D.

10.0 WASTE DISPOSAL MONITORING

During the first semiannual 2019 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	185,635.40	250,859
February	156,045.06	210,872
March	180,856.72	244,401
April	204,901.38	276,894
May	209,261.04	282,785
June	200,294.65	270,668
January - June Totals:	1,136,994.25	1,536,479

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

As summarized in the preceding table, during the first semiannual 2019 monitoring period, approximately 1,136,994.25 tons of waste was disposed of at the SCLF. As of July 1, 2019, the remaining capacity at the SCL is estimated at approximately 73,685,502 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 first semiannual 2019 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 Designated Level Methodology for Waste Classification 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.

Sample results are summarized on Tables 14 and 15.

11.1 First Semiannual 2019 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.

When applicable, 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.

All special wastes that were disposed of at the SCL during the first semiannual 2019 monitoring period met the waste acceptance requirements of the Amended WDRs and the site-specific WAP.

12.0 SUMMARY

During the first semiannual 2019 monitoring period, 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 first semiannual 2019 monitoring period, concentration limits were exceeded for VOCs at three 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 wells and four of the shallow, alluvial detection monitoring wells. Based on retest results following concentration limit exceedances, the following were added to tracking mode during the monitoring period: t-butanol, tetrahydrofuran, and alkalinity at well MW-5; and ammonia-N at well PZ-4. Retest results are pending for second quarter 2019 exceedances of chemical oxygen demand at well MW-13R and alkalinity at well MW-1. The results will be reported in the Second Semiannual 2019 Water Quality Monitoring Report. Due to insufficient WQPS exceedances in recent years, the following were removed from tracking mode: vinyl chloride at well MW-14 and chloride at well DW-1.

During the first semiannual 2019 monitoring period, methane concentrations did not exceed 5%V at any landfill gas monitoring probe.

No new seeps were identified during the first semiannual 2019 monitoring period.

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.

The following construction activities were completed during the monitoring period:

- Installation and activation of 134 new and replacement vertical wells
- Installation and activation of 106 horizontal collectors in new waste placement areas
- Installation and activation of three liner collectors in new cell construction
- Installation of two trench collectors along the access to the active area
- Installation of dewatering pumps in gas wells impacted by liquids;
 - Installation of 61 dewatering pumps in vertical gas extraction wells
 - Installation of over 3,000 feet of air and force main lines for the operation of pumps and transport of liquids removed from the wells
 - Installation of seven de-scalers on the force main lines to prevent the build-up of solids that can create blockage in the force main lines.
 - Installation of a grinder pump in a transfer sump to accommodate the solids in the liquid being transported by the force main lines
 - Installation of an additional pump in the main sump (total of 3) to accommodate the increased flow from the additional pumps
 - Installation of approx. 1,800 feet of 18 inch header pipe around the perimeter of the active area

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
	Groundwater 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 permitted 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

**TABLE 2
ANALYTICAL PARAMETERS AND METHODS
SUNSHINE CANYON LANDFILL**

Parameter	Typical USEPA Method	Frequency
<u>Indicator Parameters</u>		
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
<u>Supplemental Parameters</u>		
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
<u>Constituents of Concern (COCs)</u>		
		(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 - FIRST QUARTER 2019
SUNSHINE CANYON LANDFILL**

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
3/25/19	3/25/19	QCAB	None Detected
	3/25/19	QCTB	None Detected
	3/25/19	Method Blank	None Detected
3/26/19	3/26/19	QCAB	None Detected
	3/26/19	QCTB	None Detected
	3/26/19	Method Blank	None Detected
3/27/19	3/27/19	QCAB	None Detected
	3/27/19	QCTB	None Detected
	3/27/19	Method Blank	None Detected
3/28/19	3/28/19	QCAB	None Detected
	3/28/19	QCTB	None Detected
	3/28/19	Method Blank	None Detected

**TABLE 3B
SUMMARY OF BLANK SAMPLE RESULTS - SECOND QUARTER 2019
SUNSHINE CANYON LANDFILL**

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
6/24/19	4/10/19	QCAB	None Detected
	4/10/19	QCTB	None Detected
	4/10/19	Method Blank	None Detected
6/24/19	6/24/19	QCAB	None Detected
	6/24/19	QCTB	None Detected
	6/24/19	Method Blank	None Detected
6/25/19	6/25/19	QCAB	None Detected
	6/25/19	QCTB	None Detected
	6/25/19	Method Blank	Iron: 0.0650j mg/L
6/26/19	6/26/19	QCAB	None Detected
	6/26/19	QCTB	None Detected
	6/26/19	Method Blank	None Detected
6/27/19	6/27/19	QCAB	None Detected
	6/27/19	QCTB	None Detected
	6/27/19	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 - FIRST QUARTER 2019
SUNSHINE CANYON LANDFILL**

ANALYTE	MW-1 3/26/2019	DUPLICATE 3/26/2019	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	630	440	36
Ammonia (as N)	1.4	1.6	13
Chemical Oxygen Demand	57	64	12
Chloride	170	100	52
Total Dissolved Solids	3000	1800	50
Total Organic Compound	33	31	6
METALS (mg/L):			
Potassium	15	16	6
VOLATILE & SEMI-VOLATILE ORGANIC COMPOUNDS (µg/L):			
1,4-Dioxane	10	8.5	16

**TABLE 4B
SUMMARY OF DUPLICATE SAMPLE RESULTS - SECOND QUARTER 2019
SUNSHINE CANYON LANDFILL**

ANALYTE	CM-11R 6/25/2019	DUPLICATE 6/25/2019	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	27	30	11
Ammonia (as N)	2.3	2.0	14
Bicarbonate alkalinity	27	30	11
Bromide	2.5	2.5	NC
Carbon Dioxide	56	63	12
Chemical Oxygen Demand	10	10	NC
Chloride	11	11	0
Fluoride	2.5	2.5	NC
Nitrate (as N)	0.55	0.55	NC
Sulfate	2500	2500	0
Sulfide, total	0.027	0.027	NC
Total Dissolved Solids	4000	4000	0
Total Organic Carbon	4.8	4.8	0
METALS (mg/L):			
Boron	1.4	1.3	7
Calcium	270	270	0
Iron	0.58*	0.30*	NC
Magnesium	170	170	0
Manganese	4.1	4.1	0
Potassium	11	11	0
Sodium	550	520	6
VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS (µg/L): None Detected			

Notes:

Right-justified value, non-shaded box indicates a quantified concentration (above the Practical Quantitation 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.

* - Detected in method blank at similar concentration.

**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
3/25/19	8.19	32.25	18.17	15.22	15.38	14.84	16.06	13.84	0.00	19.39	155.32	32.19
6/24/19	8.61	32.37	16.80	16.83	16.15	20.95	16.43	14.31	0.00	21.97	155.45	32.18
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	1325.54	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	1349.42	1361.93	1321.41	1330.49	1347.86	1326.58	1339.32	1351.93	1486.82	1529.44	1349.20
12/19/2016	1327.36	1350.38	1362.49	1321.57	1329.99	1348.17	1326.52	1339.58	1351.93	1486.64	1528.98	1347.37
3/13/2017	1329.29	1351.28	1364.34	1323.84	1330.94	1349.36	1328.56	1339.75	1351.93	1498.84	1529.00	1360.23
6/12/2017	1328.89	1350.87	1364.87	1322.81	1330.79	1350.37	1328.36	1339.61	1351.93	1498.36	1529.33	1360.08
9/18/2017	1328.84	1348.14	1363.60	1322.28	1330.63	1351.44	1328.04	1339.69	1351.93	1497.09	1528.77	1350.51
12/4/2017	1329.13	1347.70	1363.23	1322.26	1330.47	1349.88	1327.83	1339.45	1351.93	1496.02	1527.80	1349.70
3/12/18	1330.12	1348.00	1363.31	1321.95	1331.21	1349.87	1328.84	1339.52	1351.93	1496.41	1528.16	1349.30
6/12/18	1329.99	1349.15	1364.21	1322.54	1330.85	1345.51	1329.09	1339.67	1351.93	1496.36	1527.91	1349.43
9/18/18	1328.89	1347.90	1363.34	1322.10	1330.54	1342.19	1328.71	1339.64	1351.93	1494.97	1527.72	1349.21
12/10/18	1331.34	1348.09	1363.12	1323.08	1331.12	1344.06	1329.65	1340.02	1351.93	1494.07	1527.17	1349.18
3/25/19	1336.29	1349.46	1363.81	1326.20	1331.94	1348.48	1329.72	1340.35	1351.93	1502.53	1527.22	1349.83
6/24/19	1335.87	1349.34	1365.18	1324.59	1331.17	1342.37	1329.35	1339.88	1351.93	1499.95	1527.09	1349.84

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
 * - 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)	14.90	83.27	123.27	215.90	110.80	11.42	47.37	23.11		13.62	19.86
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
3/25/19	13.84	93.62	122.17	222.04	111.58	8.69	46.18	10.99	12.96	ABANDONED	220.60
6/24/19	13.42	93.42	121.99	222.24	111.24	10.24	47.16	15.93	16.05	ABANDONED	221.36
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	1892.39	1889.39	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	1346.57	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	1985.53	1347.96	1874.76	NM
6/9/14	1328.40	1553.14	1443.95	NM	1685.48	1886.99	1850.94	1988.53	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	1830.9
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	1817.1
12/4/2017	1332.72	1550.84	1443.98	1808.82	1684.04	1888.06	1850.44	1990.75	1348.05	ABANDONED	1816.1
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
3/25/19	1333.70	1550.14	1444.35	1807.15	1684.27	1893.71	1855.02	1999.42	1349.41	ABANDONED	1811.40
6/24/19	1334.12	1550.34	1444.53	1806.95	1684.61	1892.16	1854.04	1994.48	1346.32	ABANDONED	1810.64

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 - FIRST QUARTER 2019
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	
		3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/27/2019	3/26/2019	3/25/2019	3/27/2019	3/26/2019	3/25/2019	3/27/2019	3/26/2019	3/26/2019	3/27/2019	3/25/2018	3/27/2019	3/25/2018	3/28/2019	
Inorganic Monitoring Parameters:																				
Alkalinity	mg/L	170	40	320	630	370	880	480	890	870	570	540	390	160	350	970	340	370	340	NV
Ammonia-Nitrogen	mg/L	5.3	3.0	11	1.4	2.9	5.6	1.0	8.1	7.5	0.10	2.0	3.6	0.69	3.8	0.50	3.2	3.4	3.1	NV
Chemical Oxygen Demand	mg/L	10	10	10	57	10	82	10	83	340	10	10	10	10	10	10	10	10	10	NV
Chloride	mg/L	16	12	9.4	170	16	400	32	180	150	70	14	11	13	14	17	14	12	9.4	500(2)
Potassium, total	mg/L	14	13	13	15	6.2	33	6.4	27	24	12	3.4	5.6	9.5	4.5	2.3	5.6	5.5	4.9	NV
Total Dissolved Solids	mg/L	4000	4100	2800	3000	2600	3900	3600	3800	1700	6000	3200	1800	1900	2900	1100	2500	4200	1300	1000(2)
Total Organic Carbon	mg/L	7.1	4.9	2.7	33	3.8	36	5.2	41	26	8.4	3.0	1.6	0.46	1.8	7.3	1.6	2.2	2.0	NV
Volatile Organic Compounds:																				
Acetone	µg/L	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	12j	NV
t-Butanol	µg/L	5.0	5.0	5.0	5.0	5.0	100	5.0	38	7.5j	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	1.1	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-Dichlorobenzene	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.57	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	5(1)-75(3)
1,4-Dioxane	µg/L	0.25	0.25	0.25	10	0.25	9.5	0.25	22	4.8	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.56	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	17	5.0	5.0	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 -SECOND 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
		06/25/19	06/25/19	06/25/19	06/26/19	06/26/19	06/26/19	06/24/19	06/26/19	06/27/19	06/24/19	06/25/19	06/25/19	06/25/19	06/26/19	06/25/19	06/26/19	06/24/19		06/25/19
Inorganic Monitoring Parameters:																				
Alkalinity, total	mg/L	180	27	390	870	360	740	470	740	940	420	540	390	160	350	950	350	370	340	NV
Alkalinity, bicarbonate	mg/L	180	27	390	870	360	740	470	740	940	420	430	390	160	350	920	350	350	340	NV
Ammonia-Nitrogen	mg/L	4.8	2.3	9.1	0.89	3.3	4.3	0.77	7.1	6.9	0.10	1.8	2.8	0.68	4.3	0.24	3.6	3.0	2.6	NV
Bromide	mg/L	2.5	2.5	0.50	1.3	0.50	3.0j	1.4j	2.7j	1.9	2.0j	2.5	0.50	0.25	1.3	0.25	0.50	2.5	0.25	NV
Carbon Dioxide, free	mg/L	55	56	44	51	34	99	42	130	67	69	2.0	11	19	14	2.0	18	2.0	40	NV
Chemical Oxygen Demand	mg/L	10j	10	10	43	10	94	17j	88	470	25	10	10	10	12j	10	10	16j	10	NV
Chloride	mg/L	13	11	9.0	120	19	270	39	180	150	65	14	10	14	14	19	14	12	8.0	500(2)
Fluoride	mg/L	3.4j	2.5	1.5	1.9	1.8	4.2j	2.1j	3.0j	0.44j	2.1j	3.8j	1.0	0.47j	1.3j	3.5	1.3	2.5j	1.0	2(1)-4(3)
Nitrate-Nitrogen	mg/L	0.55	0.55	0.11	0.11	0.11	0.55	0.28	0.55	0.055	0.44j	0.55	0.11	0.055	0.28	0.060j	0.11	0.55	0.055	10(1,3)
Sulfate	mg/L	2400	2500	1500	930	1500	1400	2200	1800	49	2500	1600	890	1100	1700	1.1	1600	2400	510	500(2)
Sulfide, total	mg/L	0.027	0.027	0.027	0.027	0.045j	0.027	0.045j	0.027	290	0.027	0.28	0.027	0.027	0.027	0.10	0.027	0.027	0.074	NV
Total Dissolved Solids	mg/L	4100	4000	2700	2300	2700	3500	3900	3800	1400	4000	3200	1800	2000	2900	1100	2700	4100	1200	1000(2)
Total Organic Carbon	mg/L	6.0	4.8	3.1	24	3.3	33	5.5	37	25	7.0	2.8	1.4	0.33	1.8	9.9	1.7	2.2	1.2	NV
Metals:																				
Boron	mg/L	1.9	1.4	0.93	1.2	0.62	1.2	0.68	1.1	0.92	0.43	2.0	0.66	0.052	0.63	2.4	0.62	1.3	0.17	NV
Calcium	mg/L	310	270	260	220	230	370	400	440	79	470	2.4	47	270	190	4.7	190	12	130	NV
Iron	mg/L	7.2	0.58	1.9	8.2	19	33	1.5	60	0.050	0.19	0.050j*	0.63	0.57*	1.7	0.14*	2.3	0.085j	1.3	0.3(2)
Magnesium	mg/L	200	170	180	150	130	180	220	240	130	230	1.5	32	98	140	0.89	120	11	77	NV
Manganese	mg/L	2.2	4.1	0.50	0.79	0.69	4.4	1.4	4.9	0.015	5.8	0.015	0.066	0.062	0.12	0.11	0.15	0.030	0.18	0.05(2)
Potassium, total	mg/L	11	11	11	11	6.7	24	6.6	25	20	8.3	1.7	3.3	8.1	4.6	1.1	4.3j	3.8	4.2	NV
Sodium	mg/L	490	550	190	270	410	310	300	350	160	300	1000	440	61	490	360	450	1200	83	NV
Volatile and Semivolatile Organic Compounds:																				
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	1.8	0.50	0.50	0.50	NV
t-Butanol	µg/L	5.0	5.0	5.0	5.0	5.0	63	5.0	16	5.0	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	0.58	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	7.0	0.25	8.6	0.25	16	7.7	0.25	0.26	0.26	0.25	0.25	0.25	0.24	0.26	0.25	NV
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.58	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	9.2	5.0	5.0	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.

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 - FIRST QUARTER 2019
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
Inorganic Monitoring Parameters:																							
Alkalinity	mg/L	630	844.76	880	727.34	480	571.59	870	972.24	570	587.83	540	658.76	390	410.47	160	162.81	970	1009.98	370	411.93	340	341.13
Ammonia-Nitrogen	mg/L	1.4	10.634	5.6	5.714	1.0	1.337	7.5	7.732	0.10	0.5703	2.0	2.4	3.6	4.308	0.69	0.7564	0.50	0.3918	3.4	3.598	3.1	2.976
Chemical Oxygen Demand	mg/L	57	202.056	82	135.7	10	75.338	340	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	170	408.469	400	469.603	32	70.829	150	213.802	70	88.987	14	17.737	11	15.462	13	17.534	17	101.838	12	16.398	9.4	11.706
Potassium, total	mg/L	15	54.763	33	34.393	6.4	10.679	24	27.224	12	12.508	3.4	3.838	5.6	6.183	9.5	12.357	2.3	5.262	5.5	4.693	4.9	5.643
Total Dissolved Solids	mg/L	3000	4495	3900	4614.2	3600	4486.5	1700	3450.9	6000	5128.5	3200	3600.2	1800	2178.3	1900	2313.1	1100	1417.3	4200	4403.2	1300	1529.5
Total Organic Carbon	mg/L	33	75.928	36	50.696	5.2	15.408	26	54.233	8.4	13.006	3.0	9.947	1.6	3.499	0.46	2.115	7.3	11.745	2.2	2.887	2.0	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
Acetone	µg/L	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	12j	20
t-Butanol	µg/L	5.0	10	100	10	5.0	10	7.5j	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	10	0.99	9.5	0.98	0.24	0.97	4.8	0.98	0.25	0.98	0.24	0.98	0.25	1.0	0.25	0.98	0.25	1.0	0.25	0.98	0.25	0.98
Tetrahydrofuran	µg/L	5.0	10	17	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10

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 7B
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - SECOND QUARTER 2019
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
Inorganic Monitoring Parameters:																							
Alkalinity	mg/L	870	844.76	740	727.34	470	571.59	940	972.24	420	587.83	540	658.76	390	410.47	160	162.81	950	1009.98	370	411.93	340	341.13
Ammonia-Nitrogen	mg/L	0.89	10.634	4.3	5.714	0.77	1.337	6.9	7.732	0.10	0.5703	1.8	2.4	2.8	4.308	0.68	0.7564	0.24	0.3918	3.0	3.598	2.60	2.976
Chemical Oxygen Demand	mg/L	43	202.056	94	135.7	17j	75.338	470	407.58	25	54.674	10	49.801	11	52.743	10	15.206	10	76.47	16j	26.386	10	24.85
Chloride	mg/L	120	408.469	270	469.603	39	70.829	150	213.802	65	88.987	14	17.737	10	15.462	14	17.534	19	101.838	12	16.398	8.0	11.706
Potassium, total	mg/L	11	54.763	24	34.393	6.6	10.679	20	27.224	8.3	12.508	1.7	3.838	3.3	6.183	8.1	12.357	1.1	5.262	3.8	4.693	4.2	5.643
Total Dissolved Solids	mg/L	2300	4495	3500	4614.2	3900	4486.5	1400	3450.9	4000	5128.5	3200	3600.2	1800	2178.3	2000	2313.1	1100	1417.3	4100	4403.2	1200	1529.5
Total Organic Carbon	mg/L	24	75.928	33	50.696	5.5	15.408	25	54.233	7.0	13.006	2.8	9.947	1.4	3.499	0.33	2.115	9.9	11.745	2.2	2.887	1.2	2.085
Volatile and Semivolatile Organic Compounds: (The WQPS is the PQL for any single VOC/SVOC 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	1.8	1.0	0.50	1.0	0.50	1.0
t-Butanol	µg/L	5.0	10	63	10	5.0	10	5.0	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	7.0	0.98	8.6	1.0	0.25	1.0	7.7	1.1	0.25	0.97	0.26	1.0	0.26	1.0	0.25	0.98	0.25	0.98	0.26	0.97	0.25	0.99
Tetrahydrofuran	µg/L	5.0	10	9.2j	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	10

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
FIRST QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		3/25/2019	3/25/2019	3/27/2019	3/25-28/2019	
Field Parameters:						
Electrical Conductivity	mS/cm	5.23	3.66	Dry	Dry	NV
Oxidation Reduction Potential	mV	-112	83	Dry	Dry	NV
Oxygen, dissolved	mg/L	2.98	4.86	Dry	Dry	NV
pH	Units	6.65	6.46	Dry	Dry	6.5-8.5(2)
Temperature	°C	32.70	23.57	Dry	Dry	NV
Turbidity	NTU	58.1	135	Dry	Dry	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	730	150	Dry	Dry	NV
Ammonia-Nitrogen	mg/L	5.1	2.2	Dry	Dry	NV
Chemical Oxygen Demand	mg/L	120	15j	Dry	Dry	NV
Chloride	mg/L	140	70	Dry	Dry	500(2)
Total Dissolved Solids	mg/L	4700	3400	Dry	Dry	1000(2)
Total Organic Carbon	mg/L	51	17	Dry	Dry	NV
Metals:						
Potassium	mg/L	30	14	Dry	Dry	NV
Volatile and Semivolatile Organic Compounds:						
1,4-Dichlorobenzene	µg/L	1.0	0.25	Dry	Dry	5(1)-75(3)
Benzene	µg/L	0.26j	0.25	Dry	Dry	1(1)-5(3)
t-Butanol	µg/L	23	5.0	Dry	Dry	NV
cis-1,2-Dichloroethene	µg/L	0.87	0.56	Dry	Dry	6(1)-70(3)
1,4-Dioxane	µg/L	12	3.9	Dry	Dry	NV
Methyl tert-butyl ether	µg/L	0.37j	0.25	Dry	Dry	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 8B
SUMMARY OF ANALYTICAL RESULTS FOR VADOSE ZONE LIQUID MONITORING POINTS
SECOND QUARTER 2018
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		6/24/2019	6/24/2019	6/27/2019	6/27/2019	
Field Parameters:						
Electrical Conductivity	mΩ/cm	5.07	3.65	Dry	6.35	NV
Oxidation Reduction Potential	mV	-128	111	Dry	-121	NV
Oxygen, dissolved	mg/L	1.89	2.96	Dry	2.11	NV
pH	Units	5.88	5.79	Dry	6.17	6.5-8.5(2)
Temperature	°C	37.10	32.37	Dry	32.53	NV
Turbidity	NTU	44.6	13.7	Dry	16.1	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	990	240	Dry	2200	NV
Alkalinity, bicarbonate	mg/L	990	240	Dry	2200	NV
Ammonia-Nitrogen	mg/L	6.5	0.74	Dry	28	NV
Bromide	mg/L	6.6	1.9j	Dry	4.4j	NV
Carbon dioxide	mg/L	310	77	Dry	180	NV
Chemical Oxygen Demand	mg/L	230	49	Dry	230	NV
Chloride	mg/L	410	120	Dry	690	500(2)
Fluoride	mg/L	2.5j	2.6	Dry	2.5	2(1)-4(3)
Nitrate as Nitrogen	mg/L	0.55	3.1	Dry	0.55	10(1,3)
Sulfate	mg/L	1800	2200	Dry	610	500(2)
Sulfide, total	mg/L	0.027j	0.027	Dry	0.15	NV
Total Dissolved Solids	mg/L	4800	3800	Dry	4600	1000(2)
Total Organic Carbon	mg/L	88	13	Dry	86	NV
Metals						
Boron	mg/L	1.6	0.58	Dry	8.3	NV
Calcium	mg/L	520	330	Dry	180	NV
Iron	mg/L	83	1.7	Dry	3.5	0.3(2)
Magnesium	mg/L	230	290	Dry	180	NV
Manganese	mg/L	9.9	6.5	Dry	2.2	0.05(2)
Potassium	mg/L	22	14	Dry	48	NV
Sodium	mg/L	330	180	Dry	990	NV
Volatile and Semivolatile Organic Compounds:						
t-Butanol	µg/L	53	7.0j	Dry	370	NV
cis-1,2-Dichloroethene	µg/L	1.3	0.52	Dry	2.5	6(1)-70(3)
1,4-Dichlorobenzene	µg/L	1.1	0.25	Dry	2.5	5(1)-75(3)
1,4-Dioxane	µg/L	25	6.2	Dry	17	NV
Methyl tert-butyl ether	µg/L	0.50	0.25	Dry	2.9j	13(1)/5(2)
Tetrahydrofuran	µg/L	11	5.0	Dry	50	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.

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 - FIRST SEMIANNUAL 2019 MONITORING PERIOD
SUNSHINE CANYON LANDFILL**

Probe ID	Interval	Depth (ft bgs)	1/15/2019 - 1/24/2019	2/12/2019 - 2/21/2019	3/26/2019 - 3/28/2019	4/23/2019 - 4/25/2019	5/21/2019 - 5/23/2019	6/18/2019 - 6/20/2019
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	0.1	0.6	0.0	0.0	0.0	0.0
	C	33-38	1.0	1.3	1.3	1.7	1.6	1.8
	D	48-53	2.1	1.5	2.7	2.7	2.8	2.4
	E	62-67	0.1	0.5	0.0	0.0	0.0	0.0
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	0.1	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	0.2	0.0	0.1
	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	0.0	0.0	0.0	0.0	0.0
	C	42-51	0.0	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0
	B	32-37	0.0	0.0	0.0	0.0	0.0	0.0
	C	56-63	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-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 - FIRST SEMIANNUAL 2019 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/24/2019 - 1/24/2019	2/12/2019 - 2/21/2019	3/26/2019 - 3/28/2019	4/23/2019 - 4/25/2019	5/21/2019 - 5/23/2019	6/18/2019 - 6/20/2019
P-218R	A	5-8	0.0	0.0	0.0	0.0	0.0	0.1
	B		0.1	0.0	0.0	0.0	0.0	0.1
	C		0.0	0.0	0.0	0.0	0.0	0.1
P-219	A	7-15	0.0	0.0	0.2	0.0	0.0	0.0
	B	57-66	0.0	0.0	0.1	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	0.6	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	0.1	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	0.1	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	0.1	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	0.0	0.0
	D	78-88	0.0	0.0	0.0	0.0	0.0	0.0
	E	100-113	0.0	0.0	0.0	0.1	0.0	0.0
P-224	A	5-14	0.0	0.0	0.0	1.0	0.0	0.0
	B	60-70	0.0	0.0	0.0	1.0	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	0.1	0.0	0.0
	B	65-73	0.0	0.0	0.0	0.1	0.0	0.0
	C	124-133	0.0	0.0	0.0	0.6	0.8	0.6
	D	184-192	0.0	0.0	0.0	0.2	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0
	C	108-117	0.0	0.0	0.0	0.0	0.0	0.0
	D	158-168	0.0	0.0	0.0	0.0	0.0	0.0
	E	202-209	0.0	0.0	0.0	0.1	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - FIRST SEMIANNUAL 2019 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/24/2019 - 1/24/2019	2/12/2019 - 2/21/2019	3/26/2019 - 3/28/2019	4/23/2019 - 4/25/2019	5/21/2019 - 5/23/2019	6/18/2019 - 6/20/2019
P-227	A	6-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	46-55	0.3	0.0	0.0	0.3	0.4	0.4
	C	85-95	0.0	0.0	0.0	0.1	0.0	0.0
	D	126-134	0.0	0.0	0.0	0.1	0.0	0.0
	E	164-172	0.0	0.0	0.0	0.1	0.0	0.0
P-228	A	7-14	0.0	0.0	0.0	0.1	0.0	0.0
	B	56-65	0.0	0.0	0.0	0.1	0.0	0.0
	C	107-115	0.5	0.0	0.1	0.4	0.5	0.0
	D	156-165	0.0	0.0	0.0	0.1	0.1	0.0
	E	203-214	0.0	0.0	0.1	0.1	0.0	0.0
P-229	A	4-15	0.0	0.0	0.0	0.0	0.0	0.0
	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	0.0	0.0	0.3	0.1	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	0.1	0.0	0.0	0.1	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	0.1	0.1	0.0	0.1	0.1	0.1
P-241	A	10-15	0.1	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	0.1	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	0.3	0.0	0.0	0.0	0.1
	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	0.1	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 - FIRST SEMIANNUAL 2019 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	1/24/2019 - 1/24/2019	2/12/2019 - 2/21/2019	3/26/2019 - 3/28/2019	4/23/2019 - 4/25/2019	5/21/2019 - 5/23/2019	6/18/2019 - 6/20/2019
P-245	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	20-25	0.1	0.1	0.0	0.2	0.1	0.1
	C	35-40	0.0	0.0	0.0	0.0	0.0	0.0
	D	50-55	0.0	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 10
SUMMARY OF ANALYTICAL RESULTS FOR STORMWATER SAMPLES
FIRST SEMIANNUAL 2019 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Analyte	Units	Stormwater	Stormwater	Stormwater	Stormwater
		1/7/2019	1/14/2019	1/31/2019	2/14/2019
General Chemistry Parameters:					
Ammonia-Nitrogen	mg/L	1.5	1.0	1.3	0.8
Biochemical Oxygen Demand	mg/L	3.8	5.5	6.1	54
Chemical Oxygen Demand	mg/L	43	67	18j	70
Chloride	mg/L	11	14	11	5.5
Fluoride	mg/L	0.51	0.71	0.79	0.36j
Nitrate as N	mg/L	0.90	0.95	1.1	0.45
Nitrite as N	mg/L	0.054j	0.067j	0.069j	0.025
Nitrate+Nitrite as N	mg/L	0.95	1.0	1.2	0.45
Oil & Grease (HEM)	mg/L	1.4	2.3j	1.4	1.3
Total Suspended Solids	mg/L	39	120	44	310
Metals:					
Aluminum	mg/L	1.4	3.5	0.98	5.4
Antimony	mg/L	0.00050	0.0011j	0.00064j	0.00067j
Arsenic	mg/L	0.0012	0.0024	0.01100	0.0031
Beryllium	mg/L	0.00025	0.00025	0.00025	0.00025
Cadmium	mg/L	0.0022	0.0016	0.0010	0.0080j
Copper	mg/L	0.0049	0.012	0.0063	0.014
Iron	mg/L	2.6	6.0	2.1	11
Lead	mg/L	0.0013	0.0034	0.00084j	0.0047
Manganese	mg/L	1.7	1.7	2.0	0.79
Mercury	mg/L	0.00010	0.00010	0.00010	0.00010
Nickel	mg/L	0.082	0.071	0.078	0.037
Phosphorus	mg/L	0.086	0.23	0.057	0.052
Selenium	mg/L	0.0013j	0.0028	0.0016j	0.0013j
Silver	mg/L	0.00050	0.00050	0.00050	0.00050
Zinc	mg/L	0.073	0.055	0.045	0.073
Volatile Organic Compounds (8260):					
Acrylonitrile	µg/L	1.0	1.0	1.0	1.0
Alpha-Terpineol	µg/L	3.1	3.0	3.1	3.0
Benzene	µg/L	0.25	0.25	0.25	0.25
Ethylbenzene	µg/L	0.25	0.25	0.25	0.25
Toluene	µg/L	0.25	0.25	0.25	0.25
Trichloroethene	µg/L	0.25	0.25	0.25	0.25
Semivolatile Organic Compounds (8270C):					
Benzoic Acid	µg/L	21	26	9.9	9.8
Butyl Benzyl Phthalate	µg/L	4.9	4.9	5.0	9.8j
Cresol, p-	µg/L	2.0	2.0	2.0	2.0
Dimethyl Phthalate	µg/L	3.9	3.9	4.0	3.9
Flouranthene	µg/L	4.9	4.9	5.0	4.9
Phenol	µg/L	4.9	4.9	5.0	4.9
Pyrene	µg/L	9.9	4.9	5.0	4.9
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
APRIL 2019 RETEST
SUNSHINE CANYON LANDFILL

Analyte	Units	DEEP LEACHATE 4/10/2019	ARAR
General Chemistry Parameters:			
Total Sulfide	mg/L	0.027	NV
Metals:			
Arsenic	mg/L	0.24j	0.01 (1,3)
Barium	mg/L	0.45	1 (1)/2 (3)
Beryllium	mg/L	0.025	0.004 (1,3)
Chromium	mg/L	0.53	0.05 (1)/0.1 (3)
Nickel	mg/L	0.31	0.1 (1)
Mercury	mg/L	0.028	0.002 (1,3)
Volatile Organic Compounds (8260B):			
Acetone	µg/L	18000	NV
Methyl ethyl ketone	µg/L	16000	NV
Semivolatile Organic Compounds (8270):			
Acetophenone	µg/L	280j	NV
Benzyl Alcohol	µg/L	1600j	NV
1,4-Dioxane	µg/L	86	NV
3-methylphenol + 4-methylphenol	µg/L	8600	NV
Phenol	µg/L	29000	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.

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 - FIRST SEMIANNUAL 2019 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Month	Total Purchase Water	Subdrains	Landfill Leachate	Landfill Gas Condensate	Seep Collectors	Groundwater Cutoff Wall	MONTHLY TOTALS
January	4,027,232	2,244,381	442,891	981,446	176,679	1,154,805	9,027,434
February	3,058,572	2,301,109	1,173,988	1,269,193	259,382	611,545	8,673,789
March	3,522,332	1,564,828	817,151	1,025,757	264,253	1,102,650	8,296,971
April	5,238,992	1,382,754	1,141,049	1,040,973	202,573	744,648	9,750,989
May	3,905,308	1,930,942	0	800,348	117,849	2,099,353	8,853,800
June	4,831,332	1,733,656	0	943,270	86,468	1,740,847	9,335,573
TOTAL:	24,583,768	11,157,670	3,575,079	6,060,987	1,107,204	7,453,848	53,938,556

Notes:

**TABLE 13
SUNSHINE CANYON LANDFILL
IMPORTED SOIL SAMPLING SUMMARY - FIRST SEMI ANNUAL 2019 MONITORING PERIOD**

GENERATOR	SAMPLER	WASTE TYPE	QUANTITY	CONSTITUENTS ANALYZED
City of Los Angeles Police Dept.	No Samples Taken	Narcotics/Marijuana	10 Tons	No Samples Taken
Fantasy Cookie Company	No Samples Taken	Organic Butter	40 Cubic Yards	No Samples Taken
George Hopkins Construction Co.	Group Delta	Non Haz Soil	200 Cubic Yards	VOCs, TPH, Title 22 Metals
Medical Waste Services, LLC	No Samples Taken	Treated Medical Waste	2100 Tons	No Samples Taken
Greenstone Investments, LLC	No Samples Taken	Weathered Wood	17 Cubic Yards	No Samples Taken
ABS Shoring Inc.	No Samples Taken	Weathered Wood	30 Tons	No Samples Taken
So Cal Edison, Amador Substation	No Samples Taken	Non Haz Soil	120 Cubic Yards	No Samples Taken
Dirtwork Engineering	No Samples Taken	House Fire Debris	100 Cubic Yards	No Samples Taken
Choumas Produce Co.	No Samples Taken	Food Products	2.5 Tons	No Samples Taken
Southern California Edison	No Samples Taken	Non Haz Soil	30 Tons	No Samples Taken
Southern California Edison	Lem Kamali	Non Haz Soil	15 Tons	TPH, PCBs, VOCs, Title 22 Metals
California OES (Governors Office)	No Samples Taken	Fire Ash and Debris	10,000 Tons	No Samples Taken
California OES (Governors Office)	No Samples Taken	Non Haz Soil	1,000 Tons	No Samples Taken
California OES (Governors Office)	No Samples Taken	Re-scrape Soil	1,000 Tons	No Samples Taken
California OES (Governors Office)	No Samples Taken	Re-scrape Soil	1,000 Tons	No Samples Taken
California OES (Governors Office)	No Samples Taken	Fire Ash and Debris	10,000 Tons	No Samples Taken
California OES (Governors Office)	No Samples Taken	Re-scrape Soil	1,000 Tons	No Samples Taken
US Coast Guard	No Samples Taken	Weathered Wood	80 Tons	No Samples Taken
Mega Produce	No Samples Taken	Food Waste	0.44 Tons	No Samples Taken
Mega Produce	No Samples Taken	Food Waste	0.64 Tons	No Samples Taken
Mega Produce	No Samples Taken	Food Waste	4.64 Tons	No Samples Taken
Fermin Rodriguez	No Samples Taken	Weathered Wood	2 Tons	No Samples Taken
Long Beach Hauling	No Samples Taken	Weathered Wood	20 Tons	No Samples Taken
Port of Los Angeles	No Samples Taken	Weathered Wood	600 Tons	No Samples Taken
Sugar Foods Corporation	No Samples Taken	Parmesan Cheese	4.313 Tons	No Samples Taken
Dai Tan Tropical Fruit Wholesale	No Samples Taken	Food Products-Hawaii Purple Yam	0.41 Tons	No Samples Taken

Notes:

VOC: Volatile Organic Compound

PCB: Polychlorinated Biphenyls

PAH: Polynuclear Aromatic Hydrocarbons

*No Samples Taken: Waste previously characterized, or no characterization required (e.g. cured asphalt, 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

TPH: Total Petroleum Hydrocarbons

SVOC: Semivolatile Organic Compound

MSDS: Material Safety Data Sheet

TABLE 14
SUNSHINE CANYON LANDFILL
GENERATOR: George C Hopkins Construction
SOIL SAMPLING
ESTIMATED ANNUAL QUANTITY: 200 Cubic yards

SAMPLE	MAC-1	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	05/17/19	Level TTL (mg/kg)	Limit (mg/kg)	Limit (mg/kg)
TIME SAMPLED	10:00			
SAMPLED BY	Delta Group			
DATE ANALYZED	05/20/19			
METALS (mg/kg) METHOD 6010B/7471A:				
Antimony	2.0	500	380	30
Arsenic	4.2	500	500	12
Barium	150	10,000	10,000	5,200
Beryllium	0.50	75	75	16
Cadmium	0.77	100	100	1.7
Chromium	24	2,500	2,500	45
Cobalt	8.4	8,000	350	23
Copper	35	2,500	2,500	2,500
Lead	21	1,000	350	80
Mercury	0.10	20	20	9.4
Molybdenum	1.0	3,500	3,500	380
Nickel	22	2,000	2,000	1,500
Selenium	4.8	100	100	100
Silver	10	500	500	380
Thallium	2.0	700	111	0.78
Vanadium	42	2,400	2,400	390
Zinc	150	5,000	5,000	5,000
VOLATILE ORGANIC COMPOUNDS (mg/kg) METHOD 8260B: None Detected				
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:				
C6-C12 (GRO)	2	NS	1,000	10
C13-C28 (DRO)	1400	NS	10,000	10
C29-C40 (MRO)	2600	NS	NS	500

Notes:

ND: Not Detected

TTL: 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: Qualifiable 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'	HA3-0.5'	HA3-2.0'	HA1-3.0'	HA1-5.0'	HA3-3.0'	HA3-5.0'	Hazardous	Lined Cell	Unrestricted
DATE SAMPLED	04/24/18	04/24/18	04/24/18	04/24/18	04/24/18	04/24/18	04/24/18	04/24/18	Level (mg/kg)	Limit	Limit
SAMPLED BY	Lem Kamali	Lem Kamali	Lem Kamali	Lem Kamali	Lem Kamali	Lem Kamali	Lem Kamali	Lem Kamali			
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			
METALS (mg/L) METHOD 6010B-STLC:											
Arsenic	3.31	NA	4.52	3.48	26.4	NA	3.63	3.12	5	-	-
METALS (mg/kg) METHOD 6010B/7471A:											
Antimony	5.0	5.0	5.0	5.0	NA	NA	NA	NA	500	380	30
Arsenic	52.7	32.2	85.0	66.1	26.4	1.0	62.4	58.6	500	500	12
Barium	118	82.7	122	106	NA	NA	NA	NA	10,000	10,000	5,200
Beryllium	2.5	2.5	2.5	2.5	NA	NA	NA	NA	75	75	16
Cadmium	2.5	2.5	2.5	2.5	NA	NA	NA	NA	100	100	1.7
Chromium	17.6	12.8	17.8	15.9	NA	NA	NA	NA	2,500	2,500	45
Cobalt	9.62	7.51	10.1	8.6	NA	NA	NA	NA	8,000	350	23
Copper	21.9	18.0	23.3	17.3	NA	NA	NA	NA	2,500	2,500	2,500
Lead	5.0	5.0	5.0	5.0	NA	NA	NA	NA	1,000	350	80
Mercury	0.2	0.2	0.2	0.2	NA	NA	NA	NA	20	20	9.4
Molybdenum	5.0	5.0	5.0	5.0	NA	NA	NA	NA	3,500	3,500	380
Nickel	12.0	9.59	12.3	11.4	NA	NA	NA	NA	2,000	2,000	1,500
Selenium	5.0	5.0	5.0	5.0	NA	NA	NA	NA	100	100	100
Silver	5.0	5.0	5.0	5.0	NA	NA	NA	NA	500	500	380
Thallium	5.0	5.0	5.0	5.0	NA	NA	NA	NA	700	111	0.78
Vanadium	42.7	32.5	42.3	35.9	NA	NA	NA	NA	2,400	2,400	390
Zinc	52.7	42.1	58.7	49.3	NA	NA	NA	NA	5,000	5,000	5,000
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B: NONE DETECTED											
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg) METHOD 8082: NONE DETECTED											

Notes:

- ND: Not Detected
- NA: Not Analyzed
- NS: Not Specified
- TTL: 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: Qualifiable result shown.

**Treated wood acceptable

Only detected Organics are shown.

FIGURES

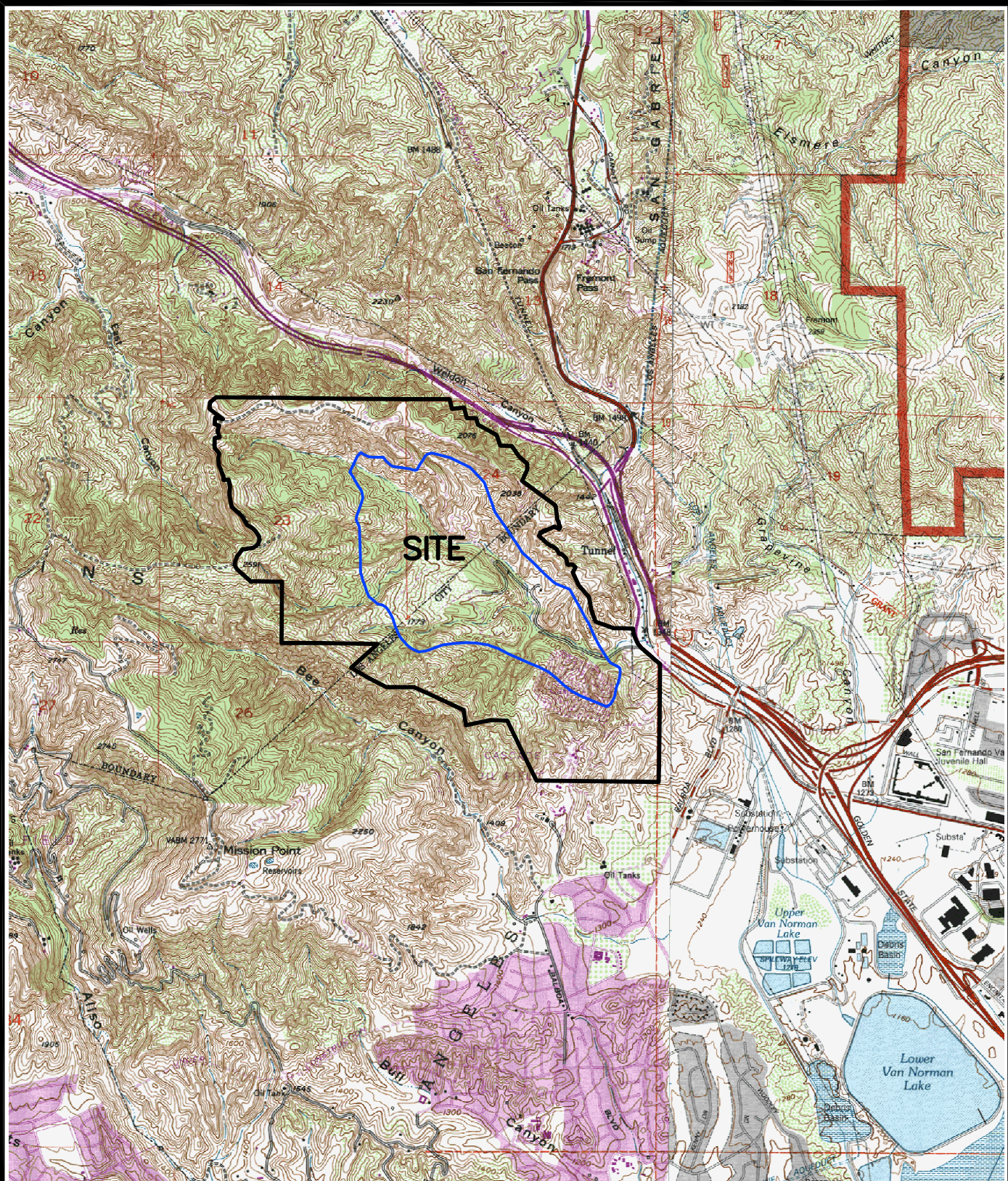


FIGURE 1

SITE LOCATION MAP

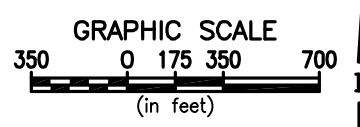
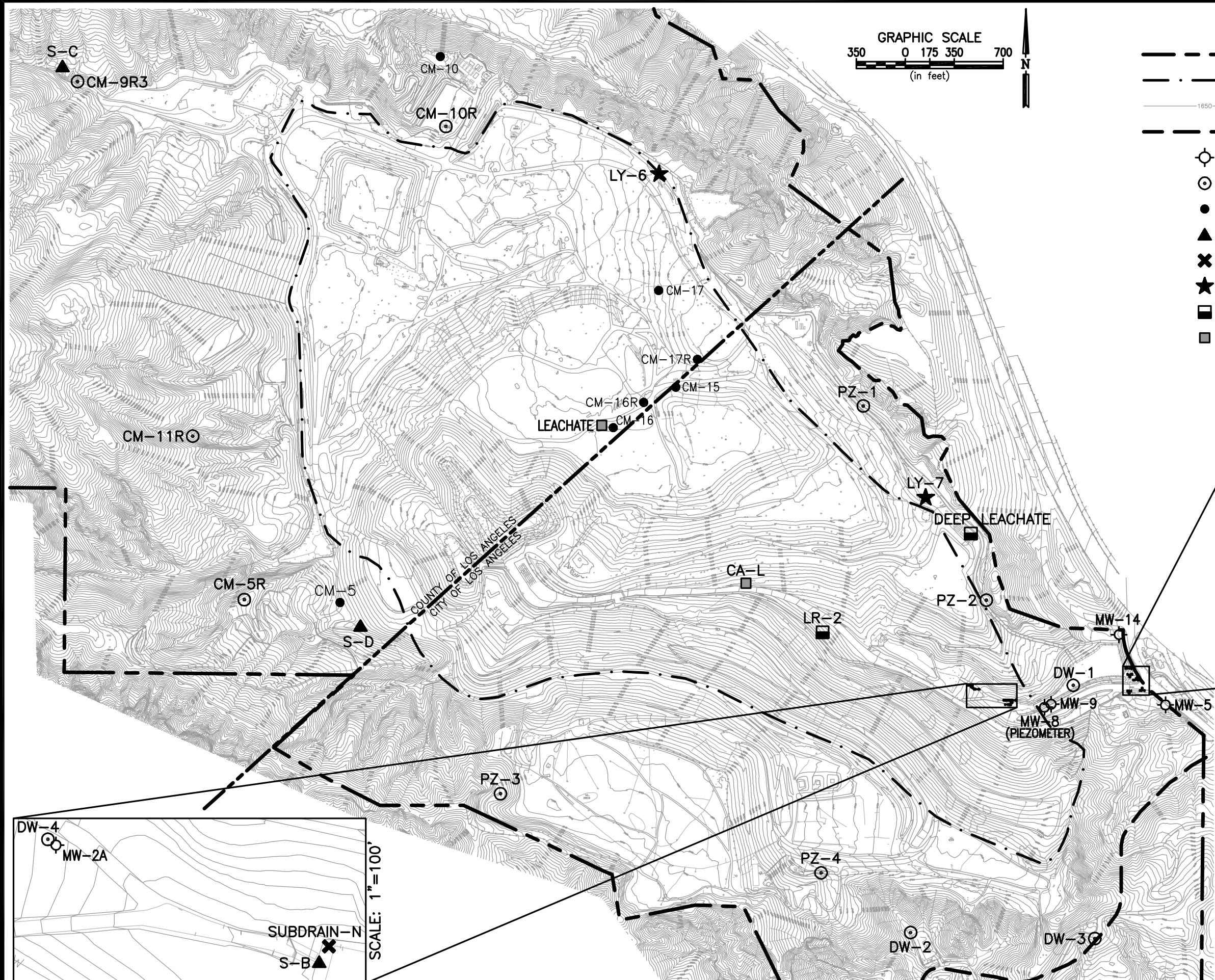
FIRST SEMIANNUAL 2019 MONITORING REPORT
 SUNSHINE CANYON LANDFILL
 LOS ANGELES, CALIFORNIA

Geo-Logic
 ASSOCIATES



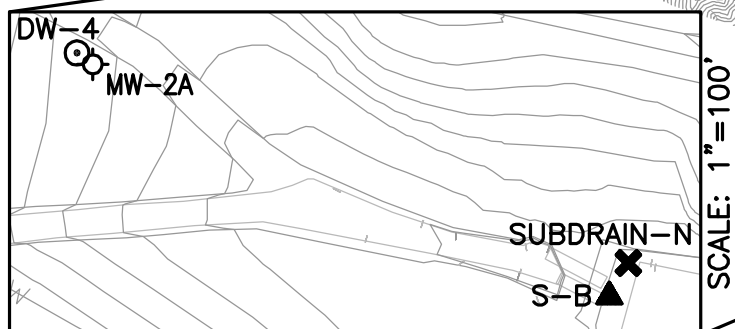
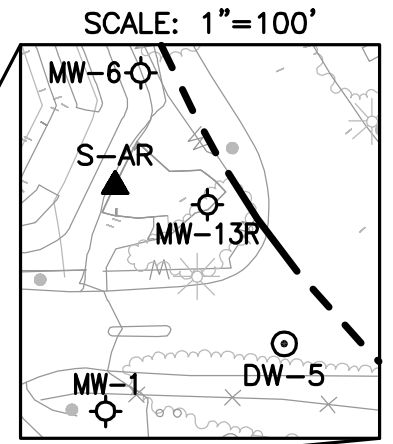
REFERENCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) OAT MOUNTAIN (1969)
 AND SAN FERNANDO (1995) CALIFORNIA QUADRANGLES.

DRAFTER/PM: VL/KW DATE: AUGUST 2019 JOB NO. S019.1074



EXPLANATION:

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



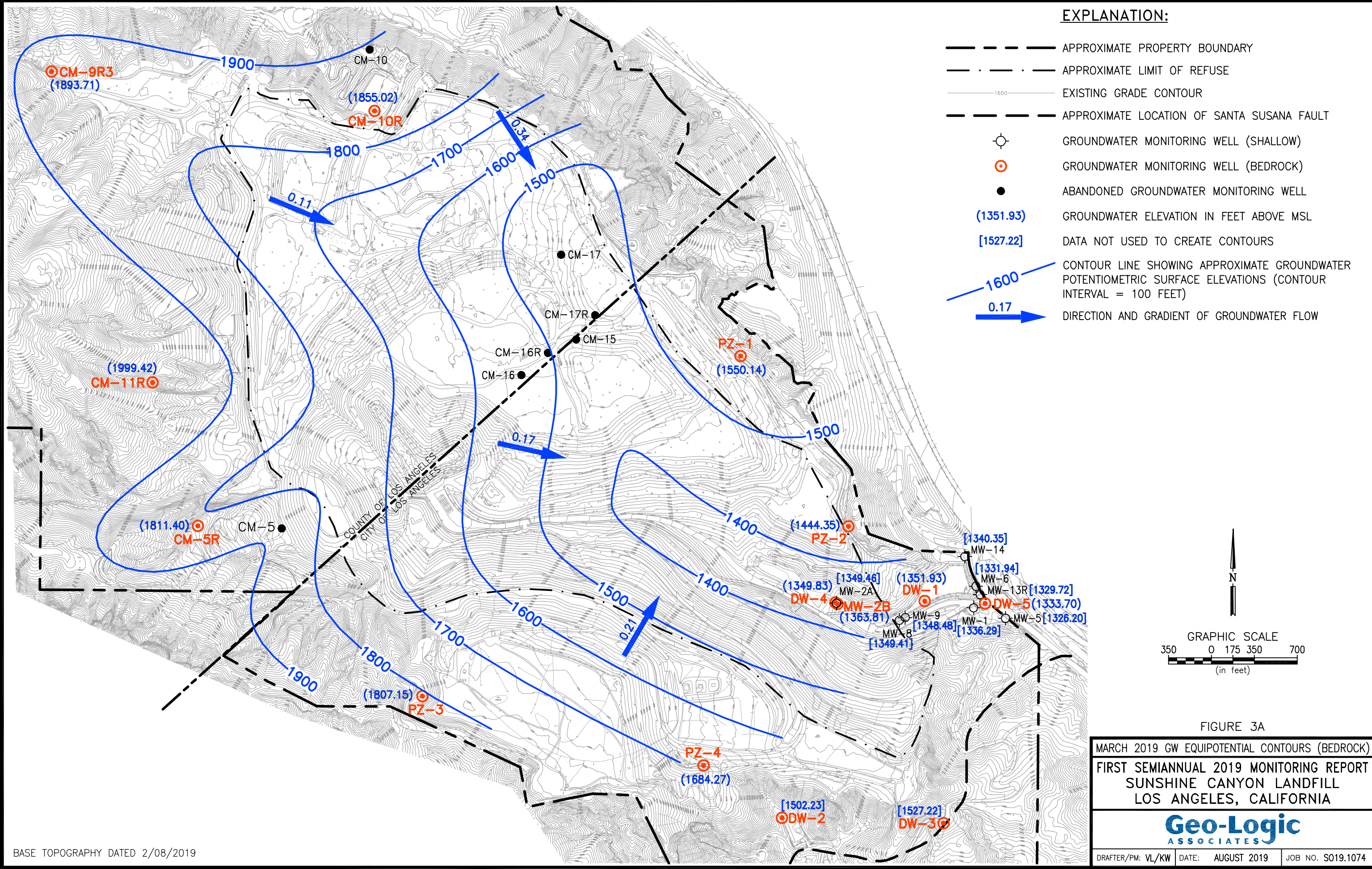
BASE TOPOGRAPHY DATED 2/08/2019

FIGURE 2
SITE MONITORING POINTS LOCATION MAP
FIRST SEMIANNUAL 2019 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA



DRAFTER/PM: VL/KW | DATE: AUGUST 2019 | JOB NO. S019.1074

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EXPLANATION:

- APPROXIMATE PROPERTY BOUNDARY
- . - . - APPROXIMATE LIMIT OF REFUSE
- 1850--- 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
- [1527.22] 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

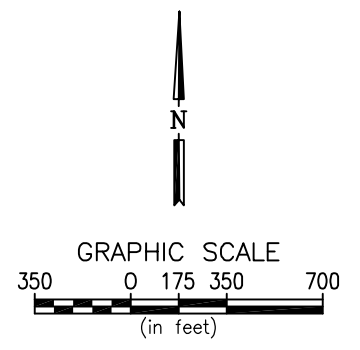


FIGURE 3A

MARCH 2019 GW EQUIPOTENTIAL CONTOURS (BEDROCK)

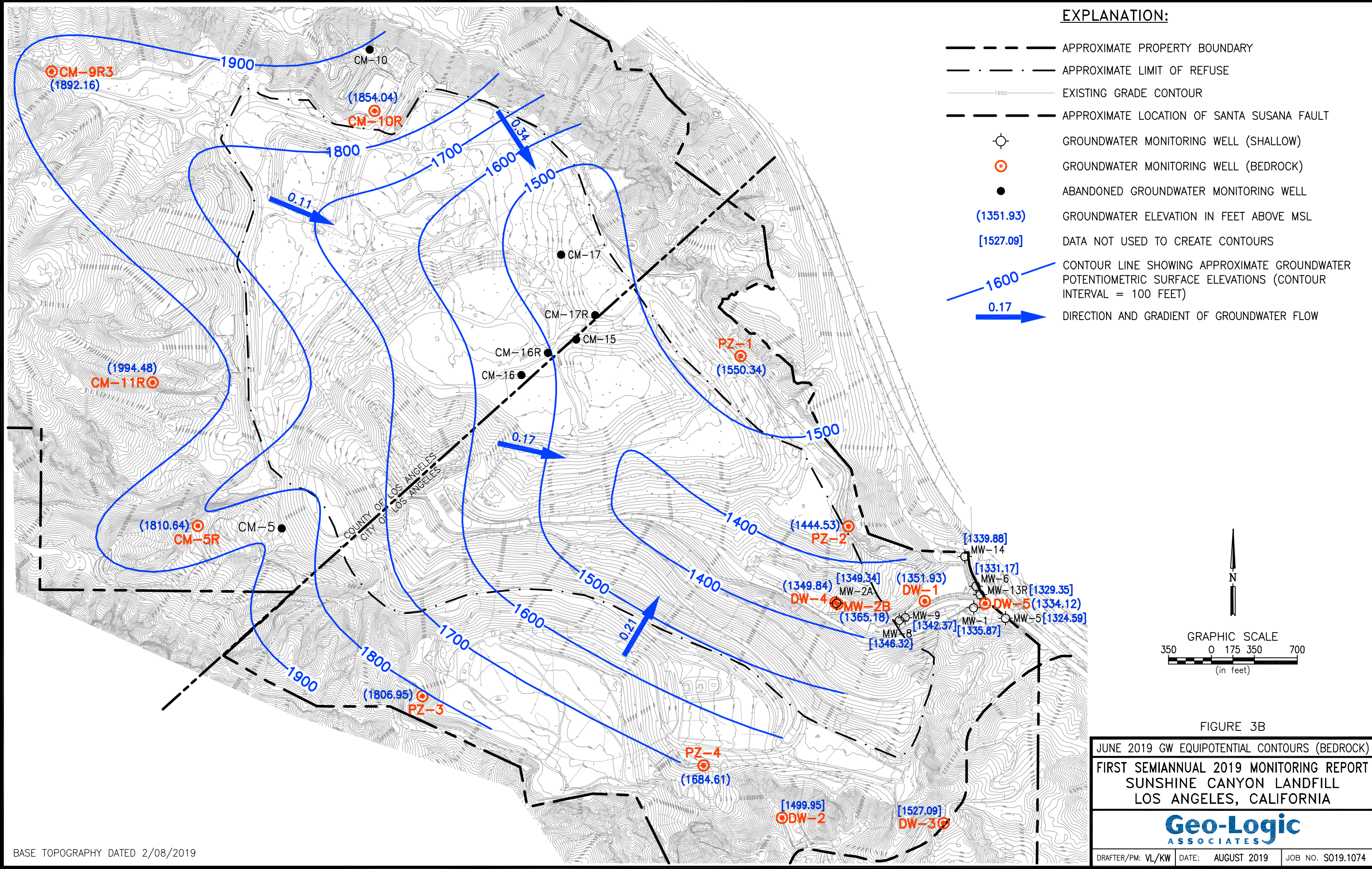
FIRST SEMIANNUAL 2019 MONITORING REPORT
SUNSHINE CANYON LANDFILL
LOS ANGELES, CALIFORNIA

Geo-Logic
ASSOCIATES

DRAFTER/PM: VL/KW | DATE: AUGUST 2019 | JOB NO. S019.1074

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BASE TOPOGRAPHY DATED 2/08/2019



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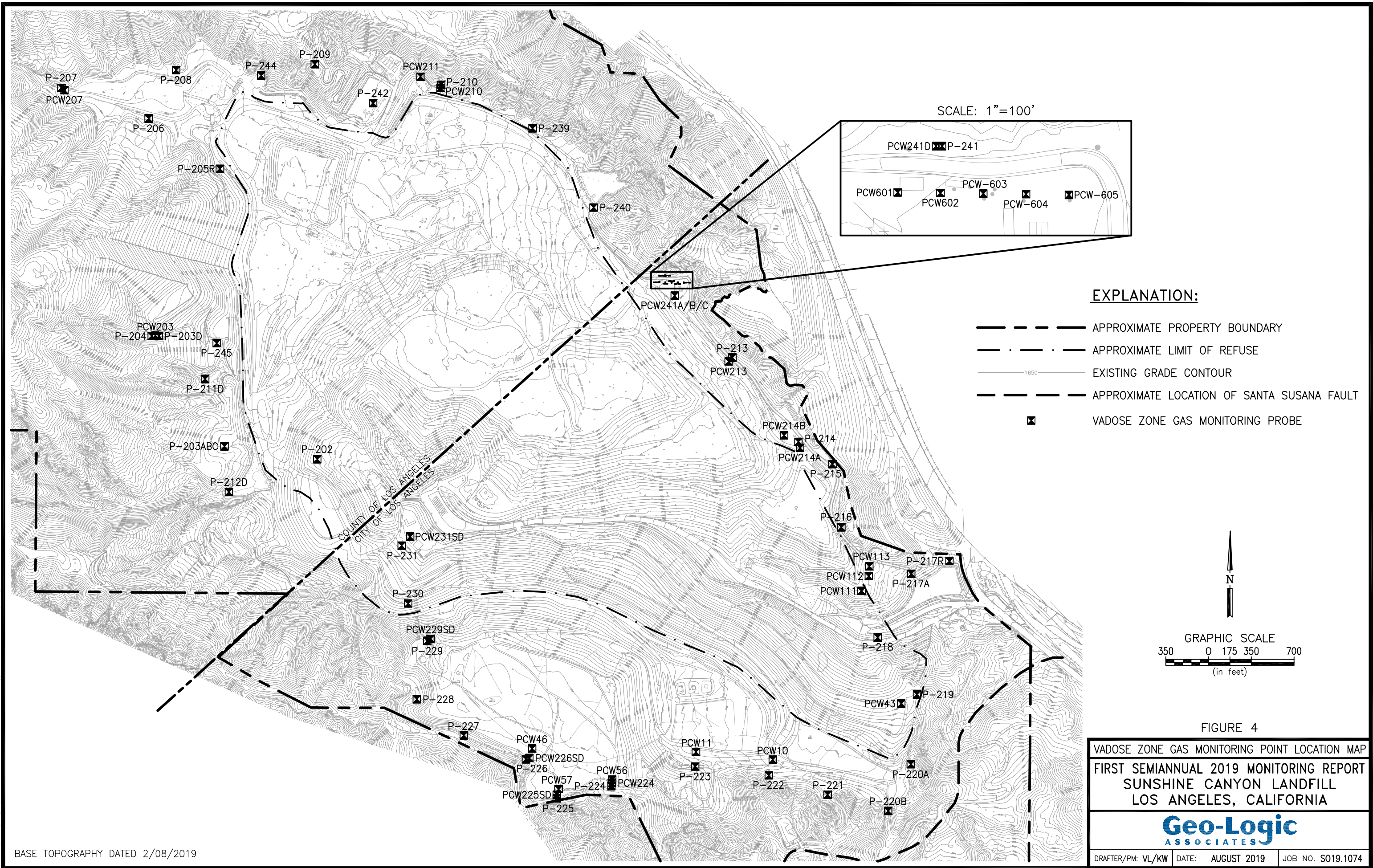
BASE TOPOGRAPHY DATED 2/08/2019

FIGURE 3B

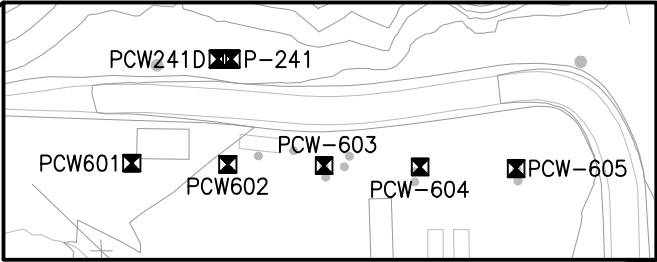
JUNE 2019 GW EQUIPOTENTIAL CONTOURS (BEDROCK)
 FIRST SEMIANNUAL 2019 MONITORING REPORT
 SUNSHINE CANYON LANDFILL
 LOS ANGELES, CALIFORNIA

Geo-Logic
 ASSOCIATES

DRAFTER/PM: VL/KW | DATE: AUGUST 2019 | JOB NO. S019.1074



SCALE: 1"=100'



EXPLANATION:

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

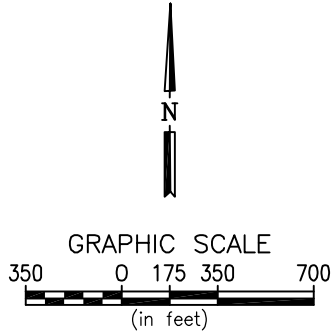


FIGURE 4
 VADOSE ZONE GAS MONITORING POINT LOCATION MAP
 FIRST SEMIANNUAL 2019 MONITORING REPORT
 SUNSHINE CANYON LANDFILL
 LOS ANGELES, CALIFORNIA

Geo-Logic
 ASSOCIATES

DRAFTER/PM: VL/KW DATE: AUGUST 2019 JOB NO. S019.1074

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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 4°C) 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 4°C) 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-gallon 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°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 “LR-2R” and “Deep Leachate”.

- Deep Leachate samples are collected from a sample port before leachate reaches the above ground storage tank farm. The port is opened to allow liquids to fill laboratory-supplied sample containers.
- Location LR-2R is sampled with a new, disposable bailer through a riser connected to 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

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: Geo-Logic Associates Address: 11415 W. Bernardo #4 Suite 200 City/State/Zip: San Diego, CA 92127 Phone: 858-451-1136 Fax: 858-451-1087 Project Name: Republic Service Site: Sanborn Canyon Landfill P O #		Project Manager: Kyle Wachowicz Tel/Fax: 858-481-1136 <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: Josh Mills Lab Contact: Denise Turner Date: 1-23-19 Carrier: TIA COC No: # of COCs Sampler:	
Sample Identification MW-6-A MW-6-B in Bag Field Blank Trip Blank		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: SA18.102A	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 - -		Sample Type (C=Comp, G=Grab) G G G G		Matrix G G G G	
Sample Time 8:18 8:18 - -		Filtered Sample (Y/N) Y Y Y Y		Perform MS / MSD (Y/N) Y Y Y Y	
Sample Date 1/23/19 1/23/19 -					

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Center</u>	Well ID:	<u>MW-6</u>	Date:	<u>1-23-19</u>
Access:					
Accessibility:	Good: _____	Fair: <u>✓</u>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: <u>✓</u>	No: _____			
Presence of depressions or standing water around well:	Yes: <u>✓</u>	No: _____			
Remarks:	<u>Required carrying sampling equipment and samples bottles along a long path to well</u>				
Concrete Pad:					
Integrity:	Good: <u>✓</u>	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____	No: <u>✓</u>			
Remarks:					
Protective Outer Casing:					
Material:	<u>metal</u>				
Condition of Protective Casing:	Good: <u>✓</u>	Damaged: _____			
Condition of Locking Cap:	Good: <u>✓</u>	Damaged: _____			
Condition of Lock:	Good: <u>✓</u>	Damaged: _____			
Condition of Weepholes:	Good: <u>✓</u>	Damaged: _____			
Remarks:					
Well Riser:					
Material:	<u>PVC</u>				
Condition of Riser:	Good: <u>✓</u>	Damaged: _____			
Condition of Riser Cap:	Good: <u>✓</u>	Damaged: _____			
Measurement reference point:	Yes: <u>✓</u>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	<u>Bladder</u>				
Condition:	Good: <u>✓</u>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>NA</u>	Current (Hz):	<u>NA</u>		
Remarks:					

Field Certification: Mike Campbell Signed Field Tech Title 1-23-19 Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cya PROJECT NAME / NUMBER S-018, 1024

Instrument Make/Model #		<u>4-52/W54/WB01</u>					Comments
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments	
<u>1-23-10</u> <u>6:16</u>	<u>4.34</u>	<u>4.40</u>	<u>0.4</u>	<u>12.30</u>			
Pre. Cal							
Calibration	<u>3.99</u>	<u>4.50</u>	<u>0.0</u>	<u>10.84</u>			
Calibration Successful? (Y/N)	<u>yes</u>				enter YES or NO		
Satisfies Protocol?	<u>yes</u>				Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	<u>[Signature]</u>				Signature or initials	<u>[Signature]</u>	
Physical Condition of Unit		<u>Good</u>					

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

Chain of Custody Record

208865

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

Regulatory Program: DW NPDES RCRA Other:

Company Name: Geo. Loge Services Address: 1115 W. Raymond Ct. City/State/Zip: S.D. CA 92717 Phone: 951-451-1136 Fax: 951-451-1057 Project Name: Republic Services Site: Sun Lake Environmental P O #		Client Contact Project Manager: Kyle Welch Tel/Fax: 951-451-1136 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: S. Mills Lab Contact: Cassia Date: 3-27-19 Carrier: TJA COC No: 1 of 1 COCs Sampler: 951-NR For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: Sample Specific Notes:								
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Site Contact	Lab Contact	Date	Carrier	COC No
DW-1	3/27/19	1015	G	Water	12							
MW-7A		0850			12							
MW-7B		0958			12							
MW-9		1309			12							
DW-11		1052			12							
Field Blank					11							
Tap Blank					11							
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. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months												
Special Instructions/QC Requirements & Comments: see note #1 for VOCs on the FWA bottle order.												
Relinquished by: West Valley Relinquished by: West Valley Relinquished by:						Custody Seal No.: Company: Geo-Loge Date/Time: 3/27/19 Company: TA-184 Date/Time: 3-27-19 1425 Company:						

TestAmerica Irvine
 17461 Gerian Ave
 Suite 100
 Irvine, CA 92614
 Phone: 949.251.1022 Fax:

Chain of Custody Record

208866

TestAmerica

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

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 Company Name: Geo-Logic Republic
 Address: 1115 N. Ramon Blvd CA
 City/State/Zip: San Diego CA 92122
 Phone: 619-451-1136
 Fax: 619-451-1136
 Project Name: Republic Services
 Site: Sanctuary Center
 PO #

Project Manager: Geo-Logic Republic
 Tel/Fax: 619-451-1136

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below _____
 2 weeks
 1 week
 2 days
 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)		Date	Carrier	COC No.
						Y	N	Y	N			
Extraction Trench	3/25/19	0920	G	WW	12	X		X		3/25/19	FLA	1
Subdrains	1418			WW	12	X		X				
Combined Subdrains	1215			WW	12	X		X				
PR-2	1020			GW	12	X		X				
DW-5	1507			GW	12	X		X				
MW-6	1714			GW	12	X		X				
MW-14	1313			GW	12	X		X				
Field Blank				LAB	11	X		X				
Tip Blank					11	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

Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments: 8260 includes all 40 CFR Part 258 Apply. 1 VOCs - Dichloroethene, 1,1,1-trichloroethane

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

Cooler Temp. (°C): Obs'd: _____ Cor'd: _____

Therm ID No.: _____

Relinquished by: Geo-Logic Company: Geo-Logic Date/Time: 3/25/19

Relinquished by: Geo-Logic Company: Geo-Logic Date/Time: 3/26/19 1423

Relinquished by: _____ Company: _____ Date/Time: _____

TestAmerica Irvine
 17401 Berish Ave
 Suite 100
 Irvine, CA 92614
 Phone: 949.261.1022 Fax:

Chain of Custody Record

207199

TestAmerica

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

Regulatory Program: DW NPDES RCRA Other:

Company Name: <u>Geo-logic Republic</u> Address: <u>11415 W. Bannock Ct.</u> City/State/Zip: <u>S. Duarte, CA 91714</u> Phone: <u>949-451-1136</u> Fax: <u>949-451-1087</u> Project Name: <u>Republic Services</u> Site: <u>San Bernardino Landfill</u> P O #		Client Contact Project Manager: <u>Kyle Weidman</u> Tel/Fax: <u>858-451-1136</u> Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Project Manager: <u>Kyle Weidman</u> Tel/Fax: <u>858-451-1136</u> Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: <u>J. Mills</u> Lab Contact: <u>Rossing</u> Date: <u>3-26-19</u> Carrier: <u>TIA</u> COC No: <u>1</u> of <u>1</u> COCs Sampler: <u>VCS, MW</u> For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: Sample Specific Notes: <u>Metals out of field & stored</u>										
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	VOCs (826)	8270 1,4-Dioxane	Take Alkalinity	Ammonia (NH4)	CO2 (gas)	Chloride (brack)	Total Phosphorus	TDS (60.1)	TOC (415.1)
MW-1	3/26/19	1008	G	SW	12			X	X	X	X	X	X	X	X	X
MW-5		0916			12			X	X	X	X	X	X	X	X	X
DW-2		1145			12			X	X	X	X	X	X	X	X	X
DW-3		1327			12			X	X	X	X	X	X	X	X	X
CM-9123		1019			12			X	X	X	X	X	X	X	X	X
CM-102		1153			12			X	X	X	X	X	X	X	X	X
CM-112		0835			12			X	X	X	X	X	X	X	X	X
MW-132		1344			12			X	X	X	X	X	X	X	X	X
Dup					12			X	X	X	X	X	X	X	X	X
Field Blank				LAB	4			X	X	X	X	X	X	X	X	X
Inv Blank				"	4			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

Special Instructions/QC Requirements & Comments: 8260 includes all 40 CFR Part 258 Appendix 1 VOCs - Dichloroethylene, toluene, xylene and MTBE.

Return to Client Disposal by Lab Archive for _____ Months

Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____

Relinquished by: Benjamin Adams Company: Geo-logic Date/Time: 3/26/19 1430

Relinquished by: John Mills Company: TestAmerica Date/Time: 3/26/19 1430

Relinquished by: _____ Company: _____ Date/Time: _____

**GROUNDWATER MONITORING PROGRAM
WATER LEVEL SURVEY RECORD SHEET**

SITE NAME: Sunshine Cr. 4/P
 DATE: March 25, 2019
 PROJECT NUMBER: 2019-1074
 WATER LEVEL MAKE/MODEL: Solinst model 101
 FIELD PERSONNEL: B. Salinas, N. Reason

WELL ID	CONSTRUCTION TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			8.19	
MW-2A			32.25	
MW-2B			18.17	
MW-5			15.22	
MW-6			15.38	
MW-8			12.96	
MW-9			14.84	
MW-13R			16.06	
MW-14			13.84	
DW-1			TOC	
DW-2			19.39	
DW-3			155.32	
DW-4			32.19	
DW-5			13.84	
CM-5R			220.60	
CM-9R3			8.69	
CM-10R			46.18	
CM-11R			10.99	
PR-1			93.62	
PR-2			122.17	
PR-3			222.04	
PR-4			111.58	
BW-2			22.40	
BW-3			No Access	due to heavy mud/sediment
BW-4			↓	" "
OM-3			↓	" "

REMARKS:
 SIGNATURE: [Signature]

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cr. Substation (N) Project No.: 5019, 1074
 Well I.D.: PS Sampling Date: ~~5-18-19~~ 3-25-19
 Collected By: _____ Purge start Time: _____
 Casing Diameter (inches): _____ Purge Stop time: _____
 Starting Water Level: _____ Sampling (Well Recovery) Time: 1418
 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: R855C0414

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
—	0.05	—	6.65	523	58.1	2.98	32.70	-112

Purge Sampling Rates: Samples collected East of the brush wall. Clear/cloudy water with an odor
 Well condition: OK
 Additional Info/Comments: Sunny, warm

Name: B. Sabing Signature: [Signature]

**GROUNDWATER MONITORING PROGRAM
 SURFACE WATER DATA SHEET**

Site Name: Sunshine
~~Subdrain (P3)~~ (P3)
 Combined
 Subdrain (P3)
 Station I.D.: ~~Subdrain (P3)~~
 Collected By: P3
 Horiba Model S/N: P8559414

Project No.: 5018-1074

Sampling Date: 3-25-19

Sampling Time: 1315

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Yellowish	Yes	6.46	3.66	135	4.86	23.57	P3

Surface water conditions (including stream flow rate, stream depth): Colleen sample @ 2" WBE line.

Additional Info/Comments: Sunny, cool

Name: B. Salinas Signature: B. Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Spr.

Project No.: 2019, 1074
~~2018, 1024~~

Station I.D.: Extraction Trench

Sampling Date: 3-25-19

Collected By: BS

Sampling Time: 0920

Horiba Model S/N: R8554411

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Yellowish</u>	<u>yes</u>	<u>6.58</u>	<u>4.53</u>	<u>28.7</u>	<u>3.14</u>	<u>18.87</u>	<u>-101</u>

Surface water conditions (including stream flow rate, stream depth): Sample collected at the filter element

Additional Info/Comments: Sunny, Cool

Name: B. Jalines

Signature: B. Jalines

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 5019, 1074
 Well I.D.: CM-9R3 ~~Set 8.1004~~
 Collected By: NR Sampling Date: 3/26/19
 Casing Diameter (inches): 4 Purge start Time: 0943
 Starting Water Level: 8.66 Purge Stop time: 1004
 Total Depth (feet): 29.00 Sampling (Well Recovery) Time: 1019
 Water column (feet): 20.34 Ending Water Level (feet): 9.84
 Screen Length (feet): - Total Purged (gallons): 2 1/4'
 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
0948	1/2	9.09	6.60	4.53	74.2	0.00	16.92	60
0954	1	9.38	6.69	4.47	43.4	0.00	17.12	67
0958	1 1/2	9.76	6.70	4.46	25.9	0.00	17.13	71
1000	1 3/4	9.83	6.71	4.46	18.7	0.00	17.12	74
1002	2	9.83	6.71	4.46	18.8	0.00	17.10	76
1004	2 1/4	9.84	6.72	4.46	18.6	0.00	17.11	78

Purge Sampling Rates: 25 PSI REFILL (30) DISCHARGE (10)

Well condition: OK, WATER HAS LIGHT BROWN TINT AND NO ODOR

Additional Info/Comments: Sunny, mostly clear, mild temp
HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES DOWN MUDDY AND HEAVILY RUTTED PATH

Name: Nicholas Reisman Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>	Well ID: <u>CM-9R3</u>	Date: <u>3/26/19</u>
Access:		
Accessibility: Good: _____ Fair: <input checked="" type="checkbox"/>	Poor: _____	
Vicinity of well clear of weeds and/or debris: _____	Yes: <input checked="" type="checkbox"/>	No: _____
Presence of depressions or standing water around well: _____	Yes: _____	No: <input checked="" type="checkbox"/>
Remarks: <u>HEAVY VEGETATION, MUD, AND ROOTS ON PATH TO WELL, HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES TO WELL</u>		
Concrete Pad:		
Integrity: <u>NIA</u> Good: _____ Inadequate: _____		
Presence of depressions or standing water around well: _____	Yes: _____	No: <input checked="" type="checkbox"/>
Remarks: <u>CONCRETE PAD NOT VISIBLE</u>		
Protective Outer Casing:		
Material: <u>METAL</u>		
Condition of Protective Casing: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Locking Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Lock: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Weepholes: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Remarks: _____		
Well Riser:		
Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Riser Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Measurement reference point: Yes: <input checked="" type="checkbox"/>	No: _____	
Remarks: _____		
Dedicated Pump:		
Type: <u>BLADDER</u>		
Condition: Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____
Pumping Rate (gpm): <u>NIA</u>	Current (Hz): <u>NIA</u>	
Remarks: _____		

Field Certification: [Signature] Field Tech 3/26/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Canyon Project No.: 5019, 1074
 Well I.D.: CM-10R ~~5018-1024~~ (B)
 Collected By: NR Sampling Date: 3/26/19
 Casing Diameter (inches): 4 Purge start Time: 1116
 Starting Water Level: 46.27 Purge Stop time: 1138
 Total Depth (feet): 110.90 Sampling (Well Recovery) Time: 1153
 Water column (feet): 64.63 Ending Water Level (feet): 46.57
 Screen Length (feet): _____ Total Purged (gallons): 2 1/2
 Sample Method: Micro Purge Low Flow Duplicate Sample: YES NO
 Horiba Model S/N: D-52/DLLCYV06

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1122	1/2	46.44	7.14	3.10	0.0	7.48	21.50	-59
1126	1	46.48	7.16	3.06	0.0	7.28	21.58	-56
1130	1 1/2	46.49	7.17	3.09	0.0	7.43	21.52	-55
1134	2	46.51	7.19	3.02	0.0	7.19	21.55	-55
1136	2 1/4	46.54	7.19	3.06	0.0	7.14	21.57	-54
1138	2 1/2	46.57	7.19	3.04	0.0	7.09	21.59	-55

Purge Sampling Rates: 50 PSI REFILL (40) DISCHARGE (12)

Well condition: OK, WATER CLEAR WITH AN ODOR

Additional Info/Comments: Sunny, high clouds, mild Temp

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Cyn</u>	Well ID:	<u>CM-10R</u>	Date:	<u>3/26/19</u>
Access:					
Accessibility:	Good: <input checked="" type="checkbox"/>	Fair: <input type="checkbox"/>	Poor: <input type="checkbox"/>		
Vicinity of well clear of weeds and/or debris:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>			
Remarks:					
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: <input type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
Remarks:					
Protective Outer Casing:					
Material:	<u>METAL</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>			
Remarks:					
Well Riser:					
Material:	<u>PVC</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>			
Remarks:					
Dedicated Pump:					
Type:	<u>BLADDER</u>				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	Missing: <input type="checkbox"/>		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: [Signature] Signed Field Tech Title 3/26/19 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Canyon</u>	Project No.: <u>5019.1074</u> <u>5018.1024</u> (B)
Well I.D.: <u>CM-11R</u>	Sampling Date: <u>3/26/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>0745</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>0820</u>
Starting Water Level: <u>11.03</u>	Sampling (Well Recovery) Time: <u>0835</u>
Total Depth (feet): <u>31.00</u>	Ending Water Level (feet): <u>12.63</u>
Water column (feet): <u>19.97</u>	Total Purged (gallons): <u>2+</u>
Screen Length (feet): <u>-</u>	Duplicate Sample: YES <input type="radio"/> NO <input checked="" type="radio"/>
Sample Method: <u>Micro Purge</u> Low Flow	* BLANKS COLLECTED HERE *
Horiba Model S/N: <u>U-52/DLLGNV20</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0755	1/2	11.71	6.11	4.81	0.0	0.00	15.79	114
0804	1	12.14	6.10	4.76	0.0	0.00	15.96	133
0807	1 1/4	12.25	6.06	4.72	0.0	0.00	15.97	145
0812	1 1/2	12.41	6.02	4.67	0.0	0.00	16.02	160
0816	1 3/4	12.53	5.98	4.64	0.0	0.00	16.03	172
0820	2	12.63	5.94	4.60	0.0	0.00	16.07	179

Purge Sampling Rates: 30 PSI REFILL (25) DISCHARGE (4)

Well condition: OK, WATER CLEAR WITH NO ODOR

Additional Info/Comments: Sunny, some high clouds, mild temp

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	SUNSHINE CYN	Well ID:	CM-11R	Date:	3/25/19
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: <input checked="" type="checkbox"/>		No: _____		
Presence of depressions or standing water around well:	Yes: _____		No: <input checked="" type="checkbox"/>		
Remarks:	BACKED TRUCK UP CONCRETE DRAINAGE CHANNEL TO ACCESS THE WELL.				
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____		No: <input checked="" type="checkbox"/>		
Remarks:					
Protective Outer Casing:					
Material:	METAL				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:					
Well Riser:					
Material:	PVC				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	BLADDER				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	N/A		Current (Hz): N/A		
Remarks:					

Field Certification:  Signed Field Tech Title 3/26/19 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Project No.: 5019, 1074
 Well I.D.: MW-1 Sampling Date: 3-26-19
 Collected By: PJS Purge start Time: 0933
 Casing Diameter (inches): 4 Purge Stop time: 0958
 Starting Water Level: 8.18 Sampling (Well Recovery) Time: 1008
 Total Depth (feet): 29.60 Ending Water Level (feet): 8.20
 Water column (feet): 21.42 Total Purged (gallons): 3 1/4
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8JSS494H Dep. taken

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0938	1/2	8.22	6.99	3.90	7.2	3.03	20.14	-78
0941	1	8.23	6.96	3.83	4.3	1.64	20.22	-81
0944	1 1/2	"	6.94	3.75	4.8	1.28	20.19	-80
0947	2	"	6.94	3.73	4.6	1.22	20.23	-79
0952	2 1/2	"	6.94	3.72	4.9	1.18	20.24	-80
0956	3	"	6.93	3.71	5.0	1.16	20.25	-80
0958	3 1/4	"	6.93	3.71	4.9	1.12	20.27	-81

Purge Sampling Rates: PSE 20, R: 30/10
water is yellowish with an odor.

Well condition: OK

Additional Info/Comments: cloudy, cool

Name: B. Salinas Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: MW-1 Date: 3-26-19

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 cap 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:

Measurement 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: Bert Salinas G.W. Manager 3-26-19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Canyon Project No.: SO19.1074
 Well I.D.: MW-2A Sampling Date: 3/27/19
 Collected By: NR Purge start Time: 0758
 Casing Diameter (inches): 4 Purge Stop time: 0835
 Starting Water Level: 32.19 Sampling (Well Recovery) Time: 0850
 Total Depth (feet): 41.30 Ending Water Level (feet): 33.33
 Water column (feet): 9.11 Total Purged (gallons): 1 1/2
 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
0813	1/2	32.78	6.67	3.26	15.2	0.00	20.49	-134
0819	3/4	32.95	6.75	3.25	14.5	0.00	20.66	-141
0825	1	33.12	6.80	3.24	15.2	0.00	20.84	-145
0830	1 1/4	33.24	6.82	3.24	15.3	0.00	20.69	-146
0835	1 1/2	33.33	6.84	3.23	15.1	0.00	20.60	-147

Purge Sampling Rates: PSE 25 REFILL(20) DISCHARGE(5)

Well condition: OK, HEAVY VEGETATION AND EROSION AROUND WELL, WATER CLEAR WITH NO ODOR

Additional Info/Comments: SUNNY, MOSTLY CLEAR, COOL

Name: Nicholas Pearson Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Canyon</u>	Well ID: <u>MW-2A</u>	Date: <u>3/27/19</u>
Access:		
Accessibility:	Good: _____ Fair: _____ Poor: <input checked="" type="checkbox"/>	
Vicinity of well clear of weeds and/or debris:	Yes: _____ No: <input checked="" type="checkbox"/>	
Presence of depressions or standing water around well:	Yes: _____ No: <input checked="" type="checkbox"/>	
Remarks: <u>HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE TO WELL. HEAVY VEGETATION AND EROSION IN VICINITY OF WELL</u>		
Concrete Pad:		
Integrity:	Good: _____ Inadequate: <input checked="" type="checkbox"/>	
Presence of depressions or standing water around well:	Yes: _____ No: <input checked="" type="checkbox"/>	
Remarks: <u>CONCRETE PAD IS BURIED</u>		
Protective Outer Casing: Material: <u>METAL</u>		
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Lock:	Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Weepholes:	Good: <input checked="" type="checkbox"/> Damaged: _____	
Remarks:		
Well Riser: Material: <u>PVC</u>		
Condition of Riser:	Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/> Damaged: _____	
Measurement reference point:	Yes: <input checked="" type="checkbox"/> No: _____	
Remarks:		
Dedicated Pump: Type: <u>BLAODEOL</u>		
Condition:	Good: <input checked="" type="checkbox"/> Damaged: _____ Missing: _____	
Pumping Rate (gpm): <u>N/A</u>	Current (Hz): <u>N/A</u>	
Remarks:		

Field Certification: [Signature] Field Tech 3/27/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: SUNSHINE CANYON Project No.: SO19.1074
 Well I.D.: MW-2B Sampling Date: 3/27/19
 Collected By: NR Purge start Time: 0915
 Casing Diameter (inches): 4 Purge Stop time: 0943
 Starting Water Level: 18.08 Sampling (Well Recovery) Time: 0958
 Total Depth (feet): 71.10 Ending Water Level (feet): 21.72
 Water column (feet): 53.02 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/DLLCYV06

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0920	1/2	19.20	7.32	3.24	1.4	0.00	20.93	-163
0926	1	20.03	7.33	3.22	1.0	0.00	21.09	-151
0931	1 1/2	20.62	7.34	3.21	0.0	0.00	21.16	-148
0937	2	21.29	7.36	3.20	0.0	0.00	21.16	-147
0940	2 1/4	21.60	7.37	3.20	0.0	0.00	21.20	-147
0943	2 1/2	21.72	7.36	3.20	0.0	0.00	21.20	-147

Purge Sampling Rates: 40 PSI REFILL (35) DISCHARGE (11)

Well condition: OK, HEAVY VEGETATION AND EROSION SURROUNDING WELL. WATER HAS NO SOIL AND VERY SLIGHT BLANK TINT

Additional Info/Comments: Sunny, mostly clear, light breeze, mild temp

Name: Nicholas Pearson Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sonshe Canyon</u>	Well ID:	<u>MW-2B</u>	Date:	<u>3/27/19</u>
Access:					
Accessibility:	Good: _____	Fair: _____	Poor: <input checked="" type="checkbox"/>		
Vicinity of well clear of weeds and/or debris:	Yes: _____		No: <input checked="" type="checkbox"/>		
Presence of depressions or standing water around well:	Yes: _____		No: <input checked="" type="checkbox"/>		
Remarks:	<u>HAD TO CARRY SAMPLING EQUIPMENT DOWN SLOPE TO WELL. HEAVY EROSION AND VEGETATION IN VICINITY OF WELL</u>				
Concrete Pad:					
Integrity:	Good: _____	Inadequate: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____		No: <input checked="" type="checkbox"/>		
Remarks:	<u>HALF OF PAD IS BURIED</u>				
Protective Outer Casing:					
Material:	<u>METAL</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:					
Well Riser:					
Material:	<u>PRE</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	<u>BLADDER</u>				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: [Signature] Field Tech 3/27/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cmn Project No.: 5019.1074
 Well I.D.: MW-5 Sampling Date: 3-26-19
 Collected By: RSS Purge start Time: 0841
 Casing Diameter (inches): 2 Purge Stop time: 0906
 Starting Water Level: 15.27 Sampling (Well Recovery) Time: 0916
 Total Depth (feet): 26.20 Ending Water Level (feet): 15.43
 Water column (feet): 10.93 Total Purged (gallons): 3
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R855094H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0846	1/2	15.42	6.99	4.18	190	5.00	19.76	-33
0850	1	15.44	6.89	4.27	131	2.38	20.32	-67
0854	1 1/2	15.47	6.90	4.66	27.3	1.47	20.62	-107
0858	2	15.49	6.91	4.72	23.7	1.36	20.66	-112
0902	2 1/2	15.46	6.91	4.75	22.9	1.31	20.66	-114
0906	3	15.48	6.92	4.79	22.3	1.28	20.62	-118

Purge Sampling Rates: PSF 20, R:30/D:12. Water has a yellow tint and has an odor

Well condition: OK - Needs weed abatement

Additional Info/Comments: Cloudy, cool

Name: B. Salinas Signature: B. Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine</u>	Well ID:	<u>MW-5</u>	Date:	<u>3-26-19</u>
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: _____	No: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:					
Concrete Pad:					
Integrity:	Good: _____	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:	<u>concrete apron is not visible.</u>				
Protective Outer Casing:					
	Material:	<u>Metal</u>			
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:					
Well Riser:					
	Material:	<u>RVC</u>			
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
	Type:	<u>Bladder</u>			
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: Ben Salas Signed GW Manager Title 3-26-19 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

<p>Site Name: <u>Sunshine Canyon</u></p> <p>Well I.D.: <u>MW-6</u></p> <p>Collected By: <u>NR</u></p> <p>Casing Diameter (inches): <u>2</u></p> <p>Starting Water Level: <u>15.38</u></p> <p>Total Depth (feet): <u>23.50</u></p> <p>Water column (feet): <u>8.12</u></p> <p>Screen Length (feet): <u>—</u></p> <p>Sample Method: <u>Micro Purge</u> <input checked="" type="checkbox"/> Low Flow <input type="checkbox"/></p> <p>Horiba Model S/N: <u>U-52/DLLCV46</u></p>	<p>Project No.: <u>5019, 1074</u> <u>SALS 1024</u> (B)</p> <p>Sampling Date: <u>3/25/19</u></p> <p>Purge start Time: <u>1122</u></p> <p>Purge Stop time: <u>1159</u></p> <p>Sampling (Well Recovery) Time: <u>1214</u></p> <p>Ending Water Level (feet): <u>16.24</u></p> <p>Total Purged (gallons): <u>1 1/2</u></p> <p>Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p>
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TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1133	1/4	15.81	7.46	3.79	2.2	0.00	22.45	-300
1138	1/2	15.97	7.44	3.77	0.8	0.00	22.43	-369
1144	3/4	16.08	7.42	3.76	0.2	0.00	22.45	-336
1149	1	16.14	7.38	3.78	0.0	0.00	22.47	-334
1155	1 1/4	16.18	7.36	3.81	0.0	0.00	22.41	-335
1159	1 1/2	16.24	7.35	3.83	0.0	0.00	22.62	-338

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

Well condition: OK, WATER CLEAR WITH STRONG ODOR

Additional Info/Comments: SUNNY, CLEAR, WARM

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshie Canyon Well ID: MW6 Date: 3/25/19

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 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: _____
 Measurement reference point: Yes: _____ No: _____
 Remarks: _____

Dedicated Pump: Type: BLASDER
 Condition: Good: _____ Damaged: _____ Missing: _____
 Pumping Rate (gpm): N/A Current (Hz): N/A
 Remarks: _____

Field Certification: [Signature] Field Tech 3/25/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Canyon</u>	Project No.: <u>S019-1074</u>
Well I.D.: <u>MW-9</u>	Sampling Date: <u>3/27/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1208</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1254</u>
Starting Water Level: <u>14.87</u>	Sampling (Well Recovery) Time: <u>1309</u>
Total Depth (feet): <u>26.70</u>	Ending Water Level (feet): <u>14.90</u>
Water column (feet): <u>11.83</u>	Total Purged (gallons): <u>2</u>
Screen Length (feet): <u>-</u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> Low Flow	<i>* BLANKS collected here!</i>
Horiba Model S/N: <u>U-5210UCV06</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1224	1/2	14.90	6.88	4.30	0.0	0.00	22.11	-139
1234	1	14.90	6.88	4.28	0.0	0.00	22.14	-140
1244	1 1/2	14.90	6.89	4.26	0.0	0.00	22.25	-141
1249	1 3/4	14.90	6.90	4.26	0.0	0.00	22.27	-141
1254	2	14.90	6.90	4.26	0.0	0.00	22.42	-141

Purge Sampling Rates: PSI 25 REFILL (25) DISCHARGE (7)
STANDING WATER IN WELL BOX

Well condition: OK, CARRIED EQUIPMENT AND BOTTLES TO WELL; WATER HAS YELLOW Tint and no odor

Additional Info/Comments: PARTLY CLOUDY, Light breeze, mild temp

Name: Nicholas Pearson Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Canyon Well ID: MW-9 Date: 3/27/19

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 TO WELL

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: STANDING WATER IN WELL BOX

Well Riser: Material: PVC

Condition of Riser: Good: Damaged: _____

Condition of Riser Cap: Good: Damaged: _____

Measurement 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 3/27/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

2019.1074

Site Name: <u>Sunshine Canyon</u>	Project No.: <u>S-18-1024 (ES)</u>
Well I.D.: <u>MW-13R</u>	Sampling Date: <u>3/26/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1301</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1329</u>
Starting Water Level: <u>16.12</u>	Sampling (Well Recovery) Time: <u>1344</u>
Total Depth (feet): <u>27.80</u>	Ending Water Level (feet): <u>16.66</u>
Water column (feet): <u>11.68</u>	Total Purged (gallons): <u>1 1/4</u>
Screen Length (feet): <u>-</u>	Duplicate Sample: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>U52/DUCYV66</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1311	1/4	16.38	7.58	2.65	0.0	0.00	23.11	-393
1315	1/2	16.46	7.56	2.67	0.0	0.00	23.15	-393
1320	3/4	16.51	7.56	2.66	0.0	0.00	23.21	-392
1325	1	16.58	7.58	2.64	0.0	0.00	22.93	-390
1329	1 1/4	16.66	7.57	2.64	0.0	0.00	22.91	-390

Purge Sampling Rates: 30 PPS Refill (30) Discharge (5)

Well condition: OK, well monument HEAVILY CORRODED, WATER HAS A STRONG OOR AND BLACK TINT.

Additional Info/Comments: Sunny, mostly clear, mild temp, HEAVY TRAFFIC

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Canyon</u>	Well ID:	<u>MW-13R</u>	Date:	<u>3/26/19</u>
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: <input checked="" type="checkbox"/>		No: _____		
Presence of depressions or standing water around well:	Yes: _____		No: <input checked="" type="checkbox"/>		
Remarks:	<u>HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES TO WELL AT THE ENTRANCE TO LANDFILL</u>				
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____		No: <input checked="" type="checkbox"/>		
Remarks:					
Protective Outer Casing:					
Material:	<u>METAL</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:	<u>MONUMENT HEAVILY CORRODED</u>				
Well Riser:					
Material:	<u>PVC</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	<u>BLADDER</u>				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: [Signature] Field Tech 3/26/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

2019.1074
~~2018.1024 (25)~~

Site Name: SUNSHINE CYN
 Well I.D.: MW-14
 Collected By: NR
 Casing Diameter (inches): 4
 Starting Water Level: 13.84
 Total Depth (feet): 28.10
 Water column (feet): 14.26
 Screen Length (feet): -
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/DLL4V06

Project No.: _____
 Sampling Date: 3/25/19
 Purge start Time: 1244
 Purge Stop time: 1258
 Sampling (Well Recovery) Time: 1313
 Ending Water Level (feet): 14.50
 Total Purged (gallons): 3
 Duplicate Sample: YES NO

* BLANKS COLLECTED HERE *

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1249	1	14.31	7.40	5.75	0.0	0.00	21.43	1
1252	1 1/2	14.46	7.38	5.75	0.0	0.00	21.34	-1
1254	2	14.48	7.36	5.75	0.0	0.00	21.29	-2
1256	2 1/2	14.48	7.36	5.78	0.0	0.00	21.37	-2
1258	3	14.50	7.35	5.76	0.0	0.00	21.22	-2

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

Well condition: OK, WATER CLEAR WITH NO ODR

Additional Info/Comments: Sunny, clear, warm

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Canyon</u>	Well ID: <u>MW-14</u>	Date: <u>3/25/19</u>
Access:		
Accessibility: Good: _____ Fair: <input checked="" type="checkbox"/>	Poor: _____	
Vicinity of well clear of weeds and/or debris: Yes: _____	No: <input checked="" type="checkbox"/>	
Presence of depressions or standing water around well: Yes: _____	No: <input checked="" type="checkbox"/>	
Remarks: <u>HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE AND OVER TO WELL.</u> <u>HEAVY VEGETATION AROUND WELL</u>		
Concrete Pad:		
Integrity: Good: <input checked="" type="checkbox"/>	Inadequate: _____	
Presence of depressions or standing water around well: Yes: _____	No: <input checked="" type="checkbox"/>	
Remarks: _____		
Protective Outer Casing: Material: <u>METAL</u>		
Condition of Protective Casing: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Locking Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Lock: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Weepholes: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Remarks: _____		
Well Riser: Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Riser Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Measurement reference point: Yes: <input checked="" type="checkbox"/>	No: _____	
Remarks: _____		
Dedicated Pump: Type: <u>BLADDER</u>		
Condition: Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____
Pumping Rate (gpm): <u>N/A</u>	Current (Hz): <u>N/A</u>	
Remarks: _____		

Field Certification: [Signature] Field Tech 3/25/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Gym Project No.: 5019.1074
 Well I.D.: DW-1 Sampling Date: 3-27-19
 Collected By: BS Purge start Time: _____
 Casing Diameter (inches): 4.00 Purge Stop time: _____
 Starting Water Level: _____ Sampling (Well Recovery) Time: 1015
 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: R5JS494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O mg/L	TEMPERATURE °C	O.R.P. mV
<u>—</u>	<u>6.65</u>	<u>—</u>	<u>8.47</u>	<u>4.77</u>	<u>6</u>	<u>3.41</u>	<u>18.26</u>	<u>-59</u>

Purge Sampling Rates: Very difficult to access due to muddy sediment and flowing seep next to the well.

Well condition: Needs sediment cleaning,

Additional Info/Comments: cloudy, cool

Name: B. Sabinas Signature: Bert Sabinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn. Well ID: DW-1 Date: 3-27-19

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: outer casing is corroding.

Well Riser: Material: PVC

Condition of Riser: Good Damaged:

Condition of Riser Cap: Good Damaged:

Measurement 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: Bert Salas CW Manager 3-27-19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cmn. Project No.: 2019.1074
 Well I.D.: DW-2 Sampling Date: 3-26-19
 Collected By: BS Purge start Time: 1112
 Casing Diameter (inches): 4 Purge Stop time: 1138
 Starting Water Level: 19.48 Sampling (Well Recovery) Time: 1145
 Total Depth (feet): 71.00 Ending Water Level (feet): 21.61
 Water column (feet): 51.52 Total Purged (gallons): 3
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8J5494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1118	3/4	20.33	7.64	2.72	F	3.38	19.74	-106
1120	1	20.48	7.63	2.71	F	1.85	19.80	-116
1124	1 1/2	21.52	7.64	2.71	F	1.76	19.83	-118
1128	2	21.58	7.64	2.69	F	1.71	19.84	-121
1131	2 1/4	21.66	7.64	2.69	F	1.66	19.78	-121
1134	2 1/2	21.75	7.64	2.69	F	1.64	19.82	-123
1138	3	21.83	7.65	2.69	F	1.60	19.79	-122

Purge Sampling Rates: PSD 45, R: 35 / D: 10
Clear water

Well condition: OK

Additional Info/Comments: Cloudy, cool

Name: Bert Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Cys.</u>	Well ID:	<u>DW-2</u>	Date:	<u>3-26-19</u>
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: _____	No: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:					
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:					
Protective Outer Casing:					
	Material:	<u>Metal</u>			
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:					
Well Riser:					
	Material:	<u>PVC</u>			
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
	Type:	<u>Bladder</u>			
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: Bert Salas Signed G.W. Manager Title 3-26-19 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sundline Cpx. Project No.: SO19.1074
 Well I.D.: DW-3 Sampling Date: 3-26-19
 Collected By: BS Purge start Time: 1256
 Casing Diameter (inches): 4 Purge Stop time: 1320
 Starting Water Level: 155.28 Sampling (Well Recovery) Time: 1327
 Total Depth (feet): 256.60 Ending Water Level (feet): 159.02
 Water column (feet): 101.32 Total Purged (gallons): 2 1/2
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8554944

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1302	3/4	156.47	7.61	2.30	⊖	5.98	21.77	71
1305	1	156.82	7.56	2.30	⊖	2.12	21.24	-58
1308	1 1/4	157.54	7.55	2.31	⊖	1.76	21.20	-66
1310	1 1/2	157.91	7.54	2.30	⊖	1.48	21.19	-74
1314	2	158.44	7.53	2.30	⊖	1.42	21.18	-77
1317	2 1/4	158.93	7.55	2.30	⊖	1.34	21.16	-77
1320	2 1/2	159.56	7.54	2.30	⊖	1.30	21.13	-79

Purge Sampling Rates: PSP 100, R: 40 / D: 18
Clear water with no odor.

Well condition: OK

Additional Info/Comments: Hazy sunshine, cool

Name: Bert Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Gas Well ID: DW-3 Date: 3-26-19

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:

Measurement 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: Bob Adams Signed Bob Adams Title GW Manager Date 3-26-19

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>SUNSHINE CANYON</u>	Project No.: <u>SO19.1074</u>
Well I.D.: <u>DW-4</u>	Sampling Date: <u>3/27/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1021</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1037</u>
Starting Water Level: <u>32.12</u>	Sampling (Well Recovery) Time: <u>1052</u>
Total Depth (feet): <u>134.80</u>	Ending Water Level (feet): <u>35.13</u>
Water column (feet): <u>102.68</u>	Total Purged (gallons): <u>2 1/2</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> <input checked="" type="checkbox"/> Low Flow <input type="checkbox"/>	
Horiba Model S/N: <u>U-52/DLLCYN86</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1027	1	33.63	7.53	3.47	0.0	2.66	20.65	-223
1030	1 1/2	34.12	7.51	3.48	0.0	4.05	20.70	-217
1033	2	34.61	7.50	3.48	0.0	3.62	20.72	-214
1035	2 1/4	34.88	7.50	3.48	0.0	3.58	20.78	-213
1037	2 1/2	35.13	7.50	3.48	0.0	3.51	20.72	-211

Purge Sampling Rates: 75 PSI REFILL (30) DISCHARGE (16)

Well condition: OK, WELL HAS HEAVY VEGETATION AND EROSION AROUND WELL. WATER HAS BLACK PARTICLES AND AN ODOR

Additional Info/Comments: SUNNY, MOSTLY CLEAR, LIGHT BREEZE, MILD TEMP

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: DW-4 Date: 3/27/19

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 SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE TO WELL. HEAVY EROSION AND VEGETATION AROUND WELL MONUMENT.

Concrete Pad:
 Integrity: N/A Good: _____ Inadequate: _____
 Presence of depressions or standing water around well: Yes: _____ No:
 Remarks: CONCRETE PAD IS 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: _____
 Measurement 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 3/27/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Canyon</u> Well I.D.: <u>DW-5</u> Collected By: <u>NR</u> Casing Diameter (inches): <u>4</u> Starting Water Level: <u>13.84</u> Total Depth (feet): <u>101.00</u> Water column (feet): <u>87.16</u> Screen Length (feet): <u>—</u> Sample Method: Micro Purge Low Flow Horiba Model S/N: <u>V-52/DUCCYV06</u>	Project No.: <u>S019.1074</u> Sampling Date: <u>3/25/19</u> Purge start Time: <u>1358</u> Purge Stop time: <u>1452</u> Sampling (Well Recovery) Time: <u>1507</u> Ending Water Level (feet): <u>17.24</u> Total Purged (gallons): <u>2 1/4</u> Duplicate Sample: YES NO
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TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1418	1/2	14.75	8.69	1.74	0.0	0.00	19.98	-182
1429	1	15.43	8.67	1.72	0.8	0.00	19.78	-206
1439	1 1/2	16.11	8.64	1.71	0.5	0.00	19.78	-215
1448	2	16.83	8.63	1.71	0.4	0.00	20.00	-222
1452	2 1/4	17.29	8.64	1.71	0.5	0.00	20.02	-224

Purge Sampling Rates: 65 PSI Refill (30) Discharge (18)


Well condition: OK, WATER HAS YELLOW TINT WITH AN ODOR

Additional Info/Comments: Sunny, clear, warm

Name: Nicholas Pearson Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>	Well ID: <u>DW-5</u>	Date: <u>3/25/19</u>
Access:		
Accessibility: Good: <input checked="" type="checkbox"/>	Fair: <input type="checkbox"/>	Poor: <input type="checkbox"/>
Vicinity of well clear of weeds and/or debris:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Remarks:		
Concrete Pad:		
Integrity: Good: <input type="checkbox"/>	Inadequate: <input checked="" type="checkbox"/>	
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Remarks: <u>BROKEN CONCRETE AND RUBBLE AROUND MONUMENT</u>		
Protective Outer Casing:		
Material: <u>METAL</u>		
Condition of Protective Casing: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	
Condition of Locking Cap: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	
Condition of Lock: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	
Condition of Weepholes: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	
Remarks:		
Well Riser:		
Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	
Condition of Riser Cap: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	
Measurement reference point: Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>	
Remarks:		
Dedicated Pump:		
Type: <u>BLADDER</u>		
Condition: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	Missing: <input type="checkbox"/>
Pumping Rate (gpm): <u>N/A</u>	Current (Hz): <u>N/A</u>	
Remarks:		

Field Certification:  Field Tech 3/25/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: SUNSHINE CANYON
 Well I.D.: P2-2
 Collected By: NR
 Casing Diameter (inches): 2
 Starting Water Level: 122.17
 Total Depth (feet): 160.90
 Water column (feet): 38.73
 Screen Length (feet): —
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/DLCCYV06

Project No.: 5019.1074
~~5018.1024~~ (B)
 Sampling Date: 3/25/19
 Purge start Time: 0927
 Purge Stop time: 1005
 Sampling (Well Recovery) Time: 1020
 Ending Water Level (feet): 129.23
 Total Purged (gallons): 2 1/2
 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
0937	1/2	124.47	8.54	5.58	0.0	0.00	23.64	-179
0945	1	125.82	8.75	5.58	1.2	0.00	23.82	-152
0951	1 1/2	126.98	8.81	5.59	0.0	0.00	23.93	-143
0957	2	128.07	8.84	5.60	0.0	0.00	23.95	-138
1001	2 1/4	128.54	8.86	5.60	0.0	0.00	23.99	-137
1005	2 1/2	129.23	8.87	5.60	0.0	0.00	24.05	-135

Purge Sampling Rates: 80 PSI REFILL (30) DISCHARGE (22)

Well condition: OK, WATER CLEAR WITH STRONG ODOR. HEAVY VEGETATION AROUND WELL

Additional Info/Comments: CLEAR, WARM, LIGHT BREEZE
HAD TO CARRY EQUIPMENT AROUND CHANNEL AND OVER TO WELL

Name: NICHOLAS PERSON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: PZ-2 Date: 3/25/19

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 ACROSS CONCRETE CHANNEL

Concrete Pad:

Integrity: NIA Good: _____ Inadequate: _____

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

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: _____

Measurement 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 3/25/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: SO19.1074
 Well I.D.: P2-4 Sampling Date: 3-28-19
 Collected By: BS Purge start Time: 0911
 Casing Diameter (inches): 2 Purge Stop time: 0937
 Starting Water Level: 111.55 Sampling (Well Recovery) Time: 0950
 Total Depth (feet): 125.15 Ending Water Level (feet): _____
 Water column (feet): 13.60 Total Purged (gallons): 2
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8T5494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0917	1/2	112.58	7.45	1.85	52.5	4.51	23.90	-46
0920	3/4	112.88	7.39	1.99	10.1	2.07	23.72	-93
0923	1	112.94	7.39	1.98	5.1	1.67	23.73	-97
0926	1 1/4	113.23	7.38	1.94	2.3	1.28	23.71	-113
0930	1 1/2	113.52	7.40	1.92	3.1	1.21	23.69	-131
0933	1 3/4	113.84	7.43	1.92	3.5	1.14	23.70	-137
0937	2	114.02	7.47	1.90	3.8	1.10	23.70	-142

Purge Sampling Rates: RSE set @ 80. R:40 | D:17
Water is a bit cloudy.

Well condition: OK Ants nest inside the well box,
field blank taken.
 Additional Info/Comments: cloudy, cool

Name: Ben Salinas Signature: Ben Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Cyn.</u>	Well ID:	<u>PZ-4</u>	Date:	<u>3-28-19</u>
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: _____	No: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:	<u>Fallen tree branch, had to remove and lots of tumble weeds @ the gate.</u>				
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:					
Protective Outer Casing:					
Material:	<u>Flush mount</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <u>N/A</u>	Damaged: _____			
Condition of Lock:	Good: <u>N/A</u>	Damaged: _____			
Condition of Weepholes:	Good: <u>N/A</u>	Damaged: _____			
Remarks:					
Well Riser:					
Material:	<u>PVC</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	<u>Bladder</u>				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: Bob Talia GW Manager 3/28/19
 Signed Title Date

**GROUNDWATER MONITORING PROGRAM
 SURFACE WATER DATA SHEET**

Site Name: Sunshine Gap,

Project No.: S019.1074

Station I.D.: UX-6

Sampling Date: 3-27-19

Collected By: B. Salinas

Sampling Time: N/A

Horiba Model S/N: 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				

Surface water conditions (including stream flow rate, stream depth): The Lybimeter is dry, I have asked Mark Vincent to submit the data to Kyle Melchior.

Additional Info/Comments:

Name: B-Salinas

Signature: Bert Salinas

**GROUNDWATER MONITORING PROGRAM
 SURFACE WATER DATA SHEET**

Site Name: Sunshine Cr.

Project No.: 5019.1074

Station I.D.: LY-7

Sampling Date: 3-25-2019

Collected By: B.S.

Sampling Time: NA

Horiba Model S/N: NA

Duplicate Sample: YES NO

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

Surface water conditions (including stream flow rate, stream depth): on 3/25/19 I checked the lysimeter for any flow, and no liquid. I shut the pump off to allow it to recharge. Checked lysimeter again on 3/27/19. Still no flow. Checked it again on 3/28/19. The lysimeter is dry, set the panel on auto again. I asked Mark Vincent to check with vibrating wires and send the data to Kyle Welchard.

Additional Info/Comments:


Name: B. Salinas

Signature: [Signature]

FIELD CALIBRATION DOCUMENTATION FORM

5019.1074
~~5019.1074~~ 

LOCATION (Site/Facility Name) SUNSHINE Cyn PROJECT NAME / NUMBER 5019.1074 

Instrument Make/Model #		HORIZA U-52 (NCCV26)					
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments	
3/25/19 0830	3.79	4.51	0.5	12.53			
Pre Cal							
Calibration	4.00	4.50	0.0	10.24			
Calibration Successful? (Y/N)	Y				enter YES or NO		
Satisfies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	NR				Signature or initials		
Physical Condition of Unit		Good					

FIELD CALIBRATION DOCUMENTATION FORM

SD19.1074

LOCATION (Site/Facility Name) Sunshine Co. PROJECT NAME / NUMBER SAF-1024 (E)

Instrument Make/Model #		PROJECT NAME / NUMBER					Comments
Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments	
<u>3/25/19</u> <u>0858</u>							
Pre Cal	<u>4.88</u>	<u>4.45</u>	<u>6</u>	<u>13.24</u>			
Calibration	<u>3.99</u>	<u>4.50</u>	<u>6</u>	<u>9.68</u>			
Calibration Successful? (Y/N)	<u>Yes</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	enter YES or NO		
Satisfies Protocol?	<u>Yes</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	<u>Bert Hill</u>				Signature or initials		
Physical Condition of Unit		<u>Good</u>					

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spa PROJECT NAME / NUMBER 5019, 1074


Instrument Make/Model #		PROJECT NAME / NUMBER					Comments
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks		
3/26/18 0728							
Pre Cal	7.28	4.59	0.6	11.28			
Calibration	4.00	4.49	8	9.58			
Calibration Successful? (Y/N)	Yes	↔	↔	↔	enter YES or NO		
Satisfies Protocol?	Yes	↔	↔	↔	Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	Randy John					Signature or initials	
Physical Condition of Unit		Good					

FIELD CALIBRATION DOCUMENTATION FORM

2019.107M
 2018.1024 (RS)


LOCATION (Site/Facility Name) SUNSHINE CANYON

PROJECT NAME / NUMBER 2018.1024 (RS)

Instrument Make/Model #		PROJECT NAME / NUMBER					Comments
Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks		
3/26/19 0630	4.59	4.49	0.0	8.89			
Pre-Cal	4.00	4.50	0.0	9.24			
Calibration	Y				enter YES or NO		
Calibration Successful? (Y/N)	Y				Did calibration meet criteria in the sampling protocol? (Y or N)		
Satisfies Protocol?	NR				Signature or initials		
Calibration by							
Physical Condition of Unit		G-300					

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE CANYON PROJECT NAME / NUMBER SO19.1074

Instrument Make/Model #		<u>HORIBA U52 (DLCYV06)</u>					Guidance Remarks	Comments
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)				
<u>3/27/19</u> <u>0715</u>	<u>4.33</u>	<u>4.52</u>	<u>0.5</u>	<u>8.17</u>				
Pre Cal	<u>4.00</u>	<u>4.51</u>	<u>0.0</u>	<u>9.73</u>				
Calibration	<u>Y</u>					enter YES or NO		
Calibration Successful? (Y/N)	<u>Y</u>					Did calibration meet criteria in the sampling protocol? (Y or N)		
Satisfies Protocol?	<u>NR</u>					Signature or initials		
Calibration by								
Physical Condition of Unit		<u>Good</u>						

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spas PROJECT NAME / NUMBER SD19.1074

Instrument Make/Model #		R8 JS94B					
Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments	
2/27/19 0748	4.13	4.61	0.4	12.34			
Pre Cal	4.00	4.49	0	9.62			
Calibration	YES				enter YES or NO		
Calibration Successful? (Y/N)	YES				Did calibration meet criteria in the sampling protocol? (Y or N)		
Satisfies Protocol?	YES				Signature or initials		
Calibration by	S. Burt Allen						
Physical Condition of Unit	good						

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spn PROJECT NAME / NUMBER SD19.1074

Instrument Make/Model # <u>R8TS494H</u>					
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU)	DO (mg/L or %)	Comments
<u>3/28/19</u> <u>0738</u>					
Pre Cal	<u>2.91</u>	<u>4.62</u>	<u>0.7</u>	<u>13.11</u>	
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0</u>	<u>9.62</u>	
Calibration Successful? (Y/N)	<u>Yes</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	enter YES or NO
Satisfies Protocol?	<u>Yes</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	Did calibration meet criteria in the sampling protocol? (Y or N)
Calibration by	<u>B. J. + J. L.</u>				Signature or initials
Physical Condition of Unit		<u>Good</u>			

Regulatory Program: DW NPDES RCRA Other:

Company Name: Geo-Lume Resources
 Address: 1115 W. Riverside Ca Suite 200
 City/State/Zip: San Diego CA 92117
 Phone: (619) 451-1076
 Fax:
 Project Name: SUBSURFACE CHARACTERIZABLE SOURCE
 PO # SON 1071

Project Manager: Kyle Williams
 Tell/Fax: (619) 451-1076
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 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)	Carrier	Date: <u>5/27/19</u>	COC No: <u>1</u> of <u>1</u> COCs
MW-5-A	5/27/19	1145	GW	GW	4	X	X			
MW-5-B		1150	GW	GW	4	X	X			
PZ-2-A		1254	GW	GW	1	X	X			
PZ-2-B		1303	GW	GW	1	X	X			
PZ-4-A		1036	GW	GW	1	X	X			
PZ-4-B		1041	GW	GW	1	X	X			
FIELD BLANK			LAG	LAG	3					
TRIP BLANK			LAG	LAG	3					

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
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
 Custody Seal No.:
 Relinquished by: [Signature] Company: GLA Date/Time: 5/20/19/1101
 Relinquished by: [Signature] Company: TA-100 Date/Time: 5/27/19 1601
 Relinquished by: _____ Company: _____ Date/Time: _____

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Canyon</u>	Project No.: <u>S019.1074</u>
Well I.D.: <u>PZ-2</u>	Sampling Date: <u>5/20/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1222</u>
Casing Diameter (inches): <u>2</u>	Purge Stop time: <u>1253</u>
Starting Water Level: <u>121.94</u>	Sampling (Well Recovery) Time: <u>A: 1258 B: 1303</u>
Total Depth (feet): <u>160.90</u>	Ending Water Level (feet): <u>NR A: 1258 B: 1303 127.91</u>
Water column (feet): <u>38.96</u>	Total Purged (gallons): <u>2*</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: YES <input checked="" type="radio"/> NO <input type="radio"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>U-52/DLL4V040</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1230	1/2	123.52	8.15	5.27	1.3	0.34	26.20	-188
1238	1	125.28	8.30	5.33	0.0	0.00	26.02	-160
1245	1 1/2	126.72	8.31	5.31	0.0	0.00	25.97	-157
1249	1 3/4	127.27	8.31	5.33	0.0	0.00	25.95	-155
1253	2	127.91	8.31	5.34	0.0	0.00	25.99	-154

Purge Sampling Rates: PSI 80 Refill(30) Discharge(22)
WATER CLEAR WITH NO ODOR.

Well condition: OK, HAD TO CARRY EQUIPMENT AROUND CONCRETE CHANNEL AND OVER TO WELL

Additional Info/Comments: Sunny, some clouds, light wind

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Canyon</u>	Well ID: <u>PZ-2</u>	Date: <u>5/20/19</u>
Access:		
Accessibility: Good: _____ Fair: _____ Poor: <input checked="" type="checkbox"/>		
Vicinity of well clear of weeds and/or debris: Yes: <input checked="" type="checkbox"/> No: _____		
Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>		
Remarks: <u>CARRIED SAMPLING EQUIPMENT AND BOTTLES ACROSS CONCRETE CHANNEL AND OVER TO WELL</u>		
Concrete Pad:		
Integrity: <u>N/A</u> Good: _____ Inadequate: _____		
Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>		
Remarks: <u>No Concrete Pad</u>		
Protective Outer Casing:		
Material: <u>Metal</u>		
Condition of Protective Casing: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Locking Cap: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Lock: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Weepholes: Good: <input checked="" type="checkbox"/> Damaged: _____		
Remarks: _____		
Well Riser:		
Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Riser Cap: Good: <input checked="" type="checkbox"/> Damaged: _____		
Measurement reference point: Yes: <input checked="" type="checkbox"/> No: _____		
Remarks: _____		
Dedicated Pump:		
Type: <u>BLASDER</u>		
Condition: Good: <input checked="" type="checkbox"/> Damaged: _____ Missing: _____		
Pumping Rate (gpm): <u>N/A</u> Current (Hz): <u>N/A</u>		
Remarks: _____		

Field Certification: [Signature] Field Tech 5/20/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>SUNSHINE CANYON</u>	Project No.: <u>S019.1074</u>
Well I.D.: <u>MW-5</u>	Sampling Date: <u>5-20-19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1115</u>
Casing Diameter (inches): <u>2</u>	Purge Stop time: <u>1141</u>
Starting Water Level: <u>16.34</u>	Sampling (Well Recovery) Time: <u>A: 1145 B: 1150</u>
Total Depth (feet): <u>26.20</u>	Ending Water Level (feet): <u>16.76</u>
Water column (feet): <u>9.86</u>	Total Purged (gallons): <u>2 3/4</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> Low Flow	* FIELD BLANKS COLLECTED HERE *
Horiba Model S/N: <u>U-52/DUCYVØ6</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1123	1	16.76	6.32	4.22	2.3	0.00	20.32	-130
1127	1 1/2	16.76	6.34	4.27	0.0	0.00	20.33	-139
1132	2	16.76	6.36	4.37	0.0	0.00	20.36	-143
1135	2 1/4	16.76	6.37	4.45	10.9	0.00	20.37	-144
1138	2 1/2	"	6.38	4.45	11.0	0.00	20.47	-144
1141	2 3/4	"	6.39	4.47	11.2	0.00	20.58	-145

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

Well condition: OK, WATER yellow with no odor

Additional Info/Comments: Sunny, some clouds, light wind

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>SUNSHINE CANYON</u>	Well ID:	<u>MW-5</u>	Date:	<u>5-20-19</u>
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: _____	No: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:					
Concrete Pad:					
Integrity:	Good: _____	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks: <u>Concrete pad is not visible</u>					
Protective Outer Casing:					
	Material:	<u>METAL</u>			
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:					
Well Riser:					
	Material:	<u>PVC</u>			
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
	Type:	<u>BLADDER</u>			
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: [Signature] Field Tech 5-20-19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>SUNSHINE CYN</u>	Project No.: <u>S019.1074</u>
Well I.D.: <u>PZ-4</u>	Sampling Date: <u>5-20-19</u>
Collected By: <u>NR</u>	Purge start Time: <u>0947</u>
Casing Diameter (inches): <u>2</u>	Purge Stop time: <u>1031</u>
Starting Water Level: <u>111.41</u>	Sampling (Well Recovery) Time: <u>A: 1036 B: 1041</u>
Total Depth (feet): <u>125.15</u>	Ending Water Level (feet): <u>113.98</u>
Water column (feet): <u>13.74</u>	Total Purged (gallons): <u>2 1/2</u>
Screen Length (feet): <u>-</u>	Duplicate Sample: YES <input type="radio"/> NO <input checked="" type="radio"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>U-52/DLUCV06</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1009	1	113.02	6.19	1.61	109	0.00	23.10	-159
1016	1 1/2	113.36	6.21	1.59	83.8	0.00	23.26	-161
1023	2	113.73	6.25	1.58	31.5	0.00	23.43	-154
1027	2 1/4	113.86	6.27	1.57	32.0	0.00	23.51	-151
1031	2 1/2	113.98	6.28	1.56	31.7	0.00	23.54	-150

Purge Sampling Rates: 80 PSI REFILL (40) DISCHARGE (16)

Well condition: OK, ANTS PRESENT IN WELL BOX. WATER HAS STRONG ODOR WITH GRAY COLOR.

Additional Info/Comments: SUNNY, SOME CLOUDS, LIGHT WIND

Name: NICHOLAS REASON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CYN Well ID: PZ-4 Date: 5-20-19

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: NIA Damaged:

Condition of Lock: Good: NIA Damaged:

Condition of Weepholes: Good: NIA Damaged:

Remarks:

Well Riser: Material: PVC

Condition of Riser: Good: Damaged:

Condition of Riser Cap: Good: Damaged:

Measurement reference point: Yes: No:

Remarks:

Dedicated Pump: Type: BLADDER

Condition: Good: Damaged: Missing:

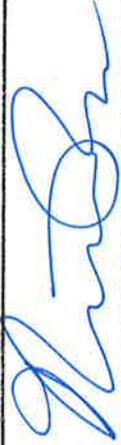
Pumping Rate (gpm): NIA Current (Hz): NIA

Remarks:

Field Certification: [Signature] FIELD TECH 5-20-19
 Signed Title Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE CYN PROJECT NAME / NUMBER S019-107

Instrument Make/Model #		PROJECT NAME / NUMBER				
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
<u>5-20-19</u> <u>0900</u>						
Pre-Cal	<u>4.15</u>	<u>4.53</u>	<u>0.4</u>	<u>9.58</u>		
Calibration	<u>4.00</u>	<u>4.57</u>	<u>0.0</u>	<u>9.66</u>		
Calibration Successful? (Y/N)	<u>Y</u>				enter YES or NO	
Satisfies Protocol?	<u>Y</u>				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>NR</u>				Signature or initials	
Physical Condition of Unit		<u>Good</u>				

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

Chain of Custody Record

208859

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

*Re-test *

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: GALA (Republic) Address: 1413 W. Bondards St. City/State/Zip: S. D. CA. 92712 Phone: 951-451-1136 Fax: 951-451-1087 Project Name: Republic Services Site: Sunshine Gas Landfill P O #		Project Manager: Kyle Weldon Tel/Fax: 951-451-1136 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: J. Mills Lab Contact: J. Mills Perform MS/MSD (Y/N) _____ Filtered Sample (Y/N) _____		Date: 4-10-19 Carrier: TA COC No.: _____ of _____ COCs Sampler: B-2 Satus For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:									
Sample Identification Deep leachate Field Blank Day Blank		Sample Date 4/10/19 ↓ ↓		Sample Time 11:00 AM ↓ ↓		Sample Type (C=Comp, G=Grab) G ↓ ↓		Matrix WW LAB ↓ ↓		# of Cont. 13 6 6		Sample Specific Notes: Metals are not field filtered.			
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. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown															
Special Instructions/QC Requirements & Comments:															
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:				Custody Seal No.: Company: Geo-Loss Company: Geo-Loss Company:				Cooler Temp. (°C): Obs'd: _____ Received by: [Signature] Received by: [Signature] Received in Laboratory by:				Therm ID No.: _____ Date/Time: 4/10/19 1525 Date/Time: Date/Time:			

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

Return to Client Disposal by Lab Archive for _____ Months

* Retest *

**GROUNDWATER MONITORING PROGRAM
 LEACHATE DATA SHEET**

Site: Sunshine Cyn. Project No.: 5019.1074

Station I.D.: Deep leachate Sampling Date: 4-10-19
 Collected By: B. Salinas Sampling Time: 11:00
 Horiba Model S/N: R88549417 Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Dark/Blk string		8.04	31.0	OR	5.10	29.22	80

Leachate sampling station conditions: leachate samples taken @ inlet
side to the tank,
(Tank Farm).

13 caps filled
Additional Info/Comments: clear, sunny, windy

Name: Bert Salinas Signature: Bert Salinas

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER SOL9.107H

Instrument Make/Model #		28559414					Guidance Remarks	Comments
Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU)	DO (mg/L or %)				
1-10-19 0945	3.92	4.59	0.5	12.46				
Pre Cal								
Calibration	4.00	4.49	0	9.61				
Calibration Successful? (Y/N)	Yes					enter YES or NO		
Satisfies Protocol?	Yes					Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	Butcher					Signature or initials		
Physical Condition of Unit		Good						

Chain of Custody Record

322962

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (07/13)

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 Company Name: Geoplosic Assoc
 Address: 11115 W. Bernardo Ct
 City/State/Zip: San Diego, CA 92127
 Phone: 619-451-1136
 Fax: 619-451-1087
 Project Name: Geoplosic Services
 P O #: Geoplosic Environmental

Project Manager: Vyle Mills
Tel/Fax: 619-451-1136
Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Site Contact: J Mills
Lab Contact: J Mills
 Date: 6-27-19
 Carrier: TAM
 COC No: 1 of 1 COCs
 Sampler: BS 218
 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 8160B-KCS	EPA 8160C-14	Humania 95 (H)	EPA 1110-4 - COT	EPA 300.0 - MSB TL	Phosphate	Pyrimidine	EPA 6010 B - Total	M.K. 109	EPA 1631 - TDS	EPA 415.1 - TSC	EPA 314.2 - Fluoride	EPA 376.2 - Sulfide	514-450-CO2-	Carbon Dioxide	At+1 Alkalinity #	Bicarbonate	Sample Specific Notes:
MW-5	6/27/19	1030	G	GW 13	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-13R	6/27/19	1030	G	GW 13	13			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
LY-7	6/27/19	1030	G	GW 11	11			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Field Blank	6/27/19							X																	
Tip Blank	6/27/19							X																	

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

Special Instructions/QC Requirements & Comments:
 Return to Client Disposal by Lab Archive for _____ Months

Custody Seal No.:	Company:	Date/Time:	Cooler Temp. (°C):	Obs'd:	Corrd:	Therm ID No.:
622962	Geoplosic	6-27-19				
Received by: <u>[Signature]</u>	Company: <u>TAM</u>	Date/Time: <u>6/27/19</u>				
Relinquished by: <u>[Signature]</u>	Company: <u>Geoplosic</u>	Date/Time: <u>6/27/19</u>				
Relinquished by:	Company:	Date/Time:				

Chain of Custody Record

322964

TestAmerica

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

Regulatory Program: DW NPDES RCRA Other

Client Contact
Company Name: Green Leaf Assoc.
Address: 1115 W. Broadway St.
City/State/Zip: San Diego, CA 92127
Phone: 619-437-1131
Fax: 619-437-1088
Project Name: San Diego Sewer
Site: Sunshine Gas Landfill
P O #

Project Manager: V. Williams
Tel/Fax: 619-437-1131
Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Site Contact: T. Mills
Lab Contact: R. Martinez
Date: 6-25-10
Carrier: Delta
COC No.: 1 of 1 COCs
Sampler: Q.S.
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)	Method	Carrier	Date
DW-1	6/25/10	1112	G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
DW-2	6/25/10	1328	G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
DW-3	6/25/10	1405	G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
DW-4	6/25/10	1440	G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
Duplicate	6/25/10	1750	G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
DW-5	6/25/10	1930	G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
CM-903	6/25/10		G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
CM-10R	6/25/10		G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
CM-11D	6/25/10		G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
Field Blank	6/25/10		G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10
Tap Blank	6/25/10		G	GL	13	X	X	EPA 300.0-NB-2	Meim, K. No	6/25/10

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 Seal No.: _____
Custody Seals Intact: Yes No
Relinquished by: [Signature]
Relinquished by: [Signature]
Relinquished by: _____

Company: Green Leaf Assoc.
Company: Green Leaf Assoc.
Company: _____

Date/Time: 6/25/10 14:15
Date/Time: 6/25/10 14:15
Date/Time: _____

Received by: [Signature]
Received by: [Signature]
Received in Laboratory by: _____

Company: Green Leaf Assoc.
Company: Green Leaf Assoc.
Company: _____

Date/Time: 6/25/10 14:15
Date/Time: 6/25/10 14:15
Date/Time: _____

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

Regulatory Program: DW NPDES RCRA Other: _____

Client Contact		Project Manager: Kelly Weckman		Site Contact: J. Mills		Date: 6-27-14		COC No: 1 of 1 COCs	
Company Name: Geo-Logic Assoc.		Tel/Fax: 558-451-1131		Lab Contact: R. Tamayo		Carrier: T.A.		Sampler: R.S. NIK	
Address: 11115 W. Boulevard Ct.		Analysis Turnaround Time		Perform MS/MSD (Y/N)		Walk-in Client:		For Lab Use Only:	
City/State/Zip: S.D. CA 92177		CALENDAR DAYS <input type="checkbox"/> WORKING DAYS <input type="checkbox"/>		Filtered Sample (Y/N)		Lab Sampling:		Job / SDG No.:	
Phone: 558-451-1136		TAT if different from Below		# of Cont.		Walk-in Client:		Sample Specific Notes: free 101	
Fax: 558-451-1087		2 weeks <input type="checkbox"/>		Sample Date		Sample Time		Sample Type	
Project Name: Republic Services		1 week <input type="checkbox"/>		Sample Date		Sample Time		Sample Type	
Site: San Mateo Co. (San Mateo)		2 days <input type="checkbox"/>		Sample Date		Sample Time		Sample Type	
P O #		1 day <input type="checkbox"/>		Sample Date		Sample Time		Sample Type	
Sample Identification		Sample Date		Sample Time		Sample Type		# of Cont.	
Subchain (14)	6/24/14	1215	G	120	13				
Combined Subchains	6/25/14	1335	G	120	13				
PE-2	6/25/14	1035	G	120	13				
MIN-6	6/25/14	1242	G	120	13				
Field Blanks	6/25/14	1230	G	120	13				
Tap Blanks	6/25/14	---	G	120	13				

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

Possible Hazard Identification: 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

Special Instructions/QC Requirements & Comments:

Cooler Temp. (°C): Obs'd: _____ Corrd: _____

Received by: *Benjamin* Date/Time: 6/25/14

Received in Laboratory by: *Geo-Logic* Date/Time: 6/25/14

Relinquished by: *Benjamin* Date/Time: 6/25/14

Relinquished by: *Geo-Logic* Date/Time: 6/25/14

Company: *Geo-Logic*

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

Return to Client Disposal by Lab Archive for _____ Months

Received by: *J. Mills* Date/Time: 6/27/14

Received in Laboratory by: *Geo-Logic* Date/Time: 6/27/14

Company: *Geo-Logic*

**GROUNDWATER MONITORING PROGRAM
WATER LEVEL SURVEY RECORD SHEET**

SITE NAME: Sundline Cyn. L/E
 DATE: June 24, 2019
 PROJECT NUMBER: 2019, 1074
 WATER LEVEL MAKE/MODEL: Solinst Model 101
 FIELD PERSONNEL: B. Salinas, H. Reagen

WELL ID	CONSTRUCTION TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			8.61	
MW-2A			32.37	
MW-2B			16.80	
MW-5			16.83	
MW-6			16.15	
MW-8			16.05	
MW-9			20.95	
MW-13R			16.43	
MW-14			14.31	
DW-1			TTC	
DW-2			21.97	
DW-3			155.45	
DW-4			32.18	
DW-5			13.42	
CM-5R			221.36	
CM-9R3			10.24	
CM-10R			47.16	
CM-11R			15.93	
PZ-1			93.42	
PZ-2			121.99	
PZ-3			222.24	
PZ-4			111.24	
EW-2			23.17	
EW-3			18.75	
EW-4			17.59	
OM-3			12.41	
REMARKS:				
SIGNATURE:				

**GROUNDWATER MONITORING PROGRAM
 SURFACE WATER DATA SHEET**

Site Name: Sunshine Care

Project No.: 2019-1074

Station I.D.: camp, red
 air drainage

Sampling Date: 6-24-19

Collected By: RS

Sampling Time: 1335

Horiba Model S/N: R85529414

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>light yellowish</u>	<u>yes</u>	<u>5.79</u>	<u>3165</u>	<u>13.7</u>	<u>2.96</u>	<u>32.37</u>	<u>111</u>

Surface water conditions (including stream flow rate, stream depth): Samples collected @ 2" pipe
 beside the containment

Additional Info/Comments: Summary report

Name: Paul Jenkins

Signature: Paul Jenkins

Geo-Logic

ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Cr.

Project No.: SC99, 1074

Station I.D.: Subdrain (N)

Sampling Date: 6-24-19

Collected By: BS

Sampling Time: 1215

Horiba Model S/N: R8J5C194H

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Yellowish</u>	<u>Yes</u>	<u>5.88</u>	<u>5.07</u>	<u>44.6</u>	<u>1.89</u>	<u>37.10</u>	<u>-128</u>

Surface water conditions (including stream flow rate, stream depth): Samples collected @
Subdrain (N) well location. East of the high well.

Additional Info/Comments: Clear, warm

Name: Brent Salinas

Signature: Brent Salinas

Geo-Logic

ASSOCIATES
Geologists, Hydrogeologists, and Engineers

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Cyn

Project No.: 5019.1074

Station I.D.: Extraction Trench

Sampling Date: 6-26-19

Collected By: BS

Sampling Time: 0920

Horiba Model S/N: R8J5494H

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Yellowish</u>	<u>yes</u>	<u>5.60</u>	<u>3.89</u>	<u>0</u>	<u>3.09</u>	<u>22.30</u>	<u>-59</u>

Surface water conditions (including stream flow rate, stream depth): Samples collected at
filter units

Field Blank taken here.

Additional Info/Comments: Overcast, cool

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Cyn.

Project No.: 2019.1074

Station I.D.: LY-7

Sampling Date: 6-27-19

Collected By: B. Salinas

Sampling Time: 0920

Horiba Model S/N: R855419414

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>slight yellowish</u>	<u>yes</u>	<u>6.17</u>	<u>6.35</u>	<u>16.1</u>	<u>2.11</u>	<u>32.53</u>	<u>-121</u>

Surface water conditions (including stream flow rate, stream depth): checked lysimeter on 6-24-19.
no flow, set the panel to off mode. on 6-27-19 checked it again
panel was able to sample. set the panel to auto mode.
field blank taken here

11 cont. filled

Additional Info/Comments: hardy sunshine, cool

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Cyn

Project No.: SOA 9.1074

Station I.D.: LY-6

Sampling Date: 6-27-19

Collected By: BS

Sampling Time: N/A

Horiba Model S/N: N/A

Duplicate Sample: YES NO

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

Surface water conditions (including stream flow rate, stream depth): The lysimeter appears to be dry. No samples collected.

Additional Info/Comments: Heavy sunshine

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>SO19-1074</u>
Well I.D.:	<u>CM-9R3</u>	Sampling Date:	<u>6/25/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>1113</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>1130</u>
Starting Water Level:	<u>10.21</u>	Sampling (Well Recovery) Time:	<u>1140</u>
Total Depth (feet):	<u>29.00</u>	Ending Water Level (feet):	<u>11.64</u>
Water column (feet):	<u>18.79</u>	Total Purged (gallons):	<u>2 1/2</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<input checked="" type="checkbox"/> Micro Purge <input type="checkbox"/> Low Flow		
Horiba Model S.N.:	<u>U-5210244V06</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	ORP mV
1118	1/2	10.64	5.78	4.32	132	0.00	17.54	-6
1121	1	10.98	5.78	4.25	83.8	0.00	17.56	0
1124	1 1/2	11.21	5.80	4.22	60.6	0.00	17.49	6
1125	1 3/4	11.37	5.81	4.22	51.4	0.00	17.38	9
1127	2	11.48	5.81	4.21	44.5	0.00	17.32	11
1129	2 1/4	11.56	5.83	4.21	44.6	0.00	17.33	13
1130	2 1/2	11.69	5.82	4.20	44.3	0.00	17.31	13

Purge Sampling Rates: 25 PSI Refill(30) DISCHARGE(10)
 HAD TO CAREY SAMPLING EQUIPMENT AND BOTTLES TO WELL


Well condition: OK, HEAVY VEGETATION AND RUD AROUND WELL. WATER HAS ORANGE COLOR WITH NO ODOOR

Additional Info/Comments: Cloudy, WARM

Name: NICHOLAS PEARSON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	SUNSHINE CANYON	Well ID:	CM-923	Date:	6/25/19
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: _____	No: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:	HEAVY VEGETATION AROUND WELL. HAD TO CARRY SAMPLING EQUIPMENT TO WELL				
Concrete Pad:					
Integrity:	N/A	Good: _____	Inadequate: _____		
Presence of depressions or standing water around well:	Yes: _____	No: _____			
Remarks:	CONCRETE PAD NOT VISABLE				
Protective Outer Casing:					
Material:	METAL				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Remarks:					
Well Riser:					
Material:	PVC				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	BLADDER				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	N/A	Current (Hz):	N/A		
Remarks:					

Field Certification:  FIELD TECH 6/25/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>SUNSHINE CANYON</u>	Project No: <u>SO19.1074</u>
Well I.D.: <u>CM-10R</u>	Sampling Date: <u>6/25/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1219</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1236</u>
Starting Water Level: <u>47.18</u>	Sampling (Well Recovery) Time: <u>1250</u>
Total Depth (feet): <u>110.90</u>	Ending Water Level (feet): <u>47.46</u>
Water column (feet): <u>63.72</u>	Total Purged (gallons): <u>2 1/2</u>
Screen Length (feet): <u>-</u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> <input checked="" type="checkbox"/> Low Flow <input type="checkbox"/>	
Horiba Model S/N: <u>U-52/DUCYV06</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O.R.P. mV
1223	1/2	47.37	6.24	2.97	0.0	0.00	21.95	-47
1227	1	47.44	6.31	2.94	0.0	0.00	21.88	-64
1230	1 1/2	47.44	6.33	2.95	0.0	0.00	21.84	-69
1233	2	47.46	6.35	2.94	0.0	0.00	21.70	-73
1236	2 1/2	47.46	6.36	2.94	0.0	0.00	21.69	-76

Purge Sampling Rates: 50 PSI Refill (40) DISCHARGE (12)

Well condition: OK, WATER CLEAR WITH NO ODOR

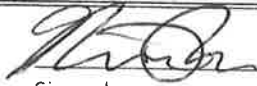
Additional Info/Comments: Cloudy, warm

Name: Nicholas Pearson Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>SUNSHINE CANYON</u>	Well ID:	<u>CM-10R</u>	Date:	<u>6/25/19</u>
Access:	Accessibility: Good: <input checked="" type="checkbox"/> Fair: <input type="checkbox"/> Poor: <input type="checkbox"/>				
	Vicinity of well clear of weeds and/or debris: Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>				
	Presence of depressions or standing water around well: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>				
Remarks:					
Concrete Pad:	Integrity: Good: <input checked="" type="checkbox"/> Inadequate: <input type="checkbox"/>				
	Presence of depressions or standing water around well: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>				
Remarks:					
Protective Outer Casing:	Material: <u>METAL</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/>				
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/>				
Condition of Lock:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/>				
Condition of Weepholes:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/>				
Remarks:					
Well Riser:	Material: <u>PVC</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/>				
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/>				
Measurement reference point:	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>				
Remarks:					
Dedicated Pump:	Type: <u>BLADDER</u>				
Condition:	Good: <input checked="" type="checkbox"/> Damaged: <input type="checkbox"/> Missing: <input type="checkbox"/>				
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification:


Signed

FIELD TECH
Title

6/25/19
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: SUNSHINE CANYON
 Well I.D.: CM-11R
 Collected By: NR
 Casing Diameter (inches): 4
 Starting Water Level: 15.90
 Total Depth (feet): 31.00
 Water column (feet): 15.10
 Screen Length (feet): -
 Sample Method: Micro Purge Low Flow
 Horiba Model S.N: U-52/DLLCYV06

Project No.: 5019-1074
 Sampling Date: 6/25/19
 Purge start Time: 0837
 Purge Stop time: 0914
 Sampling (Well Recovery) Time: 0930
 Ending Water Level (feet): 17.21
 Total Purged (gallons): 2 1/4+
 Duplicate Sample: YES NO
 * DUPLICATE collected here *

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
0844	1/2	16.28	5.22	4.68	0.0	0.00	17.17	134
0850	1	16.51	5.21	4.64	0.0	0.00	16.96	149
0855	1 1/4	16.70	5.17	4.58	0.0	0.00	16.94	160
0900	1 1/2	16.86	5.08	4.44	0.0	0.00	16.86	173
0905	1 3/4	17.02	4.91	4.27	0.0	0.00	16.80	194
0909	2	17.11	4.86	4.23	0.0	0.00	16.81	203
0914	2 1/4	17.21	4.83	4.21	0.0	0.00	16.77	209

Purge Sampling Rates: 30 PSI Refill (25) DISCHARGE (4)

Well condition: OK, WATER CLEAR WITH NO ODI?

Additional Info/Comments: OVERCAST, COOL

Name: NICHOLAS REASON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: CM-11R Date: 6/25/19

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 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: _____

Measurement 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 6/25/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>Sunshine Cyn.</u>	Project No.: <u>SO19.1074</u>
Well I.D.: <u>Mw-1</u>	Sampling Date: <u>6-26-19</u>
Collected By: <u>BS</u>	Purge start Time: <u>1218</u>
Casing Diameter (inches): <u>4</u>	Purge Stop time: <u>1247</u>
Starting Water Level: <u>8.64</u>	Sampling (Well Recovery) Time: <u>1258</u>
Total Depth (feet): <u>29.60</u>	Ending Water Level (feet): <u>8.70</u>
Water column (feet): <u>20.96</u>	Total Purged (gallons): <u>3.25</u>
Screen Length (feet): <u> </u>	Duplicate Sample: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method: <u>Micro Purge</u> Low Flow	
Horiba Model S/N: <u>R8554944</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1225	1/2	8.78	5.86	2.98	22.6	2.74	20.50	-49
1229	1	8.81	5.94	2.79	19.6	1.68	20.33	-76
1233	1 1/2	8.72	5.94	2.70	6.8	1.31	20.33	-82
1237	2	8.71	5.95	2.68	3.5	1.06	20.34	-83
1240	2 1/2	"	5.97	2.67	3.9	0.92	20.43	-86
1244	3	"	5.98	2.67	4.2	0.89	20.42	-85
1247	3 1/4	"	5.99	2.67	4.5	0.87	20.46	-85

Purge Sampling Rates: RSD 20, R:30/dell, water is yellowish in color with an odor

Well condition: OK - a box is blocking the well, had to move it.

Additional Info/Comments: Hazy sunshine, warm

Name: B. Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cn.</u>		Well ID: <u>MW-1</u>		Date: <u>6-26-19</u>	
Access:					
Accessibility:		Good: <input checked="" type="checkbox"/>	Fair: <input type="checkbox"/>	Poor: <input type="checkbox"/>	
Vicinity of well clear of weeds and/or debris:				Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Presence of depressions or standing water around well:				Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Remarks: <u>Box in front of the well</u>					
Concrete Pad:					
Integrity:		Good: <input type="checkbox"/>	Inadequate: <input type="checkbox"/>		
Presence of depressions or standing water around well:				Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
Remarks: <u>Apron is not visible</u>					
Protective Outer Casing:		Material: <u>Metal</u>			
Condition of Protective Casing:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>		
Condition of Locking Cap:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>		
Condition of Lock:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>		
Condition of Weepholes:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>		
Remarks:					
Well Riser:		Material: <u>PVC</u>			
Condition of Riser:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>		
Condition of Riser Cap:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>		
Measurement reference point:		Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>		
Remarks:					
Dedicated Pump:		Type: <u>Bladder</u>			
Condition:		Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	Missing: <input type="checkbox"/>	
Pumping Rate (gpm):		<u>N/A</u>	Current (Hz):		<u>N/A</u>
Remarks:					

Field Certification:

Burt Adams
Signed

GW Manager
Title

6-26-19
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>S019.1074</u>
Well I.D.:	<u>MW-2A</u>	Sampling Date:	<u>6/26/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>0804</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>0833</u>
Starting Water Level:	<u>32.34</u>	Sampling (Well Recovery) Time:	<u>0845</u>
Total Depth (feet):	<u>41.30</u>	Ending Water Level (feet):	<u>33.57</u>
Water column (feet):	<u>8.96</u>	Total Purged (gallons):	<u>13 1/4</u>
Screen Length (feet):	<u>-</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> <input checked="" type="checkbox"/> Low Flow <input type="checkbox"/>		
Horiba Model S.N.:	<u>U-52/DL44V16</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	ORP mV
0813	1/2	32.87	5.54	3.16	0.0	0.00	21.64	-83
0821	1	33.26	5.65	3.14	0.0	0.00	21.77	-97
0825	1 1/4	33.45	5.68	3.14	0.0	0.00	21.79	-102
0829	1 1/2	33.51	5.69	3.14	0.0	0.00	21.77	-105
0833	1 3/4	33.57	5.70	3.14	0.0	0.00	21.76	-107

Purge Sampling Rates: 25 PSI REFILL (2) DISCHARGE (5)

Well condition: OK, HEAVY VEGETATION AND EROSION AROUND WELL. NEEDS WEED ABATEMENT.

Additional Info/Comments: Overcast, WARM

Name: NICHOLAS REASON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-2A Date: 6/26/19

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 SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE TO WELL. HEAVY VEGETATION AND EROSION AROUND WELL

Concrete Pad:
 Integrity: Good: _____ Inadequate: ✓
 Presence of depressions or standing water around well: Yes: _____ No: _____
 Remarks: CONCRETE PAD IS 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: _____
 Measurement reference point: Yes: ✓ No: _____
 Remarks: _____

Dedicated Pump: Type: BLADDER
 Condition: Good: ✓ Damaged: _____ Missing: _____
 Pumping Rate (gpm): NIA Current (Hz): NIA
 Remarks: _____

Field Certification: NICHOLAS REASON Nicholas Reason Field Tech 6/26/19
 Signed _____ Title _____ Date _____

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>5019.1074</u>
Well I.D.:	<u>MW-2B</u>	Sampling Date:	<u>6/26/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>0911</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>0925</u>
Starting Water Level:	<u>16.82</u>	Sampling (Well Recovery) Time:	<u>0940</u>
Total Depth (feet):	<u>71.10</u>	Ending Water Level (feet):	<u>20.24</u>
Water column (feet):	<u>54.28</u>	Total Purged (gallons):	<u>2*</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S.N.:	<u>U-52/DLLCYNØ6</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O.R.P. mV
0916	1/2	18.14	6.39	3.15	0.0	0.00	21.41	-124
0919	1	19.01	6.41	3.15	0.0	0.00	21.42	-117
0922	1 1/2	19.66	6.43	3.15	0.0	0.00	21.43	-115
0925	2	20.24	6.44	3.15	0.0	0.00	21.44	-115

Purge Sampling Rates: 40 PSI REFILL(35) DISCHARGE(11)
WATER CLEAR WITH ODR

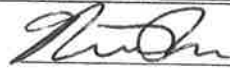
Well condition: OK, HEAVY VEGETATION AND EROSION AROUND WELL. WEED ABATEMENT NEEDED

Additional Info/Comments: Overcast, warm, light breeze

Name: NICHOLAS REASON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>SUNSHINE CANYON</u>	Well ID: <u>MW-2B</u>	Date: <u>6/26/19</u>
Access:		
Accessibility: Good: _____ Fair: _____ Poor: <input checked="" type="checkbox"/>		
Vicinity of well clear of weeds and/or debris: Yes: _____ No: <input checked="" type="checkbox"/>		
Presence of depressions or standing water around well: Yes: _____ No: _____		
Remarks: <u>HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE TO WELL. HEAVY EROSION AND VEGETATION AROUND WELL.</u>		
Concrete Pad:		
Integrity: <u>NIA</u> Good: _____ Inadequate: _____		
Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>		
Remarks: <u>CONCRETE PAD IS BURIED</u>		
Protective Outer Casing:		
Material: <u>METAL</u>		
Condition of Protective Casing: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Locking Cap: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Lock: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Weepholes: Good: <input checked="" type="checkbox"/> Damaged: _____		
Remarks: _____		
Well Riser:		
Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/> Damaged: _____		
Condition of Riser Cap: Good: <input checked="" type="checkbox"/> Damaged: _____		
Measurement reference point: Yes: <input checked="" type="checkbox"/> No: _____		
Remarks: _____		
Dedicated Pump:		
Type: <u>BLADDER</u>		
Condition: Good: <input checked="" type="checkbox"/> Damaged: _____ Missing: _____		
Pumping Rate (gpm): <u>NIA</u> Current (Hz): <u>NIA</u>		
Remarks: _____		

Field Certification:  FIELD TECH 6/26/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>S019.1074</u>
Well I.D.:	<u>MW-5</u>	Sampling Date:	<u>6/27/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>1000</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>1014</u>
Starting Water Level:	<u>16.78</u>	Sampling (Well Recovery) Time:	<u>1030</u>
Total Depth (feet):	<u>26.20</u>	Ending Water Level (feet):	<u>17.50</u>
Water column (feet):	<u>9.42</u>	Total Purged (gallons):	<u>2 1/2*</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input checked="" type="checkbox"/>
Sample Method:	<u>Micro-Purge</u> Low Flow		
Horiba Model S/N:	<u>U-52/DLUCYV06</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O.R.P mV
1005	1/2	17.22	6.95	4.12	0.0	0.00	20.08	-131
1007	1	17.41	6.87	4.07	0.0	0.00	20.00	-140
1010	1 1/2	17.34	6.84	4.02	0.0	0.00	19.91	-146
1012	2	17.37	6.82	4.04	0.0	0.00	19.90	-150
1014	2 1/2	17.50	6.81	4.06	0.0	0.00	19.92	-152

Purge Sampling Rates: 20 PSI REFILL (3s) DISCHARGE (12)

Well condition: OK, WATER HAS YELLOW COLOR WITH AN ODOR

Additional Info/Comments: SUNNY, WARM

Name: NICHOLAS REASON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-5 Date: 6/27/19

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 APRON 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: _____

Measurement 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 6/27/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No:	<u>Sol 9.1074</u>
Well I.D.:	<u>MW-6</u>	Sampling Date:	<u>6/24/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>1249</u>
Casing Diameter (inches):	<u>2</u>	Purge Stop time:	<u>1322</u>
Starting Water Level:	<u>16.15</u>	Sampling (Well Recovery) Time:	<u>1342</u>
Total Depth (feet):	<u>23.50</u>	Ending Water Level (feet):	<u>17.01</u>
Water column (feet):	<u>7.35</u>	Total Purged (gallons):	<u>1 1/2</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S.N.:	<u>U-52/DLCCV46</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	ORP mV
1255	1/4	16.47	6.42	3.68	1.6	8.35	23.85	-194
1300	1/2	16.65	6.43	3.79	0.1	7.42	23.50	-233
1306	3/4	16.78	6.42	3.81	0.0	6.73	23.41	-268
1312	1	16.86	6.41	3.85	0.0	6.30	23.31	-285
1317	1 1/4	16.94	6.40	3.89	0.0	6.24	23.24	-292
1322	1 1/2	17.01	6.39	3.92	0.0	6.20	23.24	-297

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

Well condition: OK WATER CLEAR WITH STRONG ODOR

Additional Info/Comments: Sunny, clear, Hot

HAD TO CARRY SAMPLING EQUIPMENT OVER TO WELL

Name: Nicholas Reason Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-6 Date: 6/24/19

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 SAMPLING 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:

Measurement 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 6/24/19
Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: SUNSHINE CANYON
 Well I.D.: MW-9
 Collected By: NZ
 Casing Diameter (inches): 4
 Starting Water Level: 20.92
 Total Depth (feet): 26.70
 Water column (feet): 5.78
 Screen Length (feet): —
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: U-52/2004V106

Project No.: S019.1074
 Sampling Date: 6/26/19
 Purge start Time: 1146
 Purge Stop time: 1225
 Sampling (Well Recovery) Time: 1240
 Ending Water Level (feet): 21.03
 Total Purged (gallons): 1 1/2
 Duplicate Sample: YES

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O mg L	TEMPERATURE C	ORP mV
1201	1/2	21.02	6.13	4.24	0.0	0.00	22.00	-123
1208	3/4	21.03	6.13	4.23	2.1	0.00	21.99	-125
1215	1	21.03	6.13	4.23	1.7	0.00	22.12	-126
1219	1 1/4	"	6.13	4.23	1.8	0.00	22.21	-127
1225	1 1/2	"	6.13	4.23	1.7	0.00	22.22	-127

Purge Sampling Rates: PSS 25 (REFSU 25) Discharge (7)


Well condition: OK, WATER IN WELL BOX, WATER YELLOW WITH NO ODOR

Additional Info/Comments: OVERCAST, WARM

Name: NICHOLAS PEARSON Signature: 

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>SUNSHINE CANYON</u>	Well ID: <u>MW-9</u>	Date: <u>6/26/19</u>
Access:		
Accessibility: Good: _____ Fair: <input checked="" type="checkbox"/> Poor: _____	Vicinity of well clear of weeds and/or debris: Yes: <input checked="" type="checkbox"/> No: _____	
Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>	Remarks: <u>CARRIED SAMPLING EQUIPMENT AND BOTTLES TO WELL</u>	
Concrete Pad:		
Integrity: Good: <input checked="" type="checkbox"/> Inadequate: _____	Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>	
Remarks: _____		
Protective Outer Casing:		
Material: <u>METAL (FLUSH MOUNT)</u>	Condition of Protective Casing: Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Locking Cap: Good: <input checked="" type="checkbox"/> Damaged: _____	Condition of Lock: Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Weepholes: Good: <input checked="" type="checkbox"/> Damaged: _____	Remarks: _____	
Well Riser:		
Material: <u>PVC</u>	Condition of Riser: Good: <input checked="" type="checkbox"/> Damaged: _____	
Condition of Riser Cap: Good: <input checked="" type="checkbox"/> Damaged: _____	Measurement reference point: Yes: <input checked="" type="checkbox"/> No: _____	
Remarks: _____		
Dedicated Pump:		
Type: <u>BLADDER</u>	Condition: Good: <input checked="" type="checkbox"/> Damaged: _____ Missing: _____	
Pumping Rate (gpm): <u>NIA</u>	Current (Hz): <u>NIA</u>	
Remarks: _____		

Field Certification:  FIELD TECH 6/26/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>S019.1074</u>
Well I.D.:	<u>MW-13R</u>	Sampling Date:	<u>6/27/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>0744</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>0811</u>
Starting Water Level:	<u>16.47</u>	Sampling (Well Recovery) Time:	<u>0826</u>
Total Depth (feet):	<u>27.80</u>	Ending Water Level (feet):	<u>17.01</u>
Water column (feet):	<u>11.33</u>	Total Purged (gallons):	<u>1 1/4'</u>
Screen Length (feet):	<u>-</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S.N.:	<u>U-521 DUCV 06</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	ORP mV
0753	1/4	16.66	6.57	2.42	OR	0.00	21.34	-367
0757	1/2	16.83	6.59	2.41	OR	0.00	21.37	-371
0801	3/4	16.89	6.61	2.41	OR	0.00	21.36	-375
0806	1	16.94	6.63	2.41	OR	0.00	21.39	-378
0811	1 1/4	17.01	6.64	2.41	OR	0.00	21.39	-380

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

Well condition: POOR, HOLE IN MONUMENT LID DUE TO HEAVY CORROSION, WATER YELLOW WITH BLACK TINT AND STRONG ODOR

Additional Info/Comments: SUNNY, COOL

Name: NICHOLAS REASON Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: MW-13R Date: 6/27/19

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 SAMPLING EQUIPMENT AND BOTTLES TO WELL AT THE ENTRANCE OF LANDFILL

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: HOLE ON LID DUE TO CORROSION.

Well Riser: Material: PVC
 Condition of Riser: Good: Damaged: _____
 Condition of Riser Cap: Good: Damaged: _____
 Measurement reference point: Yes: No: _____
 Remarks: _____

Dedicated Pump: Type: BLADDER
 Condition: Good: Damaged: _____ Missing: _____
 Pumping Rate (gpm): NIA Current (Hz): NIA
 Remarks: _____

Field Certification: [Signature] FIELD TECH 6/27/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>Sol 19.1074</u>
Well I.D.:	<u>MW-14</u>	Sampling Date:	<u>6/24/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>1205</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>1218</u>
Starting Water Level:	<u>14.31</u>	Sampling (Well Recovery) Time:	<u>1230</u>
Total Depth (feet):	<u>28.10</u>	Ending Water Level (feet):	<u>15.14</u>
Water column (feet):	<u>13.79</u>	Total Purged (gallons):	<u>3</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S.N.:	<u>U-52/DLLC4V06</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O R P mV
1210	1	14.77	6.36	5.06	0.0	2.73	21.45	-11
1212	1 1/2	14.88	6.32	5.04	0.0	1.81	21.40	-13
1214	2	14.95	6.30	5.02	0.0	0.00	21.50	-15
1216	2 1/2	15.01	6.29	5.02	0.0	0.00	21.40	-15
1217	2 3/4	15.07	6.28	5.00	0.0	0.00	21.35	-15
1218	3	15.14	6.28	5.00	0.0	0.00	21.33	-15

Purge Sampling Rates: 20 PSS Refill(20) DISCHARGE(10)


Well condition: OK water clear with no odor

Additional Info/Comments: Sunny, clear, Hot
HAD TO CARRY SAMPLING EQUIPMENT OVER TO WELL

Name: Nicholas Pearson Signature:

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>SUNSHINE CANYON</u>	Well ID: <u>MW-14</u>	Date: <u>6/24/19</u>
Access:		
Accessibility: Good: _____ Fair: <input checked="" type="checkbox"/>	Poor: _____	
Vicinity of well clear of weeds and/or debris: _____	Yes: <input checked="" type="checkbox"/>	No: _____
Presence of depressions or standing water around well: _____	Yes: _____	No: <input checked="" type="checkbox"/>
Remarks: <u>HAD TO CARRY SAMPLING EQUIPMENT AND BOTTLES OVER TO WELL</u>		
Concrete Pad:		
Integrity: Good: <input checked="" type="checkbox"/>	Inadequate: _____	
Presence of depressions or standing water around well: _____	Yes: _____	No: <input checked="" type="checkbox"/>
Remarks: _____		
Protective Outer Casing:		
Material: <u>METAL</u>		
Condition of Protective Casing: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Locking Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Lock: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Weepholes: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Remarks: _____		
Well Riser:		
Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Riser Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Measurement reference point: Yes: <input checked="" type="checkbox"/>	No: _____	
Remarks: _____		
Dedicated Pump:		
Type: <u>BLADDER</u>		
Condition: Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____
Pumping Rate (gpm): <u>N/A</u>	Current (Hz): <u>N/A</u>	
Remarks: _____		

Field Certification:  FIELD TECH 6/24/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: <u>SUNSHINE CANYON</u>	Project No.: <u>S019.1074</u>
Well I.D.: <u>PZ-2</u>	Sampling Date: <u>6/24/19</u>
Collected By: <u>NR</u>	Purge start Time: <u>1002</u>
Casing Diameter (inches): <u>2</u>	Purge Stop time: <u>1025</u>
Starting Water Level: <u>121.99</u>	Sampling (Well Recovery) Time: <u>1035</u>
Total Depth (feet): <u>160.90</u>	Ending Water Level (feet): <u>127.61</u>
Water column (feet): <u>38.91</u>	Total Purged (gallons): <u>1 3/4</u>
Screen Length (feet): <u>—</u>	Duplicate Sample: YES NC
Sample Method: Micro Purge Low Flow	
Horiba Model S.N.: <u>U-52/DLCCYV06</u>	

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O R P mV
1010	1/2	124.03	7.47	5.48	5.8	9.75	24.59	-129
1016	1	125.42	7.68	5.48	0.0	0.00	24.47	-117
1019	1 1/4	126.06	7.71	5.47	0.0	0.00	24.44	-114
1022	1 1/2	126.63	7.73	5.47	0.0	0.00	24.46	-113
1025	1 3/4	127.01	7.74	5.47	0.0	0.00	24.47	-111

Purge Sampling Rates: 80 PSI REFILL(30) DISCHARGE(22)

Well condition: OK, WATER CLEAR WITH SLIGHT ODOR
Blank's taken here,
 Additional Info/Comments: SUNNY, CLEAR, WARM
HAD TO CARRY SAMPLING EQUIPMENT ACROSS CONCRETE CHANNEL AND OVER TO WELL.

Name: NICHOLAS REASON Signature: 

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: PZ-2 Date: 6/24/19

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 ACROSS CONCRETE CHANNEL

Concrete Pad:

Integrity: NIA Good: _____ Inadequate: _____

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

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: _____

Measurement reference point: Yes: No: _____

Remarks: _____

Dedicated Pump: Type: BLADDER

Condition: Good: Damaged: _____ Missing: _____

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

Remarks: _____

Field Certification: [Signature] FIELD TECH 6/24/19
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Ctr. Project No.: 2019-1074
 Well I.D.: PZ-4 Sampling Date: 6-25-19
 Collected By: PJS Purge start Time: 1249
 Casing Diameter (inches): 4 Purge Stop time: 1317
 Starting Water Level: 111.28 Sampling (Well Recovery) Time: 1328
 Total Depth (feet): 125.15 Ending Water Level (feet): 14.26
 Water column (feet): 13.87 Total Purged (gallons): 2 1/2
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R855494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1254	1/4	111.82	6.73	1.52	8.0	4.40	25.37	-12
1258	3/4	112.34	6.55	1.47	12.6	1.75	24.64	-106
1301	1	112.70	6.54	1.48	65.9	1.27	24.36	-126
1304	1 1/4	112.98	6.57	1.50	32.7	0.95	24.40	-140
1307	1 1/2	113.36	6.57	1.50	22.1	0.88	24.47	-143
1311	2	113.62	6.58	1.50	20.4	0.89	24.38	-142
1314	2 1/4	113.88	6.57	1.50	19.8	0.83	24.43	-142
1317	2 1/2	113.99	6.56	1.50	19.5	0.85	24.43	-143

Purge Sampling Rates: PJS 80, R: 40, D: 17
cloudy water with H2S odor.
Ant's nest inside the well box,
 Well condition: OK

Additional Info/Comments: Sunny, warm

Name: Bert Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sundyne Corp</u>	Well ID:	<u>R2-4</u>	Date:	<u>6-25-19</u>
Access:					
Accessibility:	Good: _____	Fair: <input checked="" type="checkbox"/>	Poor: _____		
Vicinity of well clear of weeds and/or debris:	Yes: _____	No: <input checked="" type="checkbox"/>			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:	<u>Needs weed abatement</u>				
Concrete Pad:					
Integrity:	Good: <input checked="" type="checkbox"/>	Inadequate: _____			
Presence of depressions or standing water around well:	Yes: _____	No: <input checked="" type="checkbox"/>			
Remarks:	<u>Flush manure</u>				
Protective Outer Casing:					
Material:	<u>Metal box</u>				
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Locking Cap:	Good: <u>N/A</u>	Damaged: _____			
Condition of Lock:	Good: <u>N/A</u>	Damaged: _____			
Condition of Weepholes:	Good: <u>N/A</u>	Damaged: _____			
Remarks:					
Well Riser:					
Material:	<u>PVC</u>				
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: _____			
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: _____			
Remarks:					
Dedicated Pump:					
Type:	<u>Bladder</u>				
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____		
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>		
Remarks:					

Field Certification: Bob King GW Manager 6-25-19
Signed Title Date

**GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET**

Site Name: Sunshine Con. Project No.: 2019.1074
Well I.D.: DW-1 Sampling Date: 6-25-19
Collected By: BS Purge start Time: /
Casing Diameter (inches): TBC Purge Stop time: /
Starting Water Level: / Sampling (Well Recovery) Time: 1015
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: 28551944

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>N/A</u>	<u>N/A</u>	<u>TBC</u>	<u>8.26</u>	<u>4.50</u>	<u>6</u>	<u>1.32</u>	<u>20.29</u>	<u>-177</u>

Purge Sampling Rates: Very low yielding well. Takes X-tra time to fill the samp. bottles

Well condition: OK - Dirt piles all around the well and heavy equip. working near by.

Additional Info/Comments: duccat, cool
Blanks taken here.

Name: B. Salinas Signature: Bud Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine</u>	Well ID: <u>DW-1</u>	Date: <u>6-25-19</u>
Access:		
Accessibility: Good: _____ Fair: <input checked="" type="checkbox"/>	Poor: _____	
Vicinity of well clear of weeds and/or debris: Yes: _____ No: <input checked="" type="checkbox"/>		
Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>		
Remarks:		
Concrete Pad:		
Integrity: Good: <input checked="" type="checkbox"/>	Inadequate: _____	
Presence of depressions or standing water around well: Yes: _____ No: <input checked="" type="checkbox"/>		
Remarks: <u>Dirt pyles around the well</u>		
Protective Outer Casing: Material: <u>Metal</u>		
Condition of Protective Casing: Good: _____ Damaged: <u>Corroded</u>		
Condition of Locking Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Lock: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Weepholes: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Remarks:		
Well Riser: Material: <u>PVC</u>		
Condition of Riser: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Condition of Riser Cap: Good: <input checked="" type="checkbox"/>	Damaged: _____	
Measurement reference point: Yes: <input checked="" type="checkbox"/>	No: _____	
Remarks:		
Dedicated Pump: Type: <u>Drop tube</u>		
Condition: Good: _____ Damaged: _____ Missing: _____		
Pumping Rate (gpm): <u>N/A</u>	Current (Hz): <u>N/A</u>	
Remarks:		

Field Certification:

Ray [Signature] GW Manager

Signed

Title

6-25-19
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Gen. Project No.: 2019-1074
 Well I.D.: DW-2 Sampling Date: 6-25-19
 Collected By: BS Purge start Time: 1039
 Casing Diameter (inches): 4 Purge Stop time: 1105
 Starting Water Level: 21.99 Sampling (Well Recovery) Time: 1112
 Total Depth (feet): 71.00 Ending Water Level (feet): 27.08
 Water column (feet): 49.01 Total Purged (gallons): 23.0
 Screen Length (feet): — Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8554944

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1046	1/2		7.18	2.49	☞	2.03	19.61	-119
1050	1		7.15	2.49	☞	1.71	19.62	-121
1054	1 1/2		7.09	2.48	☞	1.15	19.63	-132
1058	2		7.09	2.47	☞	0.94	19.74	-140
1102	2 1/2		7.06	2.47	☞	0.92	19.69	-142
1105	23.0		7.05	2.47	☞	0.91	19.70	-143

Purge Sampling Rates: BSZ 45, R:30 / D:10
clear water with no odor

Well condition: OK - needs weed abatement

Additional Info/Comments: overcast, cool

Name: Ben Salinas Signature: Ben Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn. Well ID: DW-2 Date: 6-25-19

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: Needs weed abatement

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: _____
Measurement 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:

Burt Allen Signed
GW Manager Title

6-25-19 Date

**GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET**

Site Name: Sunshine Gen. Project No.: SO19.1074
 Well I.D.: DW-3 Sampling Date: 6-25-19
 Collected By: BS Purge start Time: 0828
 Casing Diameter (inches): 4 Purge Stop time: 0854
 Starting Water Level: 155.42 Sampling (Well Recovery) Time: 0905
 Total Depth (feet): 256.60 Ending Water Level (feet): 159.86
 Water column (feet): 101.18 Total Purged (gallons): 3
 Screen Length (feet): Duplicate Sample: YES
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R850194H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0834	1/2	155.83	6.81	2.04	↳	3.88	20.41	131
0838	1	156.41	6.70	2.03	↳	2.49	20.56	15
0842	1 1/2	157.58	6.73	2.03	↳	1.89	20.57	-23
0846	2	158.43	6.72	2.02	↳	1.47	20.56	-45
0850	2 1/2	158.99	6.68	2.02	↳	1.45	20.59	-51
0854	3	159.86	6.66	2.02	↳	1.41	20.57	-52

Purge Sampling Rates: P82 at P105, R:30/D:18
clear water with no color

Well condition: CAC

Additional Info/Comments: overcast, cool

Name: P. Salinas Signature: Ben Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Ga. Well ID: DW-3 Date: 6-25-19

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:
Measurement reference point: Yes: No:
Remarks:

Dedicated Pump:

Type: Islander

Condition: Good: Damaged: Missing:
Pumping Rate (gpm): NA Current (Hz): NA
Remarks:

Field Certification:

Ray Klein
Signed Title

6-25-19
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No.:	<u>S019.1074</u>
Well ID:	<u>DW-4</u>	Sampling Date:	<u>6/26/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>1000</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>1024</u>
Starting Water Level:	<u>32.15</u>	Sampling (Well Recovery) Time:	<u>1040</u>
Total Depth (feet):	<u>134.80</u>	Ending Water Level (feet):	<u>34.88</u>
Water column (feet):	<u>102.65</u>	Total Purged (gallons):	<u>2 1/2</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input checked="" type="radio"/> NO
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S.N.:	<u>U-52/2114V06</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D O mg L	TEMPERATURE C	O R P mV
1011	1/2	33.66 32.66	6.86	3.45	0.0	0.00	21.32	-289
1015	1	33.67	6.73	3.47	0.0	0.00	20.90	-248
1018	1 1/2	33.89	6.71	3.43	0.0	0.00	20.85	-240
1021	2	34.35	6.70	3.43	0.0	0.00	20.85	-236
1024	2 1/2	34.88	6.69	3.43	0.0	0.00	20.85	-236

Purge Sampling Rates: 75 PSI REFILL (30) DISCHARGE (16)

WATER HAS BLACK PARTICLES, OTHERWISE CLEAR WITH STRONG ODOR

Well condition: OK, HEAVY VEGETATION AND EROSION AROUND WELL NEEDS WEED ABATEMENT

Additional Info/Comments: OVERCAST, WARM, light breeze

Name: NICHOLAS REASON Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: SUNSHINE CANYON Well ID: DW-4 Date: 6/26/19

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 SAMPLING EQUIPMENT AND BOTTLES DOWN SLOPE TO WELL, HEAVY VEGETATION AND EROSION AROUND WELL

Concrete Pad:

Integrity: NIA Good: _____ Inadequate: _____
 Presence of depressions or standing water around well: Yes: _____ No: ✓
 Remarks: CONCRETE PAD IS 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: _____
 Measurement reference point: Yes: ✓ No: _____

Remarks:

Dedicated Pump:

Type: BLADDER

Condition: Good: ✓ Damaged: _____ Missing: _____

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

Remarks:

Field Certification:

[Signature]
Signed

FIELD TECH
Title

6/26/19
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:	<u>SUNSHINE CANYON</u>	Project No:	<u>SO19-1074</u>
Well I.D.:	<u>DW-5</u>	Sampling Date:	<u>6/25/19</u>
Collected By:	<u>NR</u>	Purge start Time:	<u>1333</u>
Casing Diameter (inches):	<u>4</u>	Purge Stop time:	<u>1353</u>
Starting Water Level:	<u>13.39</u>	Sampling (Well Recovery) Time:	<u>1405</u>
Total Depth (feet):	<u>101.00</u>	Ending Water Level (feet):	<u>17.25</u>
Water column (feet):	<u>87.61</u>	Total Purged (gallons):	<u>2 1/2</u>
Screen Length (feet):	<u>—</u>	Duplicate Sample:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Sample Method:	<u>Micro Purge</u> Low Flow		
Horiba Model S,N:	<u>U-52/DLLLV46</u>		

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms cm	TURBIDITY NTU	D.O. mg L	TEMPERATURE C	O.R.P mV
1337	1/2	14.40	7.69	1.68	53.0	0.00	20.43	-140
1341	1	15.05	7.68	1.67	74.4	0.00	20.38	-157
1345	1 1/2	15.83	7.65	1.66	128	0.00	20.41	-170
1349	2	16.63	7.65	1.67	221	0.00	20.25	-180
1351	2 1/4	16.94	7.62	1.66	225	0.00	20.29	-181
1353	2 1/2	17.25	7.61	1.64	237	0.00	20.27	-183

Purge Sampling Rates: 65 PSI Refill(30) Discharge(18)

Well condition: OK, WATER YELLOW WITH NO ODR

Additional Info/Comments: Cloudy, WARM

Name: NICHOLAS REASON Signature: 

GROUNDWATER MONITORING WELL INSPECTION REPORT


Facility: <u>Sunshine Canyon</u>	Well ID: <u>DW-5</u>	Date: <u>6/25/19</u>
Access:		
Accessibility: Good: <input checked="" type="checkbox"/>	Fair: <input type="checkbox"/>	Poor: <input type="checkbox"/>
Vicinity of well clear of weeds and/or debris:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Remarks:		
Concrete Pad:		
Integrity: Good: <input type="checkbox"/>	Inadequate: <input checked="" type="checkbox"/>	
Presence of depressions or standing water around well:	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>
Remarks: <u>BROKEN CONCRETE AND RUBBLE AROUND WELL</u>		
Protective Outer Casing:		
	Material: <u>METAL</u>	
Condition of Protective Casing:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>
Condition of Locking Cap:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>
Condition of Lock:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>
Condition of Weepholes:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>
Remarks:		
Well Riser:		
	Material: <u>PVC</u>	
Condition of Riser:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>
Condition of Riser Cap:	Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>
Measurement reference point:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
Remarks:		
Dedicated Pump:		
	Type: <u>BLADDER</u>	
Condition: Good: <input checked="" type="checkbox"/>	Damaged: <input type="checkbox"/>	Missing: <input type="checkbox"/>
Pumping Rate (gpm): <u>NIA</u>	Current (Hz): <u>NIA</u>	
Remarks:		

Field Certification: [Signature] FIELD TECH 6/25/19
 Signed Title Date

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE CAMPION PROJECT NAME / NUMBER So19.1074

Instrument Make/Model # HORIBA U-52
CONCVR60

Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
<u>6/25/19</u> <u>0700</u>	<u>4.02</u>	<u>4.45</u>	<u>0.1</u>	<u>9.41</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.1</u>	<u>8.72</u>		
Calibration Successful? (Y/N)	<u>Y</u>				enter YES or NO	
Satisfies Protocol?	<u>Y</u>				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>NR</u>				Signature or initials	
Physical Condition of Unit					<u>Good</u>	

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spa PROJECT NAME / NUMBER SC19.1074


Instrument Make/Model # RSS54944

Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
6-25-19 0718	7.93	4.59	0.7	13.03		
Pre. Cal	4.00	4.49	0	8.64		
Calibration	Yes				enter YES or NO	
Calibration Successful? (Y/N)	Yes				Did calibration meet criteria in the sampling protocol? (Y or N)	
Satisfies Protocol?	Yes				Signature or initials	
Calibration by	<u>Bryl</u>	<u>Alin</u>				
Physical Condition of Unit				<u>Good.</u>		

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE Canyon PROJECT NAME / NUMBER SD19.1074

Instrument Make/Model # HORIBA U-52
DSU-V06

Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
6/24/19 0940	4.10	4.59	0.0	11.49		
Calibration	4.00	4.51	0.0	9.80		
Calibration Successful? (Y/N)	Y	_____	_____	_____	enter YES or NO	
Satisfies Protocol?	Y	_____	_____	_____	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	MR	_____	_____	_____	Signature or initials	

Physical Condition of Unit

Good

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spa PROJECT NAME / NUMBER Sd19, 1071

Instrument Make/Model # Hanna U-52
885594H

Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
6-21-19 0915						
Pre. Cal	4.27	4.48	3.6	11.03		
Calibration	4.00	4.50	€	885		
Calibration Successful? (Y/N)	Yes				enter YES or NO	
Satisfies Protocol?	Yes				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	Ba	AB			Signature or initials	
Physical Condition of Unit					Good	

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Spa PROJECT NAME / NUMBER 5019.1074

Instrument Make/Model # Hanba H-52
PGJ51911d

Date/Time	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
<u>6-26-19</u>						
<u>0748</u>						
Pre. Cal	<u>4.19</u>	<u>4.62</u>	<u>0.8</u>	<u>11.78</u>		
Calibration	<u>4.00</u>	<u>4.1169</u>	<u>8</u>	<u>8.64</u>		
Calibration Successful? (Y/N)	<u>Yes</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	enter YES or NO	
Satisfies Protocol?	<u>Yes</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>BS</u>	<u>—————</u>	<u>—————</u>	<u>—————</u>	Signature or initials	
Physical Condition of Unit					<u>Good</u>	

FIELD CALIBRATION DOCUMENTATION FORM


LOCATION (Site/Facility Name) Swan Lake Spa PROJECT NAME / NUMBER 599,1674

Instrument Make/Model #		<u>R855194H</u>				Guidance Remarks	Comments
Date/Time <u>6-27-19</u> <u>0908</u>	pH	Electrical Conductivity (µMhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)			
Pre. Cal	<u>4.16</u>	<u>4.54</u>	<u>0.3</u>	<u>11.36</u>			
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0</u>	<u>9.61</u>			
Calibration Successful? (Y/N)	<u>Yes</u>	—————→		—————→	enter YES or NO		
Satisfies Protocol? Protocol?	<u>Yes</u>	—————→		—————→	Did calibration meet criteria in the sampling protocol? (Y or N)		
Calibration by	<u>BR</u>	<u>HR</u>			Signature or initials		
Physical Condition of Unit				<u>Good</u>			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE Canyon PROJECT NAME / NUMBER Sol9.1074


Instrument Make/Model # HORIBA U-52
(DUCCY/66)

Date/Time	pH	Electrical Conductivity (μ Mhos/cm) (4.49 mg/Kg)	Turbidity (NTU) (0)	DO (mg/L or %)	Guidance Remarks	Comments
<u>6/26/19</u> <u>0730</u>	<u>4.14</u>	<u>4.51</u>	<u>2.9</u>	<u>9.49</u>		
Calibration	<u>4.03</u>	<u>4.49</u>	<u>0.0</u>	<u>9.02</u>		
Calibration Success/Full? (Y/N)	<u>Y</u>	<u> </u>	<u> </u>	<u> </u>	enter YES or NO	
Satisfies Protocol?	<u>Y</u>	<u> </u>	<u> </u>	<u> </u>	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>NR</u>	<u> </u>	<u> </u>	<u> </u>	Signature or initials	
Physical Condition of Unit				<u>Good</u>		

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) SUNSHINE CANYON PROJECT NAME / NUMBER SO19.1074

Instrument Make/Model # HORIBA U-52 (DUCY V06)

Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
6/27/19 0719	3.74	4.43	1.4	9.25		
Calibration	4.00	4.49	0.0	8.64		
Calibration Success Full? (Y/N)	Y				enter YES or NO	
Satisfies Protocol?	Y				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	MR				Signature of Initials	
Physical Condition of Unit				Good		

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: 440-231358-1

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:

1/31/2019 1:50:57 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-231358-1	MW-6-A	Water	01/23/19 08:18	01/23/19 16:45
440-231358-2	MW-6-B	Water	01/23/19 08:18	01/23/19 16:45
440-231358-3	FIELD BLANK	Water	01/23/19 00:01	01/23/19 16:45
440-231358-4	TRIP BLANK	Water	01/23/19 00:01	01/23/19 16:45

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

Job ID: 440-231358-1

Laboratory: TestAmerica Irvine

Narrative

**Job Narrative
440-231358-1**

Comments

No additional comments.

Receipt

The samples were received on 1/23/2019 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-525932 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: FIELD BLANK (440-231358-3), TRIP BLANK (440-231358-4) and (CCV 440-525932/3).

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 Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

Client Sample ID: MW-6-A

Date Collected: 01/23/19 08:18

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			01/29/19 20:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128					01/29/19 20:44	1
4-Bromofluorobenzene (Surr)	100		80 - 120					01/29/19 20:44	1
Dibromofluoromethane (Surr)	106		76 - 132					01/29/19 20:44	1

Client Sample ID: MW-6-B

Date Collected: 01/23/19 08:18

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			01/29/19 22:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128					01/29/19 22:37	1
4-Bromofluorobenzene (Surr)	102		80 - 120					01/29/19 22:37	1
Dibromofluoromethane (Surr)	106		76 - 132					01/29/19 22:37	1

Client Sample ID: FIELD BLANK

Date Collected: 01/23/19 00:01

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			01/29/19 23:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128					01/29/19 23:06	1
4-Bromofluorobenzene (Surr)	107		80 - 120					01/29/19 23:06	1
Dibromofluoromethane (Surr)	111		76 - 132					01/29/19 23:06	1

Client Sample ID: TRIP BLANK

Date Collected: 01/23/19 00:01

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			01/29/19 23:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128					01/29/19 23:35	1
4-Bromofluorobenzene (Surr)	105		80 - 120					01/29/19 23:35	1
Dibromofluoromethane (Surr)	115		76 - 132					01/29/19 23:35	1

TestAmerica Irvine

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

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: 440-231358-1

Client Sample ID: MW-6-A

Date Collected: 01/23/19 08:18

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-1

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	525662	01/29/19 20:44	GMA	TAL IRV

Client Sample ID: MW-6-B

Date Collected: 01/23/19 08:18

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-2

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	525662	01/29/19 22:37	GMA	TAL IRV

Client Sample ID: FIELD BLANK

Date Collected: 01/23/19 00:01

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-3

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	525662	01/29/19 23:06	GMA	TAL IRV

Client Sample ID: TRIP BLANK

Date Collected: 01/23/19 00:01

Date Received: 01/23/19 16:45

Lab Sample ID: 440-231358-4

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	525662	01/29/19 23:35	GMA	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

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

Lab Sample ID: MB 440-525662/5
Matrix: Water
Analysis Batch: 525662

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			01/29/19 20:16	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	113		80 - 128					01/29/19 20:16	1
4-Bromofluorobenzene (Surr)	106		80 - 120					01/29/19 20:16	1
Dibromofluoromethane (Surr)	110		76 - 132					01/29/19 20:16	1

Lab Sample ID: LCS 440-525662/3
Matrix: Water
Analysis Batch: 525662

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	25.0	20.6		ug/L		82	60 - 140
Surrogate	%Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)	106		80 - 128				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Dibromofluoromethane (Surr)	112		76 - 132				

Lab Sample ID: 440-231358-1 MS
Matrix: Water
Analysis Batch: 525662

Client Sample ID: MW-6-A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	ND		25.0	19.8		ug/L		79	60 - 140
Surrogate	%Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	107		80 - 128						
4-Bromofluorobenzene (Surr)	98		80 - 120						
Dibromofluoromethane (Surr)	104		76 - 132						

Lab Sample ID: 440-231358-1 MSD
Matrix: Water
Analysis Batch: 525662

Client Sample ID: MW-6-A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	ND		25.0	21.0		ug/L		84	60 - 140	6	30
Surrogate	%Recovery	MSD Qualifier	Limits								
Toluene-d8 (Surr)	108		80 - 128								
4-Bromofluorobenzene (Surr)	100		80 - 120								
Dibromofluoromethane (Surr)	113		76 - 132								

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

GC/MS VOA

Analysis Batch: 525662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-231358-1	MW-6-A	Total/NA	Water	8260B	
440-231358-2	MW-6-B	Total/NA	Water	8260B	
440-231358-3	FIELD BLANK	Total/NA	Water	8260B	
440-231358-4	TRIP BLANK	Total/NA	Water	8260B	
MB 440-525662/5	Method Blank	Total/NA	Water	8260B	
LCS 440-525662/3	Lab Control Sample	Total/NA	Water	8260B	
440-231358-1 MS	MW-6-A	Total/NA	Water	8260B	
440-231358-1 MSD	MW-6-A	Total/NA	Water	8260B	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

Glossary

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

TestAmerica Job ID: 440-231358-1

Laboratory: TestAmerica Irvine

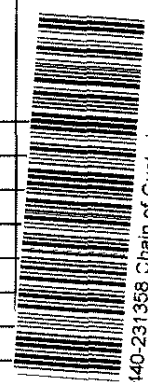
All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

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

Regulatory Program: DW NPDES RCRA Other:

Company Name: <u>Geo. Leon Assoc. Inc.</u> Address: <u>11415 W. Bernardo St. Suite 200</u> City/State/Zip: <u>San Diego, CA 92127</u> Phone: <u>658-451-1136</u> Fax: <u>658-451-1087</u> Project Name: <u>Republic Service</u> Site: <u>Sunshine Canyon Landfill</u> P O #:		Client Contact Project Manager: <u>Kyle Welchans</u> Tel/Fax: <u>858-451-1136</u> Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: <u>Josh Mills</u> Lab Contact: <u>Bobinc Tomar</u> Date: <u>1-23-19</u> Carrier: <u>T/A</u> Job / SDG No.: <u>5018 1021A</u> COC No: <u>1</u> of <u>1</u> COCs	
Sample Identification <u>MW-6-A</u> <u>MW-6-B</u> <u>in Box Field Blank</u> <u>Trap Blank</u>		Sample Date <u>1-23-19</u> <u>1-23-19</u> <u>1-23-19</u> <u>1-23-19</u>		Sample Time <u>8:18</u> <u>8:18</u> <u>-</u> <u>-</u>	
Sample Type (C=Comp, G=Grab) <u>G</u> <u>G</u> <u>G</u> <u>G</u>		Matrix <u>HW</u> <u>HW</u> <u>HW</u> <u>HW</u>		# of Cont. <u>3</u> <u>3</u> <u>2</u> <u>2</u>	
Filtered Sample (Y/N) Perform MS/MSD (Y/N)		Chain of Custody 440-231358 Chain of Custody 		Sample Specific Notes: 	
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. <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					
Special Instructions/QC Requirements & Comments: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temp. (°C) Obs'd: _____		Therm ID No.: _____	
Relinquished by: <u>Paula Ankin</u>		Received by: <u>Will. Reiva</u>		Date/Time: <u>1-23-19 1330</u>	
Relinquished by: <u>Will. Reiva</u>		Received by: _____		Date/Time: _____	
Relinquished by: _____		Received in Laboratory by: _____		Date/Time: <u>1-23-19 1645</u>	

1.7/2.1 #93



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-231358-1

Login Number: 231358

List Source: TestAmerica Irvine

List Number: 1

Creator: Jatib, Savana

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-237133-1

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:
4/9/2019 3:58:35 PM

Rossina Tomova, Project Manager I
(949)261-1022

rossina.tomova@testamericainc.com

LINKS

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results through
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www.testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-237133-1	Extraction Trench	Water	03/25/19 09:20	03/26/19 16:39
440-237133-2	Subdrain (N)	Water	03/25/19 14:18	03/26/19 16:39
440-237133-3	Combined Subdrains	Water	03/25/19 13:15	03/26/19 16:39
440-237133-4	PZ-2	Water	03/25/19 10:20	03/26/19 16:39
440-237133-5	DW-5	Water	03/25/19 15:07	03/26/19 16:39
440-237133-6	MW-6	Water	03/25/19 12:14	03/26/19 16:39
440-237133-7	MW-14	Water	03/25/19 13:13	03/26/19 16:39
440-237133-8	Field Blank	Water	03/25/19 00:01	03/26/19 16:39
440-237133-9	Trip Blank	Water	03/25/19 00:01	03/26/19 16:39

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Job ID: 440-237133-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-237133-1

Comments

No additional comments.

Receipt

The samples were received on 3/26/2019 4:39 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.1° C, 1.2° C and 3.1° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-538201 recovered above the upper control limit for 2-Methyl-2-propanol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The following volatile sample was received and analyzed with significant headspace in the sample container(s): DW-5 (440-237133-5). 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

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

Method(s) 6010B: The continuing calibration blank (CCB) for 440-537756 contained Potassium above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL).(CCB 440-537756/25)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method(s) SM 2320B: The following samples are associated with these LCS and Method Blank: Extraction Trench (440-237133-1), Subdrain (N) (440-237133-2), Combined Subdrains (440-237133-3), PZ-2 (440-237133-4), DW-5 (440-237133-5), MW-6 (440-237133-6), MW-14 (440-237133-7), (LCS 440-536897/36), (MB 440-536897/37) and (440-237133-H-3 DU)

Method(s) 350.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-537081 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.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-536752. 8270C-1,4-DXN. LCS was prepared in duplicate to provide precision of data.

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 Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-237133-1

Date Collected: 03/25/19 09:20

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 22:06	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Acrolein	ND		50	2.5	ug/L			03/28/19 08:49	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 08:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/03/19 22:06	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/03/19 22:06	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,4-Dichlorobenzene	2.3		0.50	0.25	ug/L			04/03/19 22:06	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/03/19 22:06	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/03/19 22:06	1
2-Hexanone	ND		5.0	2.5	ug/L			04/03/19 22:06	1
Acetone	ND		20	10	ug/L			04/03/19 22:06	1
Acetonitrile	ND		20	10	ug/L			04/03/19 22:06	1
Acrolein	ND		5.0	2.5	ug/L			04/03/19 22:06	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/03/19 22:06	1
Benzene	0.61		0.50	0.25	ug/L			04/03/19 22:06	1
Allyl chloride	ND		1.0	0.50	ug/L			04/03/19 22:06	1
Bromoform	ND		1.0	0.40	ug/L			04/03/19 22:06	1
Bromomethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/03/19 22:06	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Chlorobenzene	0.31 J		0.50	0.25	ug/L			04/03/19 22:06	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Chloroethane	ND		1.0	0.40	ug/L			04/03/19 22:06	1
Chloroform	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Chloromethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
cis-1,2-Dichloroethene	0.94		0.50	0.25	ug/L			04/03/19 22:06	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Dibromomethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/03/19 22:06	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 22:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Iodomethane	ND		2.0	1.0	ug/L			04/03/19 22:06	1
Isobutyl alcohol	ND		25	13	ug/L			04/03/19 22:06	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/03/19 22:06	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/03/19 22:06	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 22:06	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-237133-1

Date Collected: 03/25/19 09:20

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 22:06	1
Methyl tert-butyl ether	0.50		0.50	0.25	ug/L			04/03/19 22:06	1
Naphthalene	ND		1.0	0.40	ug/L			04/03/19 22:06	1
o-Xylene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Propionitrile	ND		20	10	ug/L			04/03/19 22:06	1
Styrene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Tetrahydrofuran	14		10	5.0	ug/L			04/03/19 22:06	1
Toluene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/03/19 22:06	1
Trichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/03/19 22:06	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/03/19 22:06	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/03/19 22:06	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/03/19 22:06	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/03/19 22:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/03/19 22:06	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1100	T J	ug/L		2.18			04/03/19 22:06	1
Unknown	10	T J	ug/L		6.72			04/03/19 22:06	1
Unknown	10	T J	ug/L		14.06			04/03/19 22:06	1
Unknown	4.7	T J	ug/L		15.73			04/03/19 22:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 08:49	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/28/19 08:49	1
Toluene-d8 (Surr)	101		80 - 128		04/03/19 22:06	1
4-Bromofluorobenzene (Surr)	88		80 - 120		04/03/19 22:06	1
Dibromofluoromethane (Surr)	100		76 - 132		03/28/19 08:49	1
Dibromofluoromethane (Surr)	107		76 - 132		04/03/19 22:06	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butanol	39		10	5.0	ug/L			04/04/19 16:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Silane, fluorotrimethyl-	4.1	T J N	ug/L		2.90	420-56-4		04/04/19 16:55	1
Unknown	6.2	T J	ug/L		5.04			04/04/19 16:55	1
Unknown	9.8	T J	ug/L		6.52			04/04/19 16:55	1
Unknown	11	T J	ug/L		16.01			04/04/19 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		04/04/19 16:55	1
4-Bromofluorobenzene (Surr)	97		80 - 120		04/04/19 16:55	1
Dibromofluoromethane (Surr)	102		76 - 132		04/04/19 16:55	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-237133-1

Date Collected: 03/25/19 09:20

Matrix: Water

Date Received: 03/26/19 16:39

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	24		1.0	0.26	ug/L		03/27/19 10:30	03/28/19 12:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	55		30 - 120				03/27/19 10:30	03/28/19 12:51	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	220		100	50	mg/L			03/26/19 22:12	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	42		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	12		1.0	0.50	mg/L			03/27/19 13:27	5
Chemical Oxygen Demand	170		20	10	mg/L			04/08/19 11:47	1
Total Dissolved Solids	4000		50	25	mg/L			03/29/19 11:50	1
Total Organic Carbon	66		1.0	0.50	mg/L			03/29/19 11:02	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	790		4.0	4.0	mg/L			03/27/19 13:21	1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-237133-2

Date Collected: 03/25/19 14:18

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 22:31	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Acrolein	ND		50	2.5	ug/L			03/28/19 09:14	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 09:14	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/03/19 22:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/03/19 22:31	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,4-Dichlorobenzene	1.0		0.50	0.25	ug/L			04/03/19 22:31	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/03/19 22:31	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/03/19 22:31	1
2-Hexanone	ND		5.0	2.5	ug/L			04/03/19 22:31	1
Acetone	ND		20	10	ug/L			04/03/19 22:31	1
Acetonitrile	ND		20	10	ug/L			04/03/19 22:31	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-237133-2

Date Collected: 03/25/19 14:18

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		5.0	2.5	ug/L			04/03/19 22:31	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/03/19 22:31	1
Benzene	0.26	J	0.50	0.25	ug/L			04/03/19 22:31	1
Allyl chloride	ND		1.0	0.50	ug/L			04/03/19 22:31	1
Bromoform	ND		1.0	0.40	ug/L			04/03/19 22:31	1
Bromomethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/03/19 22:31	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Chloroethane	ND		1.0	0.40	ug/L			04/03/19 22:31	1
Chloroform	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Chloromethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
cis-1,2-Dichloroethene	0.87		0.50	0.25	ug/L			04/03/19 22:31	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Dibromomethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/03/19 22:31	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 22:31	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Iodomethane	ND		2.0	1.0	ug/L			04/03/19 22:31	1
Isobutyl alcohol	ND		25	13	ug/L			04/03/19 22:31	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/03/19 22:31	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/03/19 22:31	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 22:31	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/19 22:31	1
Methyl tert-butyl ether	0.37	J	0.50	0.25	ug/L			04/03/19 22:31	1
Naphthalene	ND		1.0	0.40	ug/L			04/03/19 22:31	1
o-Xylene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Propionitrile	ND		20	10	ug/L			04/03/19 22:31	1
Styrene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/03/19 22:31	1
Toluene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/03/19 22:31	1
Trichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/03/19 22:31	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/03/19 22:31	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/03/19 22:31	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/03/19 22:31	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/03/19 22:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/03/19 22:31	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1000	TJ	ug/L		2.18			04/03/19 22:31	1
Unknown	10	TJ	ug/L		6.72			04/03/19 22:31	1
Unknown	27	TJ	ug/L		15.73			04/03/19 22:31	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-237133-2

Date Collected: 03/25/19 14:18

Matrix: Water

Date Received: 03/26/19 16:39

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 09:14	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/28/19 09:14	1
Toluene-d8 (Surr)	100		80 - 128		04/03/19 22:31	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/03/19 22:31	1
Dibromofluoromethane (Surr)	98		76 - 132		03/28/19 09:14	1
Dibromofluoromethane (Surr)	104		76 - 132		04/03/19 22:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butanol	23		10	5.0	ug/L			04/04/19 17:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Silane, fluorotrimethyl-	3.3	T J N	ug/L		2.89	420-56-4		04/04/19 17:20	1
Unknown	4.6	T J	ug/L		5.04			04/04/19 17:20	1
Unknown	9.8	T J	ug/L		6.52			04/04/19 17:20	1
Unknown	11	T J	ug/L		16.58			04/04/19 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		04/04/19 17:20	1
4-Bromofluorobenzene (Surr)	99		80 - 120		04/04/19 17:20	1
Dibromofluoromethane (Surr)	101		76 - 132		04/04/19 17:20	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	12		1.0	0.25	ug/L		03/27/19 10:30	03/28/19 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	63		30 - 120		03/27/19 10:30	03/28/19 13:13

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		10	5.0	mg/L			03/28/19 06:43	20

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		04/01/19 07:52	04/01/19 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	5.1		1.0	0.50	mg/L			03/27/19 13:52	5
Chemical Oxygen Demand	120		20	10	mg/L			04/08/19 11:48	1
Total Dissolved Solids	4700		100	50	mg/L			03/29/19 11:50	1
Total Organic Carbon	51		1.0	0.50	mg/L			03/29/19 11:16	10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	730		4.0	4.0	mg/L			03/27/19 13:34	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-237133-3

Date Collected: 03/25/19 13:15

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 22:56	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Acrolein	ND		50	2.5	ug/L			03/28/19 09:39	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 09:39	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/03/19 22:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/03/19 22:56	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/03/19 22:56	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/03/19 22:56	1
2-Hexanone	ND		5.0	2.5	ug/L			04/03/19 22:56	1
Acetone	ND		20	10	ug/L			04/03/19 22:56	1
Acetonitrile	ND		20	10	ug/L			04/03/19 22:56	1
Acrolein	ND		5.0	2.5	ug/L			04/03/19 22:56	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/03/19 22:56	1
Benzene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Allyl chloride	ND		1.0	0.50	ug/L			04/03/19 22:56	1
Bromoform	ND		1.0	0.40	ug/L			04/03/19 22:56	1
Bromomethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/03/19 22:56	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Chloroethane	ND		1.0	0.40	ug/L			04/03/19 22:56	1
Chloroform	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Chloromethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
cis-1,2-Dichloroethene	0.56		0.50	0.25	ug/L			04/03/19 22:56	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Dibromomethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/03/19 22:56	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 22:56	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Iodomethane	ND		2.0	1.0	ug/L			04/03/19 22:56	1
Isobutyl alcohol	ND		25	13	ug/L			04/03/19 22:56	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/03/19 22:56	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/03/19 22:56	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 22:56	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-237133-3

Date Collected: 03/25/19 13:15

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 22:56	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Naphthalene	ND		1.0	0.40	ug/L			04/03/19 22:56	1
o-Xylene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Propionitrile	ND		20	10	ug/L			04/03/19 22:56	1
Styrene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
t-Butanol	ND		10	5.0	ug/L			04/03/19 22:56	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/03/19 22:56	1
Toluene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/03/19 22:56	1
Trichloroethene	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/03/19 22:56	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/03/19 22:56	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/03/19 22:56	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/03/19 22:56	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/03/19 22:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/03/19 22:56	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	800	T J	ug/L		2.16			04/03/19 22:56	1
Unknown	11	T J	ug/L		6.71			04/03/19 22:56	1
Unknown	9.9	T J	ug/L		14.06			04/03/19 22:56	1
Unknown	3.9	T J	ug/L		15.74			04/03/19 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 09:39	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/28/19 09:39	1
Toluene-d8 (Surr)	97		80 - 128		04/03/19 22:56	1
4-Bromofluorobenzene (Surr)	88		80 - 120		04/03/19 22:56	1
Dibromofluoromethane (Surr)	101		76 - 132		03/28/19 09:39	1
Dibromofluoromethane (Surr)	109		76 - 132		04/03/19 22:56	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.9		1.0	0.25	ug/L		03/27/19 10:30	03/28/19 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	61		30 - 120	03/27/19 10:30	03/28/19 13:35	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70		2.5	1.3	mg/L			03/26/19 22:48	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	14		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:29	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-237133-3

Date Collected: 03/25/19 13:15

Matrix: Water

Date Received: 03/26/19 16:39

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.2		0.20	0.10	mg/L			03/27/19 14:13	1
Chemical Oxygen Demand	15	J	20	10	mg/L			04/08/19 11:48	1
Total Dissolved Solids	3400		20	10	mg/L			03/29/19 11:50	1
Total Organic Carbon	17		1.0	0.50	mg/L			03/29/19 08:07	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	150		4.0	4.0	mg/L			03/27/19 13:42	1

Client Sample ID: PZ-2

Lab Sample ID: 440-237133-4

Date Collected: 03/25/19 10:20

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 23:22	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Acrolein	ND		50	2.5	ug/L			03/28/19 10:04	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 10:04	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/03/19 23:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/03/19 23:22	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/03/19 23:22	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/03/19 23:22	1
2-Hexanone	ND		5.0	2.5	ug/L			04/03/19 23:22	1
Acetone	ND		20	10	ug/L			04/03/19 23:22	1
Acetonitrile	ND		20	10	ug/L			04/03/19 23:22	1
Acrolein	ND		5.0	2.5	ug/L			04/03/19 23:22	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/03/19 23:22	1
Benzene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Allyl chloride	ND		1.0	0.50	ug/L			04/03/19 23:22	1
Bromoform	ND		1.0	0.40	ug/L			04/03/19 23:22	1
Bromomethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/03/19 23:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Chloroethane	ND		1.0	0.40	ug/L			04/03/19 23:22	1
Chloroform	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Chloromethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:22	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: PZ-2

Lab Sample ID: 440-237133-4

Date Collected: 03/25/19 10:20

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Dibromomethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/03/19 23:22	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 23:22	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Iodomethane	ND		2.0	1.0	ug/L			04/03/19 23:22	1
Isobutyl alcohol	ND		25	13	ug/L			04/03/19 23:22	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/03/19 23:22	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/03/19 23:22	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 23:22	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/19 23:22	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Naphthalene	ND		1.0	0.40	ug/L			04/03/19 23:22	1
o-Xylene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Propionitrile	ND		20	10	ug/L			04/03/19 23:22	1
Styrene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
t-Butanol	ND		10	5.0	ug/L			04/03/19 23:22	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/03/19 23:22	1
Toluene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/03/19 23:22	1
Trichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/03/19 23:22	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/03/19 23:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/03/19 23:22	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/03/19 23:22	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/03/19 23:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/03/19 23:22	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	790	T J	ug/L		2.17			04/03/19 23:22	1
Unknown	11	T J	ug/L		6.72			04/03/19 23:22	1
Unknown	21	T J	ug/L		15.73			04/03/19 23:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		03/28/19 10:04	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/28/19 10:04	1
Toluene-d8 (Surr)	99		80 - 128		04/03/19 23:22	1
4-Bromofluorobenzene (Surr)	92		80 - 120		04/03/19 23:22	1
Dibromofluoromethane (Surr)	97		76 - 132		03/28/19 10:04	1
Dibromofluoromethane (Surr)	106		76 - 132		04/03/19 23:22	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		03/27/19 10:30	03/28/19 13:57	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: PZ-2

Lab Sample ID: 440-237133-4

Date Collected: 03/25/19 10:20

Matrix: Water

Date Received: 03/26/19 16:39

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	65		30 - 120	03/27/19 10:30	03/28/19 13:57	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			03/26/19 20:42	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.5		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.4		1.0	0.50	mg/L			03/27/19 14:03	5
Chemical Oxygen Demand	ND		20	10	mg/L			04/08/19 11:48	1
Total Dissolved Solids	4200		100	50	mg/L			03/29/19 11:50	1
Total Organic Carbon	2.2		0.10	0.050	mg/L			03/29/19 11:28	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	370		4.0	4.0	mg/L			03/27/19 14:00	1

Client Sample ID: DW-5

Lab Sample ID: 440-237133-5

Date Collected: 03/25/19 15:07

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 23:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Acrolein	ND		50	2.5	ug/L			03/28/19 10:29	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 10:29	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/03/19 23:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/03/19 23:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/03/19 23:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/03/19 23:47	1
2-Hexanone	ND		5.0	2.5	ug/L			04/03/19 23:47	1
Acetone	ND		20	10	ug/L			04/03/19 23:47	1
Acetonitrile	ND		20	10	ug/L			04/03/19 23:47	1
Acrolein	ND		5.0	2.5	ug/L			04/03/19 23:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/03/19 23:47	1
Benzene	ND		0.50	0.25	ug/L			04/03/19 23:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: DW-5

Lab Sample ID: 440-237133-5

Date Collected: 03/25/19 15:07

Matrix: Water

Date Received: 03/26/19 16:39

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			04/03/19 23:47	1
Bromoform	ND		1.0	0.40	ug/L			04/03/19 23:47	1
Bromomethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/03/19 23:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Chloroethane	ND		1.0	0.40	ug/L			04/03/19 23:47	1
Chloroform	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Chloromethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Dibromomethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/03/19 23:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 23:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Iodomethane	ND		2.0	1.0	ug/L			04/03/19 23:47	1
Isobutyl alcohol	ND		25	13	ug/L			04/03/19 23:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/03/19 23:47	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/03/19 23:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 23:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/19 23:47	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Naphthalene	ND		1.0	0.40	ug/L			04/03/19 23:47	1
o-Xylene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Propionitrile	ND		20	10	ug/L			04/03/19 23:47	1
Styrene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
t-Butanol	ND		10	5.0	ug/L			04/03/19 23:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/03/19 23:47	1
Toluene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/03/19 23:47	1
Trichloroethene	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/03/19 23:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/03/19 23:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/03/19 23:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/03/19 23:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/03/19 23:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/03/19 23:47	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	980	T J	ug/L		2.17			04/03/19 23:47	1
Unknown	6.8	T J	ug/L		5.31			04/03/19 23:47	1
Unknown	10	T J	ug/L		6.72			04/03/19 23:47	1
Benzene, (2-methylpropyl)-	5.3	T J N	ug/L		12.81	538-93-2		04/03/19 23:47	1
Benzene, (3-methyl-2-butenyl)-	4.7	T J N	ug/L		14.07	4489-84-3		04/03/19 23:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: DW-5
Date Collected: 03/25/19 15:07
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237133-5
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
1H-Indene, 2,3-dihydro-1,1-dimethyl-	4.9	T J N	ug/L		14.15	4912-92-9		04/03/19 23:47	1
Benzene, 1,2,3,4-tetramethyl-	17	T J N	ug/L		14.34	488-23-3		04/03/19 23:47	1
Unknown	8.4	T J	ug/L		15.07			04/03/19 23:47	1
Unknown	4.8	T J	ug/L		15.50			04/03/19 23:47	1
1H-Indene, 2,3-dihydro-1,2-dimethyl-	7.4	T J N	ug/L		15.88	17057-82-8		04/03/19 23:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128					03/28/19 10:29	1
4-Bromofluorobenzene (Surr)	96		80 - 120					03/28/19 10:29	1
Toluene-d8 (Surr)	99		80 - 128					04/03/19 23:47	1
4-Bromofluorobenzene (Surr)	89		80 - 120					04/03/19 23:47	1
Dibromofluoromethane (Surr)	99		76 - 132					03/28/19 10:29	1
Dibromofluoromethane (Surr)	104		76 - 132					04/03/19 23:47	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		03/27/19 10:30	03/28/19 14:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		30 - 120				03/27/19 10:30	03/28/19 14:19	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		5.0	2.5	mg/L			03/28/19 06:59	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	2.3		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		1.0	0.50	mg/L			03/27/19 14:19	5
Chemical Oxygen Demand	ND		20	10	mg/L			04/08/19 11:48	1
Total Dissolved Solids	1100		10	5.0	mg/L			03/29/19 11:50	1
Total Organic Carbon	7.3		0.10	0.050	mg/L			03/29/19 11:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	970		4.0	4.0	mg/L			03/27/19 14:17	1

Client Sample ID: MW-6
Date Collected: 03/25/19 12:14
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237133-6
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			04/04/19 00:13	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Acrolein	ND		50	2.5	ug/L			03/28/19 10:54	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 10:54	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: MW-6

Lab Sample ID: 440-237133-6

Date Collected: 03/25/19 12:14

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 00:13	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 00:13	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 00:13	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 00:13	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 00:13	1
Acetone	ND		20	10	ug/L			04/04/19 00:13	1
Acetonitrile	ND		20	10	ug/L			04/04/19 00:13	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 00:13	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 00:13	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 00:13	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 00:13	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 00:13	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 00:13	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 00:13	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 00:13	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 00:13	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 00:13	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 00:13	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 00:13	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 00:13	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 00:13	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 00:13	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Propionitrile	ND		20	10	ug/L			04/04/19 00:13	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 00:13	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: MW-6

Lab Sample ID: 440-237133-6

Date Collected: 03/25/19 12:14

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 00:13	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 00:13	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 00:13	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 00:13	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 00:13	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 00:13	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 00:13	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 00:13	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	870	TJ	ug/L		2.17			04/04/19 00:13	1
Unknown	11	TJ	ug/L		6.72			04/04/19 00:13	1
Unknown	25	TJ	ug/L		15.74			04/04/19 00:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/28/19 10:54	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/28/19 10:54	1
Toluene-d8 (Surr)	98		80 - 128		04/04/19 00:13	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/04/19 00:13	1
Dibromofluoromethane (Surr)	98		76 - 132		03/28/19 10:54	1
Dibromofluoromethane (Surr)	104		76 - 132		04/04/19 00:13	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		03/27/19 10:30	03/28/19 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120	03/27/19 10:30	03/28/19 14:40	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32		5.0	2.5	mg/L			03/27/19 00:01	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	6.4		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.0		0.20	0.10	mg/L			03/28/19 12:29	1
Chemical Oxygen Demand	ND		20	10	mg/L			04/08/19 11:48	1
Total Dissolved Solids	3600		50	25	mg/L			03/29/19 11:50	1
Total Organic Carbon	5.2		0.10	0.050	mg/L			03/29/19 08:45	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	480		4.0	4.0	mg/L			03/27/19 14:28	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: MW-14

Lab Sample ID: 440-237133-7

Date Collected: 03/25/19 13:13

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 00:38	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Acrolein	ND		50	2.5	ug/L			03/28/19 11:19	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 11:19	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 00:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 00:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 00:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 00:38	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 00:38	1
Acetone	ND		20	10	ug/L			04/04/19 00:38	1
Acetonitrile	ND		20	10	ug/L			04/04/19 00:38	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 00:38	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 00:38	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 00:38	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 00:38	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 00:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 00:38	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 00:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 00:38	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 00:38	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 00:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 00:38	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 00:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 00:38	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: MW-14

Lab Sample ID: 440-237133-7

Date Collected: 03/25/19 13:13

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 00:38	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 00:38	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Propionitrile	ND		20	10	ug/L			04/04/19 00:38	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 00:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 00:38	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 00:38	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 00:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 00:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 00:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 00:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 00:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 00:38	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	940	T J	ug/L		2.17			04/04/19 00:38	1
Unknown	11	T J	ug/L		6.72			04/04/19 00:38	1
Unknown	11	T J	ug/L		14.07			04/04/19 00:38	1
Unknown	3.6	T J	ug/L		15.74			04/04/19 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 11:19	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 11:19	1
Toluene-d8 (Surr)	103		80 - 128		04/04/19 00:38	1
4-Bromofluorobenzene (Surr)	88		80 - 120		04/04/19 00:38	1
Dibromofluoromethane (Surr)	98		76 - 132		03/28/19 11:19	1
Dibromofluoromethane (Surr)	106		76 - 132		04/04/19 00:38	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.25	ug/L		03/27/19 10:30	03/28/19 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	61		30 - 120	03/27/19 10:30	03/28/19 15:01	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70		5.0	2.5	mg/L			03/27/19 00:37	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		04/01/19 07:52	04/01/19 16:38	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: MW-14
Date Collected: 03/25/19 13:13
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237133-7
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			03/28/19 12:09	1
Chemical Oxygen Demand	ND		20	10	mg/L			04/08/19 11:48	1
Total Dissolved Solids	6000		100	50	mg/L			03/29/19 11:50	1
Total Organic Carbon	8.4		0.10	0.050	mg/L			03/29/19 09:02	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	570		4.0	4.0	mg/L			03/27/19 14:40	1

Client Sample ID: Field Blank
Date Collected: 03/25/19 00:01
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237133-8
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			04/04/19 01:03	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Acrolein	ND		50	2.5	ug/L			03/28/19 11:43	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 11:43	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 01:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 01:03	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 01:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 01:03	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 01:03	1
Acetone	ND		20	10	ug/L			04/04/19 01:03	1
Acetonitrile	ND		20	10	ug/L			04/04/19 01:03	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 01:03	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 01:03	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 01:03	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 01:03	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 01:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 01:03	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:03	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Field Blank

Lab Sample ID: 440-237133-8

Date Collected: 03/25/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 01:03	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 01:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 01:03	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 01:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 01:03	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 01:03	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 01:03	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 01:03	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 01:03	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Propionitrile	ND		20	10	ug/L			04/04/19 01:03	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 01:03	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 01:03	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 01:03	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 01:03	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 01:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 01:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 01:03	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 01:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 01:03	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	77	TJ	ug/L		2.19			04/04/19 01:03	1
Unknown	10	TJ	ug/L		6.72			04/04/19 01:03	1
Unknown	11	TJ	ug/L		14.07			04/04/19 01:03	1
Unknown	3.2	TJ	ug/L		15.74			04/04/19 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		03/28/19 11:43	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 11:43	1
Toluene-d8 (Surr)	101		80 - 128		04/04/19 01:03	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/04/19 01:03	1
Dibromofluoromethane (Surr)	100		76 - 132		03/28/19 11:43	1
Dibromofluoromethane (Surr)	108		76 - 132		04/04/19 01:03	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237133-9

Date Collected: 03/25/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 01:29	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Acrolein	ND		50	2.5	ug/L			03/28/19 12:08	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 12:08	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 01:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 01:29	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 01:29	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 01:29	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 01:29	1
Acetone	ND		20	10	ug/L			04/04/19 01:29	1
Acetonitrile	ND		20	10	ug/L			04/04/19 01:29	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 01:29	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 01:29	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 01:29	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 01:29	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 01:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 01:29	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 01:29	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 01:29	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 01:29	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 01:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 01:29	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 01:29	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 01:29	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237133-9

Date Collected: 03/25/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 01:29	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 01:29	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Propionitrile	ND		20	10	ug/L			04/04/19 01:29	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 01:29	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 01:29	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 01:29	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 01:29	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 01:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 01:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 01:29	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 01:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 01:29	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	83	T J	ug/L		2.18			04/04/19 01:29	1
Unknown	10	T J	ug/L		6.72			04/04/19 01:29	1
Unknown	25	T J	ug/L		14.06			04/04/19 01:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/28/19 12:08	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/28/19 12:08	1
Toluene-d8 (Surr)	95		80 - 128		04/04/19 01:29	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/04/19 01:29	1
Dibromofluoromethane (Surr)	97		76 - 132		03/28/19 12:08	1
Dibromofluoromethane (Surr)	104		76 - 132		04/04/19 01:29	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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 = Eurofins 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

Job ID: 440-237133-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-237133-1

Date Collected: 03/25/19 09:20

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 08:49	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	538326	04/04/19 16:55	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/03/19 22:06	WC	TAL IRV
Total/NA	Prep	3520C			970 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 12:51	L1B	TAL IRV
Total/NA	Analysis	300.0		200			536539	03/26/19 22:12	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:06	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	536822	03/27/19 13:27	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	538960	04/08/19 11:47	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 13:21	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	537291	03/29/19 11:02	YZ	TAL IRV

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-237133-2

Date Collected: 03/25/19 14:18

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 09:14	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	538326	04/04/19 17:20	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/03/19 22:31	WC	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 13:13	L1B	TAL IRV
Total/NA	Analysis	300.0		20			536761	03/28/19 06:43	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:17	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	536822	03/27/19 13:52	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	538960	04/08/19 11:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 13:34	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	537291	03/29/19 11:16	YZ	TAL IRV

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-237133-3

Date Collected: 03/25/19 13:15

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 09:39	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/03/19 22:56	WC	TAL IRV
Total/NA	Prep	3520C			995 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 13:35	L1B	TAL IRV
Total/NA	Analysis	300.0		5			536539	03/26/19 22:48	NN	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-237133-3

Date Collected: 03/25/19 13:15

Matrix: Water

Date Received: 03/26/19 16:39

Total Recoverable	Analysis	6010B	1			537756	04/01/19 16:29	P1R	TAL IRV
Total/NA	Analysis	350.1	1	0.8 mL	8.0 mL	536822	03/27/19 14:13	KMY	TAL IRV
Total/NA	Analysis	410.4	1	2.5 mL	2.5 mL	538960	04/08/19 11:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B	1			536897	03/27/19 13:42	YZ	TAL IRV
Total/NA	Analysis	SM 2540C	1	50 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C	10	100 mL	100 mL	537291	03/29/19 08:07	YZ	TAL IRV

Client Sample ID: PZ-2

Lab Sample ID: 440-237133-4

Date Collected: 03/25/19 10:20

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 10:04	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/03/19 23:22	WC	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 13:57	L1B	TAL IRV
Total/NA	Analysis	300.0		10			536539	03/26/19 20:42	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:31	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	536822	03/27/19 14:03	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	538960	04/08/19 11:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 14:00	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 11:28	YZ	TAL IRV

Client Sample ID: DW-5

Lab Sample ID: 440-237133-5

Date Collected: 03/25/19 15:07

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 10:29	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/03/19 23:47	WC	TAL IRV
Total/NA	Prep	3520C			995 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 14:19	L1B	TAL IRV
Total/NA	Analysis	300.0		10			536761	03/28/19 06:59	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:33	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	536822	03/27/19 14:19	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	538960	04/08/19 11:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 14:17	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 11:44	YZ	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: MW-6

Lab Sample ID: 440-237133-6

Date Collected: 03/25/19 12:14

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 10:54	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/04/19 00:13	WC	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 14:40	L1B	TAL IRV
Total/NA	Analysis	300.0		10			536539	03/27/19 00:01	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:36	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 12:29	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	538960	04/08/19 11:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 14:28	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 08:45	YZ	TAL IRV

Client Sample ID: MW-14

Lab Sample ID: 440-237133-7

Date Collected: 03/25/19 13:13

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 11:19	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/04/19 00:38	WC	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 15:01	L1B	TAL IRV
Total/NA	Analysis	300.0		10			536539	03/27/19 00:37	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:38	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 12:09	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	538960	04/08/19 11:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 14:40	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	537278	03/29/19 11:50	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 09:02	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-237133-8

Date Collected: 03/25/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 11:43	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/04/19 01:03	WC	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237133-9

Date Collected: 03/25/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 12:08	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538201	04/04/19 01:29	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: MB 440-536916/4
Matrix: Water
Analysis Batch: 536916

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			03/28/19 08:16	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 08:16	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 08:16	1
Dibromofluoromethane (Surr)	99		76 - 132		03/28/19 08:16	1

Lab Sample ID: LCS 440-536916/3
Matrix: Water
Analysis Batch: 536916

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	31.1	J	ug/L		125	10 - 145
Acrylonitrile	250	235		ug/L		94	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-237268-E-4 MS
Matrix: Water
Analysis Batch: 536916

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	30.8	J	ug/L		123	10 - 147
Acrylonitrile	ND		250	237		ug/L		95	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-237268-F-4 MSD
Matrix: Water
Analysis Batch: 536916

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	42.6	J F1	ug/L		171	10 - 147	32	40
Acrylonitrile	ND		250	300		ug/L		120	38 - 144	23	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	96		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: MB 440-538201/4
Matrix: Water
Analysis Batch: 538201

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			04/03/19 18:17	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/03/19 18:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/03/19 18:17	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/03/19 18:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/03/19 18:17	1
2-Hexanone	ND		5.0	2.5	ug/L			04/03/19 18:17	1
Acetone	ND		20	10	ug/L			04/03/19 18:17	1
Acetonitrile	ND		20	10	ug/L			04/03/19 18:17	1
Acrolein	ND		5.0	2.5	ug/L			04/03/19 18:17	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/03/19 18:17	1
Benzene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Allyl chloride	ND		1.0	0.50	ug/L			04/03/19 18:17	1
Bromoform	ND		1.0	0.40	ug/L			04/03/19 18:17	1
Bromomethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/03/19 18:17	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Chloroethane	ND		1.0	0.40	ug/L			04/03/19 18:17	1
Chloroform	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Chloromethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Dibromomethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/03/19 18:17	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 18:17	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Iodomethane	ND		2.0	1.0	ug/L			04/03/19 18:17	1
Isobutyl alcohol	ND		25	13	ug/L			04/03/19 18:17	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/03/19 18:17	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/03/19 18:17	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/03/19 18:17	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/19 18:17	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: MB 440-538201/4
Matrix: Water
Analysis Batch: 538201

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			04/03/19 18:17	1
Naphthalene	ND		1.0	0.40	ug/L			04/03/19 18:17	1
o-Xylene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Propionitrile	ND		20	10	ug/L			04/03/19 18:17	1
Styrene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
t-Butanol	ND		10	5.0	ug/L			04/03/19 18:17	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/03/19 18:17	1
Toluene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/03/19 18:17	1
Trichloroethene	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/03/19 18:17	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/03/19 18:17	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/03/19 18:17	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/03/19 18:17	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/03/19 18:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/03/19 18:17	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					04/03/19 18:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		04/03/19 18:17	1
4-Bromofluorobenzene (Surr)	87		80 - 120		04/03/19 18:17	1
Dibromofluoromethane (Surr)	107		76 - 132		04/03/19 18:17	1

Lab Sample ID: LCS 440-538201/5
Matrix: Water
Analysis Batch: 538201

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	23.8		ug/L		95	63 - 130
1,1,1,2-Tetrachloroethane	25.0	26.2		ug/L		105	60 - 141
1,1,1-Trichloroethane	25.0	27.6		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.6		ug/L		90	63 - 130
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	25.3		ug/L		101	64 - 130
1,1-Dichloroethene	25.0	26.1		ug/L		104	70 - 130
1,1-Dichloropropene	25.0	25.9		ug/L		104	70 - 130
1,2,4-Trichlorobenzene	25.0	23.3		ug/L		93	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	22.7		ug/L		91	52 - 140
1,2-Dichlorobenzene	25.0	23.8		ug/L		95	70 - 130
1,2-Dichloroethane	25.0	23.5		ug/L		94	57 - 138
1,2-Dichloropropane	25.0	25.0		ug/L		100	67 - 130
1,3-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	23.7		ug/L		95	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: LCS 440-538201/5
Matrix: Water
Analysis Batch: 538201

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	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	28.9		ug/L		116	68 - 141
2-Hexanone	125	156		ug/L		125	10 - 150
Acetone	125	129		ug/L		103	10 - 150
Acrolein	25.0	30.9		ug/L		124	10 - 145
Acrylonitrile	250	232		ug/L		93	48 - 140
Benzene	25.0	24.1		ug/L		97	68 - 130
Bromoform	25.0	26.0		ug/L		104	60 - 148
Bromomethane	25.0	26.3		ug/L		105	64 - 139
Carbon disulfide	25.0	26.7		ug/L		107	52 - 136
Carbon tetrachloride	25.0	28.3		ug/L		113	60 - 150
Chlorobenzene	25.0	25.1		ug/L		100	70 - 130
Bromochloromethane	25.0	25.1		ug/L		101	70 - 130
Chloroethane	25.0	27.0		ug/L		108	64 - 135
Chloroform	25.0	24.3		ug/L		97	70 - 130
Chloromethane	25.0	28.6		ug/L		114	47 - 140
cis-1,2-Dichloroethene	25.0	24.1		ug/L		96	70 - 133
cis-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 133
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 145
Dibromomethane	25.0	24.1		ug/L		96	70 - 130
Bromodichloromethane	25.0	24.4		ug/L		98	70 - 132
Dichlorodifluoromethane	25.0	25.7		ug/L		103	29 - 150
Ethylbenzene	25.0	25.4		ug/L		102	70 - 130
m,p-Xylene	25.0	25.5		ug/L		102	70 - 130
Methylene Chloride	25.0	24.1		ug/L		96	52 - 130
Methyl tert-butyl ether	25.0	19.3		ug/L		77	63 - 131
Naphthalene	25.0	21.4		ug/L		86	60 - 140
o-Xylene	25.0	25.3		ug/L		101	70 - 130
Styrene	25.0	24.7		ug/L		99	70 - 134
t-Butanol	250	300		ug/L		120	70 - 130
Tetrachloroethene	25.0	28.9		ug/L		116	70 - 130
Toluene	25.0	24.9		ug/L		100	70 - 130
trans-1,2-Dichloroethene	25.0	25.6		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	24.4		ug/L		98	70 - 132
Trichloroethene	25.0	25.4		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	31.1		ug/L		124	60 - 150
Vinyl acetate	25.0	24.3		ug/L		97	48 - 140
Vinyl chloride	25.0	27.6		ug/L		110	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.7		ug/L		99	70 - 130
2-Butanone (MEK)	125	100		ug/L		80	44 - 150
4-Methyl-2-pentanone (MIBK)	125	130		ug/L		104	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: 440-236919-C-5 MS

Matrix: Water

Analysis Batch: 538201

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		125	131		ug/L		104	60 - 130
1,1,1,2-Tetrachloroethane	ND		125	126		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		125	133		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	ND		125	120		ug/L		96	63 - 130
1,1,2-Trichloroethane	ND		125	124		ug/L		99	70 - 130
1,1-Dichloroethane	ND		125	121		ug/L		97	65 - 130
1,1-Dichloroethene	ND		125	125		ug/L		100	70 - 130
1,1-Dichloropropene	ND		125	125		ug/L		100	64 - 130
1,2,4-Trichlorobenzene	ND		125	121		ug/L		97	60 - 140
1,2-Dibromo-3-Chloropropane	ND		125	115		ug/L		92	48 - 140
1,2-Dichlorobenzene	ND		125	126		ug/L		101	70 - 130
1,2-Dichloroethane	1.5	J	125	118		ug/L		93	56 - 146
1,2-Dichloropropane	ND		125	127		ug/L		101	69 - 130
1,3-Dichlorobenzene	ND		125	130		ug/L		104	70 - 130
1,3-Dichloropropane	ND		125	121		ug/L		97	70 - 130
1,4-Dichlorobenzene	ND		125	128		ug/L		103	70 - 130
2,2-Dichloropropane	ND		125	131		ug/L		105	69 - 138
2-Hexanone	ND		625	777		ug/L		124	10 - 150
Acetone	ND		625	651		ug/L		104	10 - 150
Acrolein	ND		125	158		ug/L		126	10 - 147
Acrylonitrile	ND		1250	1180		ug/L		95	38 - 144
Benzene	ND		125	117		ug/L		94	66 - 130
Bromoform	ND		125	131		ug/L		105	59 - 150
Bromomethane	ND		125	125		ug/L		100	62 - 131
Carbon disulfide	ND		125	128		ug/L		103	49 - 140
Carbon tetrachloride	ND		125	131		ug/L		105	60 - 150
Chlorobenzene	ND		125	120		ug/L		96	70 - 130
Bromochloromethane	ND		125	126		ug/L		101	70 - 130
Chloroethane	ND		125	135		ug/L		108	68 - 130
Chloroform	ND		125	120		ug/L		96	70 - 130
Chloromethane	ND		125	135		ug/L		108	39 - 144
cis-1,2-Dichloroethene	ND		125	119		ug/L		95	70 - 130
cis-1,3-Dichloropropene	ND		125	125		ug/L		100	70 - 133
Dibromochloromethane	ND		125	128		ug/L		102	70 - 148
Dibromomethane	ND		125	125		ug/L		100	70 - 130
Bromodichloromethane	ND		125	126		ug/L		101	70 - 138
Dichlorodifluoromethane	ND		125	119		ug/L		95	25 - 142
Ethylbenzene	ND		125	125		ug/L		100	70 - 130
m,p-Xylene	ND		125	129		ug/L		103	70 - 133
Methylene Chloride	ND		125	120		ug/L		96	52 - 130
Methyl tert-butyl ether	ND		125	96.9		ug/L		78	70 - 130
Naphthalene	ND		125	102		ug/L		81	60 - 140
o-Xylene	ND		125	125		ug/L		100	70 - 133
Styrene	ND		125	124		ug/L		99	29 - 150
t-Butanol	ND	F1	1250	1590		ug/L		128	70 - 130
Tetrachloroethene	ND		125	132		ug/L		105	70 - 137
Toluene	ND		125	118		ug/L		95	70 - 130
trans-1,2-Dichloroethene	ND		125	122		ug/L		97	70 - 130

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: 440-236919-C-5 MS

Matrix: Water

Analysis Batch: 538201

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		125	123		ug/L		98	70 - 138
Trichloroethene	ND		125	125		ug/L		100	70 - 130
Trichlorofluoromethane	ND		125	147		ug/L		117	60 - 150
Vinyl acetate	ND		125	122		ug/L		98	23 - 150
Vinyl chloride	ND		125	131		ug/L		105	50 - 137
1,2-Dibromoethane (EDB)	ND		125	125		ug/L		100	70 - 131
2-Butanone (MEK)	ND		625	523		ug/L		84	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		625	665		ug/L		106	52 - 150
		MS	MS						
Surrogate		%Recovery	Qualifier	Limits					
<i>Toluene-d8 (Surr)</i>		98		80 - 128					
<i>4-Bromofluorobenzene (Surr)</i>		95		80 - 120					
<i>Dibromofluoromethane (Surr)</i>		98		76 - 132					

Lab Sample ID: 440-236919-C-5 MSD

Matrix: Water

Analysis Batch: 538201

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		125	128		ug/L		103	60 - 130	2	30
1,1,1,2-Tetrachloroethane	ND		125	129		ug/L		103	60 - 149	2	20
1,1,1-Trichloroethane	ND		125	132		ug/L		106	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		125	123		ug/L		98	63 - 130	2	30
1,1,2-Trichloroethane	ND		125	129		ug/L		103	70 - 130	4	25
1,1-Dichloroethane	ND		125	126		ug/L		101	65 - 130	4	20
1,1-Dichloroethene	ND		125	123		ug/L		98	70 - 130	2	20
1,1-Dichloropropene	ND		125	124		ug/L		99	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		125	126		ug/L		101	60 - 140	4	20
1,2-Dibromo-3-Chloropropane	ND		125	122		ug/L		98	48 - 140	6	30
1,2-Dichlorobenzene	ND		125	126		ug/L		101	70 - 130	0	20
1,2-Dichloroethane	1.5	J	125	120		ug/L		95	56 - 146	2	20
1,2-Dichloropropane	ND		125	126		ug/L		101	69 - 130	0	20
1,3-Dichlorobenzene	ND		125	127		ug/L		102	70 - 130	2	20
1,3-Dichloropropane	ND		125	124		ug/L		99	70 - 130	2	25
1,4-Dichlorobenzene	ND		125	128		ug/L		102	70 - 130	0	20
2,2-Dichloropropane	ND		125	134		ug/L		107	69 - 138	2	25
2-Hexanone	ND		625	806		ug/L		129	10 - 150	4	35
Acetone	ND		625	633		ug/L		101	10 - 150	3	35
Acrolein	ND		125	164		ug/L		131	10 - 147	4	40
Acrylonitrile	ND		1250	1290		ug/L		103	38 - 144	9	40
Benzene	ND		125	116		ug/L		93	66 - 130	1	20
Bromoform	ND		125	135		ug/L		108	59 - 150	3	25
Bromomethane	ND		125	126		ug/L		101	62 - 131	1	25
Carbon disulfide	ND		125	128		ug/L		103	49 - 140	0	20
Carbon tetrachloride	ND		125	134		ug/L		107	60 - 150	2	25
Chlorobenzene	ND		125	125		ug/L		100	70 - 130	4	20
Bromochloromethane	ND		125	126		ug/L		101	70 - 130	1	25
Chloroethane	ND		125	130		ug/L		104	68 - 130	4	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: 440-236919-C-5 MSD
Matrix: Water
Analysis Batch: 538201

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		125	120		ug/L		96	70 - 130	0	20
Chloromethane	ND		125	136		ug/L		108	39 - 144	0	25
cis-1,2-Dichloroethene	ND		125	117		ug/L		93	70 - 130	2	20
cis-1,3-Dichloropropene	ND		125	130		ug/L		104	70 - 133	3	20
Dibromochloromethane	ND		125	131		ug/L		105	70 - 148	2	25
Dibromomethane	ND		125	128		ug/L		103	70 - 130	2	25
Bromodichloromethane	ND		125	127		ug/L		101	70 - 138	1	20
Dichlorodifluoromethane	ND		125	117		ug/L		94	25 - 142	1	30
Ethylbenzene	ND		125	124		ug/L		99	70 - 130	1	20
m,p-Xylene	ND		125	125		ug/L		100	70 - 133	3	25
Methylene Chloride	ND		125	122		ug/L		97	52 - 130	1	20
Methyl tert-butyl ether	ND		125	103		ug/L		83	70 - 130	6	25
Naphthalene	ND		125	108		ug/L		86	60 - 140	6	30
o-Xylene	ND		125	127		ug/L		101	70 - 133	2	20
Styrene	ND		125	121		ug/L		97	29 - 150	2	35
t-Butanol	ND	F1	1250	1680	F1	ug/L		134	70 - 130	5	25
Tetrachloroethene	ND		125	138		ug/L		110	70 - 137	4	20
Toluene	ND		125	120		ug/L		96	70 - 130	1	20
trans-1,2-Dichloroethene	ND		125	121		ug/L		96	70 - 130	1	20
trans-1,3-Dichloropropene	ND		125	130		ug/L		104	70 - 138	6	25
Trichloroethene	ND		125	125		ug/L		100	70 - 130	0	20
Trichlorofluoromethane	ND		125	143		ug/L		115	60 - 150	2	25
Vinyl acetate	ND		125	128		ug/L		102	23 - 150	5	30
Vinyl chloride	ND		125	128		ug/L		102	50 - 137	3	30
1,2-Dibromoethane (EDB)	ND		125	127		ug/L		102	70 - 131	1	25
2-Butanone (MEK)	ND		625	557		ug/L		89	48 - 140	6	40
4-Methyl-2-pentanone (MIBK)	ND		625	687		ug/L		110	52 - 150	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	96		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132

Lab Sample ID: MB 440-538326/4
Matrix: Water
Analysis Batch: 538326

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butanol	ND		10	5.0	ug/L			04/04/19 09:58	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	13.9	TJ	ug/L		15.99			04/04/19 09:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		04/04/19 09:58	1
4-Bromofluorobenzene (Surr)	99		80 - 120		04/04/19 09:58	1
Dibromofluoromethane (Surr)	100		76 - 132		04/04/19 09:58	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: LCS 440-538326/5
Matrix: Water
Analysis Batch: 538326

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
t-Butanol	250	273		ug/L		109	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	97		80 - 128				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	100		76 - 132				

Lab Sample ID: 440-236974-A-2 MS
Matrix: Water
Analysis Batch: 538326

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
t-Butanol	22000		6250	27200	E	ug/L		79	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	98		80 - 128						
4-Bromofluorobenzene (Surr)	97		80 - 120						
Dibromofluoromethane (Surr)	102		76 - 132						

Lab Sample ID: 440-236974-A-2 MSD
Matrix: Water
Analysis Batch: 538326

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	Limit
t-Butanol	22000		6250	27300	E	ug/L		80	70 - 130	0	25
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	98		80 - 128								
4-Bromofluorobenzene (Surr)	100		80 - 120								
Dibromofluoromethane (Surr)	102		76 - 132								

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-536752/1-A
Matrix: Water
Analysis Batch: 536983

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 536752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/27/19 10:30	03/28/19 10:42	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,4-Dioxane-d8 (Surr)	64		30 - 120	03/27/19 10:30	03/28/19 10:42	1			

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-536752/2-A
Matrix: Water
Analysis Batch: 536983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 536752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.26		ug/L		63	35 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	64		30 - 120				

Lab Sample ID: LCSD 440-536752/3-A
Matrix: Water
Analysis Batch: 536983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 536752

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.27		ug/L		63	35 - 120	1	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	63		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-536539/15
Matrix: Water
Analysis Batch: 536539

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			03/26/19 16:56	1

Lab Sample ID: LCS 440-536539/14
Matrix: Water
Analysis Batch: 536539

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	4.77		mg/L		95	90 - 110

Lab Sample ID: 440-237153-L-1 MS
Matrix: Water
Analysis Batch: 536539

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30	E	5.00	36.4	E 4	mg/L		123	80 - 120

Lab Sample ID: 440-237153-L-1 MSD
Matrix: Water
Analysis Batch: 536539

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	30	E	5.00	36.5	E 4	mg/L		125	80 - 120	0	20

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-536761/6
Matrix: Water
Analysis Batch: 536761

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			03/27/19 12:54	1

Lab Sample ID: LCS 440-536761/5
Matrix: Water
Analysis Batch: 536761

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	4.73		mg/L		95	90 - 110

Lab Sample ID: 440-236986-G-5 MS
Matrix: Water
Analysis Batch: 536761

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	62		250	293		mg/L		93	80 - 120

Lab Sample ID: 440-236986-G-5 MSD
Matrix: Water
Analysis Batch: 536761

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	Limit
Chloride	62		250	292		mg/L		92	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-537592/1-A
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:01	1

Lab Sample ID: LCS 440-537592/2-A
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.89		mg/L		99	80 - 120

Lab Sample ID: 440-237133-1 MS
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Extraction Trench
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	42		10.0	53.7	4	mg/L		117	75 - 125

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

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

Lab Sample ID: 440-237133-1 MSD
 Matrix: Water
 Analysis Batch: 537756

Client Sample ID: Extraction Trench
 Prep Type: Total Recoverable
 Prep Batch: 537592

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	42		10.0	53.2	4	mg/L		112	75 - 125	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-536822/10
 Matrix: Water
 Analysis Batch: 536822

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			03/27/19 11:33	1

Lab Sample ID: LCS 440-536822/11
 Matrix: Water
 Analysis Batch: 536822

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	5.10		mg/L		102	90 - 110

Lab Sample ID: MRL 440-536822/9
 Matrix: Water
 Analysis Batch: 536822

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	0.236		mg/L		118	50 - 150

Lab Sample ID: 440-237127-A-1 MS
 Matrix: Water
 Analysis Batch: 536822

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)	0.12	J	5.00	4.96		mg/L		97	90 - 110

Lab Sample ID: 440-237127-A-1 MSD
 Matrix: Water
 Analysis Batch: 536822

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)	0.12	J	5.00	5.02		mg/L		98	90 - 110	1	15

Lab Sample ID: MB 440-537081/10
 Matrix: Water
 Analysis Batch: 537081

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			03/28/19 11:27	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 440-537081/11
Matrix: Water
Analysis Batch: 537081

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	5.21		mg/L		104	90 - 110

Lab Sample ID: MRL 440-537081/9
Matrix: Water
Analysis Batch: 537081

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	0.172	J	mg/L		86	50 - 150

Lab Sample ID: 440-236918-H-1 MS
Matrix: Water
Analysis Batch: 537081

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND	F1	5.00	6.84	F1	mg/L		137	90 - 110

Lab Sample ID: 440-236918-H-1 MSD
Matrix: Water
Analysis Batch: 537081

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND	F1	5.00	6.93	F1	mg/L		139	90 - 110	1	15

Method: 410.4 - COD

Lab Sample ID: MB 440-538960/3
Matrix: Water
Analysis Batch: 538960

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			04/08/19 11:47	1

Lab Sample ID: LCS 440-538960/4
Matrix: Water
Analysis Batch: 538960

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	204		mg/L		102	90 - 110

Lab Sample ID: 440-237220-A-1 MS
Matrix: Water
Analysis Batch: 538960

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	63		200	265		mg/L		101	70 - 120

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-237220-A-1 MSD
Matrix: Water
Analysis Batch: 538960

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	63		200	268		mg/L		103	70 - 120	1	15

Lab Sample ID: 440-237220-A-1 DU
Matrix: Water
Analysis Batch: 538960

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	63		56.6		mg/L		11	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-536897/37
Matrix: Water
Analysis Batch: 536897

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			03/27/19 11:20	1

Lab Sample ID: LCS 440-536897/36
Matrix: Water
Analysis Batch: 536897

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	98.8	101		mg/L		102	80 - 120

Lab Sample ID: 440-237133-3 DU
Matrix: Water
Analysis Batch: 536897

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	150		155		mg/L		0.6	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-537278/1
Matrix: Water
Analysis Batch: 537278

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			03/29/19 11:50	1

Lab Sample ID: LCS 440-537278/2
Matrix: Water
Analysis Batch: 537278

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	998		mg/L		100	90 - 110

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 440-237056-B-4 DU
 Matrix: Water
 Analysis Batch: 537278

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	940		946		mg/L		0.6	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-537291/6
 Matrix: Water
 Analysis Batch: 537291

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			03/29/19 05:41	1

Lab Sample ID: LCS 440-537291/5
 Matrix: Water
 Analysis Batch: 537291

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	9.83		mg/L		98	85 - 115

Lab Sample ID: MRL 440-537291/4
 Matrix: Water
 Analysis Batch: 537291

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	0.0547	J	mg/L		55	50 - 150

Lab Sample ID: 440-237268-G-2 MS
 Matrix: Water
 Analysis Batch: 537291

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	3.8		12.0	15.0		mg/L		94	85 - 115

Lab Sample ID: 440-237268-G-2 MSD
 Matrix: Water
 Analysis Batch: 537291

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	3.8		12.0	15.4		mg/L		96	85 - 115	2	20

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

GC/MS VOA

Analysis Batch: 536916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	8260B	
440-237133-2	Subdrain (N)	Total/NA	Water	8260B	
440-237133-3	Combined Subdrains	Total/NA	Water	8260B	
440-237133-4	PZ-2	Total/NA	Water	8260B	
440-237133-5	DW-5	Total/NA	Water	8260B	
440-237133-6	MW-6	Total/NA	Water	8260B	
440-237133-7	MW-14	Total/NA	Water	8260B	
440-237133-8	Field Blank	Total/NA	Water	8260B	
440-237133-9	Trip Blank	Total/NA	Water	8260B	
MB 440-536916/4	Method Blank	Total/NA	Water	8260B	
LCS 440-536916/3	Lab Control Sample	Total/NA	Water	8260B	
440-237268-E-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-237268-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 538201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	8260B	
440-237133-2	Subdrain (N)	Total/NA	Water	8260B	
440-237133-3	Combined Subdrains	Total/NA	Water	8260B	
440-237133-4	PZ-2	Total/NA	Water	8260B	
440-237133-5	DW-5	Total/NA	Water	8260B	
440-237133-6	MW-6	Total/NA	Water	8260B	
440-237133-7	MW-14	Total/NA	Water	8260B	
440-237133-8	Field Blank	Total/NA	Water	8260B	
440-237133-9	Trip Blank	Total/NA	Water	8260B	
MB 440-538201/4	Method Blank	Total/NA	Water	8260B	
LCS 440-538201/5	Lab Control Sample	Total/NA	Water	8260B	
440-236919-C-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-236919-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 538326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1 - RA	Extraction Trench	Total/NA	Water	8260B	
440-237133-2 - RA	Subdrain (N)	Total/NA	Water	8260B	
MB 440-538326/4	Method Blank	Total/NA	Water	8260B	
LCS 440-538326/5	Lab Control Sample	Total/NA	Water	8260B	
440-236974-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-236974-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 536752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	3520C	
440-237133-2	Subdrain (N)	Total/NA	Water	3520C	
440-237133-3	Combined Subdrains	Total/NA	Water	3520C	
440-237133-4	PZ-2	Total/NA	Water	3520C	
440-237133-5	DW-5	Total/NA	Water	3520C	
440-237133-6	MW-6	Total/NA	Water	3520C	
440-237133-7	MW-14	Total/NA	Water	3520C	
MB 440-536752/1-A	Method Blank	Total/NA	Water	3520C	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

GC/MS Semi VOA (Continued)

Prep Batch: 536752 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-536752/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-536752/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 536983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	8270C	536752
440-237133-2	Subdrain (N)	Total/NA	Water	8270C	536752
440-237133-3	Combined Subdrains	Total/NA	Water	8270C	536752
440-237133-4	PZ-2	Total/NA	Water	8270C	536752
440-237133-5	DW-5	Total/NA	Water	8270C	536752
440-237133-6	MW-6	Total/NA	Water	8270C	536752
440-237133-7	MW-14	Total/NA	Water	8270C	536752
MB 440-536752/1-A	Method Blank	Total/NA	Water	8270C	536752
LCS 440-536752/2-A	Lab Control Sample	Total/NA	Water	8270C	536752
LCSD 440-536752/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	536752

HPLC/IC

Analysis Batch: 536539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	300.0	
440-237133-3	Combined Subdrains	Total/NA	Water	300.0	
440-237133-4	PZ-2	Total/NA	Water	300.0	
440-237133-6	MW-6	Total/NA	Water	300.0	
440-237133-7	MW-14	Total/NA	Water	300.0	
MB 440-536539/15	Method Blank	Total/NA	Water	300.0	
LCS 440-536539/14	Lab Control Sample	Total/NA	Water	300.0	
440-237153-L-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-237153-L-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 536761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-2	Subdrain (N)	Total/NA	Water	300.0	
440-237133-5	DW-5	Total/NA	Water	300.0	
MB 440-536761/6	Method Blank	Total/NA	Water	300.0	
LCS 440-536761/5	Lab Control Sample	Total/NA	Water	300.0	
440-236986-G-5 MS	Matrix Spike	Total/NA	Water	300.0	
440-236986-G-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 537592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total Recoverable	Water	3005A	
440-237133-2	Subdrain (N)	Total Recoverable	Water	3005A	
440-237133-3	Combined Subdrains	Total Recoverable	Water	3005A	
440-237133-4	PZ-2	Total Recoverable	Water	3005A	
440-237133-5	DW-5	Total Recoverable	Water	3005A	
440-237133-6	MW-6	Total Recoverable	Water	3005A	
440-237133-7	MW-14	Total Recoverable	Water	3005A	
MB 440-537592/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-537592/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Metals (Continued)

Prep Batch: 537592 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1 MS	Extraction Trench	Total Recoverable	Water	3005A	
440-237133-1 MSD	Extraction Trench	Total Recoverable	Water	3005A	

Analysis Batch: 537756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total Recoverable	Water	6010B	537592
440-237133-2	Subdrain (N)	Total Recoverable	Water	6010B	537592
440-237133-3	Combined Subdrains	Total Recoverable	Water	6010B	537592
440-237133-4	PZ-2	Total Recoverable	Water	6010B	537592
440-237133-5	DW-5	Total Recoverable	Water	6010B	537592
440-237133-6	MW-6	Total Recoverable	Water	6010B	537592
440-237133-7	MW-14	Total Recoverable	Water	6010B	537592
MB 440-537592/1-A	Method Blank	Total Recoverable	Water	6010B	537592
LCS 440-537592/2-A	Lab Control Sample	Total Recoverable	Water	6010B	537592
440-237133-1 MS	Extraction Trench	Total Recoverable	Water	6010B	537592
440-237133-1 MSD	Extraction Trench	Total Recoverable	Water	6010B	537592

General Chemistry

Analysis Batch: 536822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	350.1	
440-237133-2	Subdrain (N)	Total/NA	Water	350.1	
440-237133-3	Combined Subdrains	Total/NA	Water	350.1	
440-237133-4	PZ-2	Total/NA	Water	350.1	
440-237133-5	DW-5	Total/NA	Water	350.1	
MB 440-536822/10	Method Blank	Total/NA	Water	350.1	
LCS 440-536822/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-536822/9	Lab Control Sample	Total/NA	Water	350.1	
440-237127-A-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-237127-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 536897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	SM 2320B	
440-237133-2	Subdrain (N)	Total/NA	Water	SM 2320B	
440-237133-3	Combined Subdrains	Total/NA	Water	SM 2320B	
440-237133-4	PZ-2	Total/NA	Water	SM 2320B	
440-237133-5	DW-5	Total/NA	Water	SM 2320B	
440-237133-6	MW-6	Total/NA	Water	SM 2320B	
440-237133-7	MW-14	Total/NA	Water	SM 2320B	
MB 440-536897/37	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-536897/36	Lab Control Sample	Total/NA	Water	SM 2320B	
440-237133-3 DU	Combined Subdrains	Total/NA	Water	SM 2320B	

Analysis Batch: 537081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-6	MW-6	Total/NA	Water	350.1	
440-237133-7	MW-14	Total/NA	Water	350.1	
MB 440-537081/10	Method Blank	Total/NA	Water	350.1	
LCS 440-537081/11	Lab Control Sample	Total/NA	Water	350.1	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

General Chemistry (Continued)

Analysis Batch: 537081 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 440-537081/9	Lab Control Sample	Total/NA	Water	350.1	
440-236918-H-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-236918-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 537278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	SM 2540C	
440-237133-2	Subdrain (N)	Total/NA	Water	SM 2540C	
440-237133-3	Combined Subdrains	Total/NA	Water	SM 2540C	
440-237133-4	PZ-2	Total/NA	Water	SM 2540C	
440-237133-5	DW-5	Total/NA	Water	SM 2540C	
440-237133-6	MW-6	Total/NA	Water	SM 2540C	
440-237133-7	MW-14	Total/NA	Water	SM 2540C	
MB 440-537278/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-537278/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-237056-B-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 537291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	SM 5310C	
440-237133-2	Subdrain (N)	Total/NA	Water	SM 5310C	
440-237133-3	Combined Subdrains	Total/NA	Water	SM 5310C	
440-237133-4	PZ-2	Total/NA	Water	SM 5310C	
440-237133-5	DW-5	Total/NA	Water	SM 5310C	
440-237133-6	MW-6	Total/NA	Water	SM 5310C	
440-237133-7	MW-14	Total/NA	Water	SM 5310C	
MB 440-537291/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537291/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-537291/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-237268-G-2 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-237268-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 538960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237133-1	Extraction Trench	Total/NA	Water	410.4	
440-237133-2	Subdrain (N)	Total/NA	Water	410.4	
440-237133-3	Combined Subdrains	Total/NA	Water	410.4	
440-237133-4	PZ-2	Total/NA	Water	410.4	
440-237133-5	DW-5	Total/NA	Water	410.4	
440-237133-6	MW-6	Total/NA	Water	410.4	
440-237133-7	MW-14	Total/NA	Water	410.4	
MB 440-538960/3	Method Blank	Total/NA	Water	410.4	
LCS 440-538960/4	Lab Control Sample	Total/NA	Water	410.4	
440-237220-A-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-237220-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	
440-237220-A-1 DU	Duplicate	Total/NA	Water	410.4	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
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
N	Presumptive evidence of material.
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.

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237133-1

Laboratory: Eurofins 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. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

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Chain of Custody Record 208866

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (0719)

Regulatory Program: DW NPDES RCRA Other

Client Contact
 Company Name: GEO-USE/REPUBLIC
 Address: 1115 W. BERNARDO CA
 City/State/Zip: S.P. CA 92127
 Phone: 858-451-1135
 Fax: 858-451-1135
 Project Name: REPUBLIC SERVICES
 Site: SUNSHINE GARLAND #11
 P.O.#

Project Manager: G.V. Welch **Site Contact:** J. Mills **Date:** 3-25-19
Tel/Fax: 858-451-1135 **Lab Contact:** Rebecca **Carrier:** T/A

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from below:
 2 weeks
 1 week
 2 days
 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)	Lab Contag	Site Contag	Date
Extraction Tranch	3/25/19	0920	GA	WW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
Subchran (2)	1418			WW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
Combined Subchrans	1315			WW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
PZ-2	1020			GW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
DW-5	1507			GW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
MW-6	1214			GW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
MW-14	1313			GW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
Field Blank				GW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19
Tap Blank				GW	12	X	X	8220 14-Brown	Ammonia (200)	3/26/19

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other
Possible Hazard Identification: Please List any 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

Special Instructions/OC Requirements & Comments: 8260 includes all 40 CFR Part 258 Annex. I VOCs- Dichloro di Fluoromethane.

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

Custody Seal No.: Geo-4052 **Company:** Geo-4052
Relinquished by: Steve Mills **Date/Time:** 3/26/19 1639
Relinquished by: Steve Mills **Date/Time:** 3/26/19 1639



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-237133-1

Login Number: 237133

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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 <math><6\text{mm}</math> (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	

ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-237134-1

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:
4/12/2019 4:58:53 PM

Rossina Tomova, Project Manager I
(949)260-3276

rossina.tomova@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-237134-1	MW-1	Water	03/26/19 10:08	03/26/19 16:39
440-237134-2	MW-5	Water	03/26/19 09:16	03/26/19 16:39
440-237134-3	DW-2	Water	03/26/19 11:45	03/26/19 16:39
440-237134-4	DW-3	Water	03/26/19 13:27	03/26/19 16:39
440-237134-5	CM-9R3	Water	03/26/19 10:19	03/26/19 16:39
440-237134-6	CM-10R	Water	03/26/19 11:53	03/26/19 16:39
440-237134-7	CM-11R	Water	03/26/19 08:35	03/26/19 16:39
440-237134-8	MW-13R	Water	03/26/19 13:44	03/26/19 16:39
440-237134-9	Dup.	Water	03/26/19 00:01	03/26/19 16:39
440-237134-10	Field Blank	Water	03/26/19 00:01	03/26/19 16:39
440-237134-11	Trip Blank	Water	03/26/19 00:01	03/26/19 16:39

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Job ID: 440-237134-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-237134-1

Comments

No additional comments.

Receipt

The samples were received on 3/26/2019 4:39 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.8° C, 3.1° C, 4.7° C and 5.5° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described 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 matrix spike / matrix spike duplicate (MS/MSD) precision for batch 440-537864 was outside control limits for the following analyte: Chloride. (440-237134-H-6 MSD)

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 440-537756 contained Potassium above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL).(CCB 440-537756/25)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method(s) SM 2320B: The following samples are associated with these LCS and Method Blank. CM-11R (440-237134-7), MW-13R (440-237134-8), Dup. (440-237134-9), (LCS 440-536897/29), (MB 440-536897/30) and (440-237134-H-7 DU)

Method(s) 350.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-537081 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.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-536752. 8270C-1,4-DXN. LCS was prepared in duplicate to provide precision of data.

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 Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-1

Lab Sample ID: 440-237134-1

Date Collected: 03/26/19 10:08

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 08:54	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Acrolein	ND		50	2.5	ug/L			03/28/19 10:41	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 10:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 08:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 08:54	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 08:54	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 08:54	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 08:54	1
Acetone	ND		20	10	ug/L			04/04/19 08:54	1
Acetonitrile	ND		20	10	ug/L			04/04/19 08:54	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 08:54	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 08:54	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 08:54	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 08:54	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 08:54	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 08:54	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 08:54	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 08:54	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 08:54	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 08:54	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 08:54	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 08:54	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 08:54	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-1

Lab Sample ID: 440-237134-1

Date Collected: 03/26/19 10:08

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 08:54	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 08:54	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Propionitrile	ND		20	10	ug/L			04/04/19 08:54	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 08:54	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 08:54	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 08:54	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 08:54	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 08:54	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 08:54	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 08:54	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 08:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 08:54	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	12	T J	ug/L		14.06			04/04/19 08:54	1
Hexachlorobutadiene	0.26	J	ug/L		15.28	87-68-3		04/04/19 08:54	1
Unknown	4.6	T J	ug/L		15.73			04/04/19 08:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 128		03/28/19 10:41	1
4-Bromofluorobenzene (Surr)	89		80 - 120		03/28/19 10:41	1
Toluene-d8 (Surr)	97		80 - 128		04/04/19 08:54	1
4-Bromofluorobenzene (Surr)	94		80 - 120		04/04/19 08:54	1
Dibromofluoromethane (Surr)	108		76 - 132		03/28/19 10:41	1
Dibromofluoromethane (Surr)	108		76 - 132		04/04/19 08:54	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	10		0.99	0.25	ug/L		03/27/19 10:30	03/28/19 15:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		30 - 120	03/27/19 10:30	03/28/19 15:23	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		10	5.0	mg/L			03/31/19 00:42	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	15		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:40	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-1

Date Collected: 03/26/19 10:08

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.4		0.20	0.10	mg/L			03/28/19 12:15	1
Chemical Oxygen Demand	57		20	10	mg/L			04/09/19 14:15	1
Total Dissolved Solids	3000		20	10	mg/L			03/30/19 06:10	1
Total Organic Carbon	33		1.0	0.50	mg/L			03/29/19 10:08	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	630		4.0	4.0	mg/L			03/27/19 09:09	1

Client Sample ID: MW-5

Date Collected: 03/26/19 09:16

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-2

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			04/04/19 10:09	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Acrolein	ND		50	2.5	ug/L			03/28/19 12:07	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 12:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 10:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 10:09	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 10:09	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 10:09	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 10:09	1
Acetone	ND		20	10	ug/L			04/04/19 10:09	1
Acetonitrile	ND		20	10	ug/L			04/04/19 10:09	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 10:09	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 10:09	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 10:09	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 10:09	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 10:09	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 10:09	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:09	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-5
Date Collected: 03/26/19 09:16
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 10:09	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 10:09	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 10:09	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 10:09	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 10:09	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 10:09	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 10:09	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 10:09	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 10:09	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Propionitrile	ND		20	10	ug/L			04/04/19 10:09	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
t-Butanol	100		10	5.0	ug/L			04/04/19 10:09	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Tetrahydrofuran	17		10	5.0	ug/L			04/04/19 10:09	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 10:09	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 10:09	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 10:09	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 10:09	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 10:09	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 10:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 10:09	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	960	TJ	ug/L		2.16			04/04/19 10:09	1
Unknown	11	TJ	ug/L		6.72			04/04/19 10:09	1
Unknown	6.3	TJ	ug/L		14.06			04/04/19 10:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 128		03/28/19 12:07	1
4-Bromofluorobenzene (Surr)	88		80 - 120		03/28/19 12:07	1
Toluene-d8 (Surr)	98		80 - 128		04/04/19 10:09	1
4-Bromofluorobenzene (Surr)	94		80 - 120		04/04/19 10:09	1
Dibromofluoromethane (Surr)	111		76 - 132		03/28/19 12:07	1
Dibromofluoromethane (Surr)	108		76 - 132		04/04/19 10:09	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.5		0.98	0.24	ug/L		03/27/19 10:30	03/28/19 15:44	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-5
Date Collected: 03/26/19 09:16
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		30 - 120	03/27/19 10:30	03/28/19 15:44	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	400		10	5.0	mg/L			03/31/19 00:57	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	33		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:43	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			03/28/19 13:01	1
Chemical Oxygen Demand	82		20	10	mg/L			04/09/19 14:15	1
Total Dissolved Solids	3900		50	25	mg/L			03/30/19 06:10	1
Total Organic Carbon	36		1.0	0.50	mg/L			03/29/19 10:22	10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	880		4.0	4.0	mg/L			03/27/19 09:25	1

Client Sample ID: DW-2
Date Collected: 03/26/19 11:45
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-3
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			04/04/19 10:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Acrolein	ND		50	2.5	ug/L			03/28/19 12:36	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 12:36	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 10:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 10:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 10:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 10:35	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 10:35	1
Acetone	ND		20	10	ug/L			04/04/19 10:35	1
Acetonitrile	ND		20	10	ug/L			04/04/19 10:35	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 10:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 10:35	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 10:35	1

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Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: DW-2

Lab Sample ID: 440-237134-3

Date Collected: 03/26/19 11:45

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 10:35	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 10:35	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 10:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 10:35	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 10:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 10:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 10:35	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 10:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 10:35	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 10:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 10:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 10:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 10:35	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Propionitrile	ND		20	10	ug/L			04/04/19 10:35	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 10:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 10:35	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 10:35	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 10:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 10:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 10:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 10:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 10:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 10:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	820	TJ	ug/L		2.18			04/04/19 10:35	1
Unknown	11	TJ	ug/L		6.72			04/04/19 10:35	1
Unknown	25	TJ	ug/L		15.74			04/04/19 10:35	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: DW-2

Lab Sample ID: 440-237134-3

Date Collected: 03/26/19 11:45

Matrix: Water

Date Received: 03/26/19 16:39

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		03/28/19 12:36	1
4-Bromofluorobenzene (Surr)	88		80 - 120		03/28/19 12:36	1
Toluene-d8 (Surr)	99		80 - 128		04/04/19 10:35	1
4-Bromofluorobenzene (Surr)	88		80 - 120		04/04/19 10:35	1
Dibromofluoromethane (Surr)	110		76 - 132		03/28/19 12:36	1
Dibromofluoromethane (Surr)	104		76 - 132		04/04/19 10:35	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		03/27/19 10:30	03/28/19 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120	03/27/19 10:30	03/28/19 16:06	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		2.5	1.3	mg/L			04/02/19 21:56	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.6		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:45	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			03/28/19 13:47	1
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 14:15	1
Total Dissolved Solids	1800		20	10	mg/L			03/30/19 06:10	1
Total Organic Carbon	1.6		0.10	0.050	mg/L			03/28/19 11:37	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	390		4.0	4.0	mg/L			03/27/19 09:38	1

Client Sample ID: DW-3

Lab Sample ID: 440-237134-4

Date Collected: 03/26/19 13:27

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:00	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Acrolein	ND		50	2.5	ug/L			03/28/19 13:04	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 13:04	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 11:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 11:00	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1

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Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: DW-3

Lab Sample ID: 440-237134-4

Date Collected: 03/26/19 13:27

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:00	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 11:00	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 11:00	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 11:00	1
Acetone	ND		20	10	ug/L			04/04/19 11:00	1
Acetonitrile	ND		20	10	ug/L			04/04/19 11:00	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 11:00	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 11:00	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 11:00	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 11:00	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 11:00	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 11:00	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 11:00	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 11:00	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 11:00	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 11:00	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 11:00	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 11:00	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 11:00	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 11:00	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 11:00	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Propionitrile	ND		20	10	ug/L			04/04/19 11:00	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 11:00	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 11:00	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:00	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 11:00	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:00	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: DW-3

Lab Sample ID: 440-237134-4

Date Collected: 03/26/19 13:27

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:00	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 11:00	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 11:00	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 11:00	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 11:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 11:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	600	T J	ug/L		2.19			04/04/19 11:00	1
Unknown	10	T J	ug/L		6.72			04/04/19 11:00	1
Unknown	11	T J	ug/L		14.06			04/04/19 11:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 128		03/28/19 13:04	1
4-Bromofluorobenzene (Surr)	91		80 - 120		03/28/19 13:04	1
Toluene-d8 (Surr)	103		80 - 128		04/04/19 11:00	1
4-Bromofluorobenzene (Surr)	93		80 - 120		04/04/19 11:00	1
Dibromofluoromethane (Surr)	111		76 - 132		03/28/19 13:04	1
Dibromofluoromethane (Surr)	101		76 - 132		04/04/19 11:00	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		03/27/19 10:30	03/28/19 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	03/27/19 10:30	03/28/19 16:27	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			04/02/19 22:13	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	9.5		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.69		0.20	0.10	mg/L			03/28/19 13:53	1
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 14:15	1
Total Dissolved Solids	1900		10	5.0	mg/L			03/30/19 06:10	1
Total Organic Carbon	0.46		0.10	0.050	mg/L			03/28/19 11:48	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	160		4.0	4.0	mg/L			03/27/19 09:46	1

Client Sample ID: CM-9R3

Lab Sample ID: 440-237134-5

Date Collected: 03/26/19 10:19

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:25	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-237134-5

Date Collected: 03/26/19 10:19

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:25	1
Acrolein	ND		50	2.5	ug/L			03/28/19 13:44	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 13:44	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 11:25	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 11:25	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 11:25	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 11:25	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 11:25	1
Acetone	ND		20	10	ug/L			04/04/19 11:25	1
Acetonitrile	ND		20	10	ug/L			04/04/19 11:25	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 11:25	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 11:25	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 11:25	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 11:25	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 11:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 11:25	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 11:25	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 11:25	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 11:25	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 11:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 11:25	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 11:25	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 11:25	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 11:25	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-237134-5

Date Collected: 03/26/19 10:19

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:25	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 11:25	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Propionitrile	ND		20	10	ug/L			04/04/19 11:25	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 11:25	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 11:25	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 11:25	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 11:25	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 11:25	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 11:25	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 11:25	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 11:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 11:25	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	720	T J	ug/L		2.17			04/04/19 11:25	1
Unknown	11	T J	ug/L		6.71			04/04/19 11:25	1
Unknown	11	T J	ug/L		14.07			04/04/19 11:25	1
Unknown	4.7	T J	ug/L		15.74			04/04/19 11:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		03/28/19 13:44	1
4-Bromofluorobenzene (Surr)	92		80 - 120		03/28/19 13:44	1
Toluene-d8 (Surr)	98		80 - 128		04/04/19 11:25	1
4-Bromofluorobenzene (Surr)	94		80 - 120		04/04/19 11:25	1
Dibromofluoromethane (Surr)	114		76 - 132		03/28/19 13:44	1
Dibromofluoromethane (Surr)	109		76 - 132		04/04/19 11:25	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		03/27/19 10:30	03/28/19 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120	03/27/19 10:30	03/28/19 16:49	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		10	5.0	mg/L			03/31/19 01:23	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	14		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:54	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-237134-5

Date Collected: 03/26/19 10:19

Matrix: Water

Date Received: 03/26/19 16:39

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	5.3		1.0	0.50	mg/L			03/28/19 12:50	5
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 14:15	1
Total Dissolved Solids	4000		50	25	mg/L			03/30/19 06:10	1
Total Organic Carbon	7.1		0.10	0.050	mg/L			03/28/19 12:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	170		4.0	4.0	mg/L			03/27/19 09:54	1

Client Sample ID: CM-10R

Lab Sample ID: 440-237134-6

Date Collected: 03/26/19 11:53

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 11:50	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Acrolein	ND		50	2.5	ug/L			03/28/19 14:11	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 14:11	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 11:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 11:50	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 11:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 11:50	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 11:50	1
Acetone	ND		20	10	ug/L			04/04/19 11:50	1
Acetonitrile	ND		20	10	ug/L			04/04/19 11:50	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 11:50	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 11:50	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 11:50	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 11:50	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 11:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 11:50	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:50	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-10R

Lab Sample ID: 440-237134-6

Date Collected: 03/26/19 11:53

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 11:50	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 11:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 11:50	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 11:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 11:50	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 11:50	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 11:50	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 11:50	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 11:50	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Propionitrile	ND		20	10	ug/L			04/04/19 11:50	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 11:50	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 11:50	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 11:50	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 11:50	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 11:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 11:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 11:50	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 11:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 11:50	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	840	TJ	ug/L		2.18			04/04/19 11:50	1
Unknown	11	TJ	ug/L		6.72			04/04/19 11:50	1
Unknown	10	TJ	ug/L		14.06			04/04/19 11:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 128		03/28/19 14:11	1
4-Bromofluorobenzene (Surr)	91		80 - 120		03/28/19 14:11	1
Toluene-d8 (Surr)	103		80 - 128		04/04/19 11:50	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/04/19 11:50	1
Dibromofluoromethane (Surr)	113		76 - 132		03/28/19 14:11	1
Dibromofluoromethane (Surr)	109		76 - 132		04/04/19 11:50	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		03/27/19 10:30	03/28/19 17:10	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-10R

Lab Sample ID: 440-237134-6

Date Collected: 03/26/19 11:53

Matrix: Water

Date Received: 03/26/19 16:39

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	60		30 - 120	03/27/19 10:30	03/28/19 17:10	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.4	F2 F1	5.0	2.5	mg/L			04/02/19 22:29	10

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		04/01/19 07:52	04/01/19 16:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	11		1.0	0.50	mg/L			03/28/19 12:56	5
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 14:15	1
Total Dissolved Solids	2800		20	10	mg/L			03/30/19 06:10	1
Total Organic Carbon	2.7		0.10	0.050	mg/L			03/28/19 12:16	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		4.0	4.0	mg/L			03/27/19 10:03	1

Client Sample ID: CM-11R

Lab Sample ID: 440-237134-7

Date Collected: 03/26/19 08:35

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 12:16	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Acrolein	ND		50	2.5	ug/L			03/28/19 14:45	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 14:45	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 12:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 12:16	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 12:16	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 12:16	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 12:16	1
Acetone	ND		20	10	ug/L			04/04/19 12:16	1
Acetonitrile	ND		20	10	ug/L			04/04/19 12:16	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 12:16	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 12:16	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 12:16	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-11R

Lab Sample ID: 440-237134-7

Date Collected: 03/26/19 08:35

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 12:16	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 12:16	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 12:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 12:16	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 12:16	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 12:16	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 12:16	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 12:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 12:16	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 12:16	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 12:16	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 12:16	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 12:16	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Propionitrile	ND		20	10	ug/L			04/04/19 12:16	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 12:16	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 12:16	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 12:16	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 12:16	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 12:16	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 12:16	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 12:16	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 12:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 12:16	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	710	TJ	ug/L		2.18			04/04/19 12:16	1
Unknown	11	TJ	ug/L		6.72			04/04/19 12:16	1
Unknown	13	TJ	ug/L		14.06			04/04/19 12:16	1
Unknown	4.5	TJ	ug/L		15.73			04/04/19 12:16	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-11R

Lab Sample ID: 440-237134-7

Date Collected: 03/26/19 08:35

Matrix: Water

Date Received: 03/26/19 16:39

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 128		03/28/19 14:45	1
4-Bromofluorobenzene (Surr)	89		80 - 120		03/28/19 14:45	1
Toluene-d8 (Surr)	95		80 - 128		04/04/19 12:16	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/04/19 12:16	1
Dibromofluoromethane (Surr)	112		76 - 132		03/28/19 14:45	1
Dibromofluoromethane (Surr)	111		76 - 132		04/04/19 12:16	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		03/27/19 10:30	03/28/19 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120	03/27/19 10:30	03/28/19 17:32	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		10	5.0	mg/L			03/31/19 02:24	20

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		04/01/19 07:52	04/01/19 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.0		0.20	0.10	mg/L			03/28/19 13:42	1
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 14:16	1
Total Dissolved Solids	4100		50	25	mg/L			03/30/19 06:10	1
Total Organic Carbon	4.9		0.10	0.050	mg/L			03/28/19 12:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	40		4.0	4.0	mg/L			03/27/19 10:26	1

Client Sample ID: MW-13R

Lab Sample ID: 440-237134-8

Date Collected: 03/26/19 13:44

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 12:42	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Acrolein	ND		50	2.5	ug/L			03/28/19 15:13	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 15:13	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 12:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 12:42	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-13R

Lab Sample ID: 440-237134-8

Date Collected: 03/26/19 13:44

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 12:42	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 12:42	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 12:42	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 12:42	1
Acetone	ND		20	10	ug/L			04/04/19 12:42	1
Acetonitrile	ND		20	10	ug/L			04/04/19 12:42	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 12:42	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 12:42	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 12:42	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 12:42	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 12:42	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 12:42	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 12:42	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 12:42	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 12:42	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 12:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 12:42	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 12:42	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 12:42	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 12:42	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 12:42	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Propionitrile	ND		20	10	ug/L			04/04/19 12:42	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
t-Butanol	7.5	J ID	10	5.0	ug/L			04/04/19 12:42	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 12:42	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 12:42	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 12:42	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 12:42	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-13R

Lab Sample ID: 440-237134-8

Date Collected: 03/26/19 13:44

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 12:42	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 12:42	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 12:42	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 12:42	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 12:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 12:42	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1400	T J	ug/L		2.19			04/04/19 12:42	1
Unknown	11	T J	ug/L		6.72			04/04/19 12:42	1
Unknown	3.8	T J	ug/L		13.80			04/04/19 12:42	1
Unknown	46	T J	ug/L		15.73			04/04/19 12:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 128		03/28/19 15:13	1
4-Bromofluorobenzene (Surr)	91		80 - 120		03/28/19 15:13	1
Toluene-d8 (Surr)	101		80 - 128		04/04/19 12:42	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/04/19 12:42	1
Dibromofluoromethane (Surr)	114		76 - 132		03/28/19 15:13	1
Dibromofluoromethane (Surr)	108		76 - 132		04/04/19 12:42	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.8		0.98	0.24	ug/L		03/27/19 10:30	03/28/19 17:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	31		30 - 120	03/27/19 10:30	03/28/19 17:54	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		10	5.0	mg/L			03/31/19 02:42	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	24		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 17:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	7.5		1.0	0.50	mg/L			03/28/19 13:31	5
Chemical Oxygen Demand	340		20	10	mg/L			04/09/19 14:16	1
Total Dissolved Solids	1700		20	10	mg/L			03/30/19 06:10	1
Total Organic Carbon	26		1.0	0.50	mg/L			03/29/19 09:14	10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	870		4.0	4.0	mg/L			03/27/19 10:48	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Dup.
Date Collected: 03/26/19 00:01
Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-9
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			04/04/19 13:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Acrolein	ND		50	2.5	ug/L			03/28/19 13:48	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 13:48	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 13:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 13:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 13:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 13:07	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 13:07	1
Acetone	ND		20	10	ug/L			04/04/19 13:07	1
Acetonitrile	ND		20	10	ug/L			04/04/19 13:07	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 13:07	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 13:07	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 13:07	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 13:07	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 13:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 13:07	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 13:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 13:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 13:07	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 13:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 13:07	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 13:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 13:07	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Dup.

Lab Sample ID: 440-237134-9

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 13:07	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 13:07	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Propionitrile	ND		20	10	ug/L			04/04/19 13:07	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 13:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 13:07	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 13:07	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 13:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 13:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 13:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 13:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 13:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 13:07	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	910	T J	ug/L		2.18			04/04/19 13:07	1
Unknown	11	T J	ug/L		6.72			04/04/19 13:07	1
Unknown	42	T J	ug/L		14.06			04/04/19 13:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		03/28/19 13:48	1
4-Bromofluorobenzene (Surr)	96		80 - 120		03/28/19 13:48	1
Toluene-d8 (Surr)	101		80 - 128		04/04/19 13:07	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/04/19 13:07	1
Dibromofluoromethane (Surr)	101		76 - 132		03/28/19 13:48	1
Dibromofluoromethane (Surr)	107		76 - 132		04/04/19 13:07	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	8.5		0.98	0.25	ug/L		03/27/19 10:30	03/28/19 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		30 - 120	03/27/19 10:30	03/28/19 18:16	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		10	5.0	mg/L			03/31/19 00:41	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	16		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 17:03	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Dup.

Lab Sample ID: 440-237134-9

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.6		0.20	0.10	mg/L			03/28/19 13:37	1
Chemical Oxygen Demand	64		20	10	mg/L			04/09/19 14:16	1
Total Dissolved Solids	1800		20	10	mg/L			03/30/19 06:10	1
Total Organic Carbon	31		1.0	0.50	mg/L			04/01/19 06:04	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	440		4.0	4.0	mg/L			03/27/19 11:00	1

Client Sample ID: Field Blank

Lab Sample ID: 440-237134-10

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 14:23	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Acrolein	ND		50	2.5	ug/L			03/28/19 14:13	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 14:13	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 14:23	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 14:23	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 14:23	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 14:23	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 14:23	1
Acetone	ND		20	10	ug/L			04/04/19 14:23	1
Acetonitrile	ND		20	10	ug/L			04/04/19 14:23	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 14:23	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 14:23	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 14:23	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 14:23	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 14:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 14:23	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:23	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Field Blank

Lab Sample ID: 440-237134-10

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 14:23	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 14:23	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 14:23	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 14:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 14:23	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 14:23	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 14:23	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 14:23	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 14:23	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Propionitrile	ND		20	10	ug/L			04/04/19 14:23	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 14:23	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 14:23	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 14:23	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 14:23	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 14:23	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 14:23	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 14:23	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 14:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 14:23	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	100	TJ	ug/L		2.18			04/04/19 14:23	1
Unknown	11	TJ	ug/L		6.72			04/04/19 14:23	1
Unknown	30	TJ	ug/L		15.74			04/04/19 14:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 14:13	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 14:13	1
Toluene-d8 (Surr)	98		80 - 128		04/04/19 14:23	1
4-Bromofluorobenzene (Surr)	92		80 - 120		04/04/19 14:23	1
Dibromofluoromethane (Surr)	100		76 - 132		03/28/19 14:13	1
Dibromofluoromethane (Surr)	108		76 - 132		04/04/19 14:23	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237134-11

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 14:48	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Acrolein	ND		50	2.5	ug/L			03/28/19 14:37	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 14:37	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 14:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 14:48	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 14:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 14:48	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 14:48	1
Acetone	ND		20	10	ug/L			04/04/19 14:48	1
Acetonitrile	ND		20	10	ug/L			04/04/19 14:48	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 14:48	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 14:48	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 14:48	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 14:48	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 14:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 14:48	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 14:48	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 14:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 14:48	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 14:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 14:48	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 14:48	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 14:48	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237134-11

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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			04/04/19 14:48	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 14:48	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Propionitrile	ND		20	10	ug/L			04/04/19 14:48	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 14:48	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 14:48	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 14:48	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 14:48	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 14:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 14:48	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 14:48	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 14:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 14:48	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	79	T J	ug/L		2.18			04/04/19 14:48	1
Unknown	2.7	T J	ug/L		4.07			04/04/19 14:48	1
Unknown	10	T J	ug/L		6.72			04/04/19 14:48	1
Unknown	27	T J	ug/L		15.74			04/04/19 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/28/19 14:37	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/28/19 14:37	1
Toluene-d8 (Surr)	106		80 - 128		04/04/19 14:48	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/04/19 14:48	1
Dibromofluoromethane (Surr)	101		76 - 132		03/28/19 14:37	1
Dibromofluoromethane (Surr)	104		76 - 132		04/04/19 14:48	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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 = Eurofins 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

Job ID: 440-237134-1

Client Sample ID: MW-1

Lab Sample ID: 440-237134-1

Date Collected: 03/26/19 10:08

Matrix: Water

Date Received: 03/26/19 16:39

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	538292	04/04/19 08:54	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 10:41	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 10:41	WC	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 15:23	L1B	TAL IRV
Total/NA	Analysis	300.0		20			537474	03/31/19 00:42	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:40	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 12:15	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:15	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 09:09	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	537291	03/29/19 10:08	YZ	TAL IRV

Client Sample ID: MW-5

Lab Sample ID: 440-237134-2

Date Collected: 03/26/19 09:16

Matrix: Water

Date Received: 03/26/19 16:39

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	538292	04/04/19 10:09	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 12:07	WC	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 15:44	L1B	TAL IRV
Total/NA	Analysis	300.0		20			537474	03/31/19 00:57	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:43	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 13:01	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:15	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 09:25	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	537291	03/29/19 10:22	YZ	TAL IRV

Client Sample ID: DW-2

Lab Sample ID: 440-237134-3

Date Collected: 03/26/19 11:45

Matrix: Water

Date Received: 03/26/19 16:39

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	538292	04/04/19 10:35	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 12:36	WC	TAL IRV
Total/NA	Prep	3520C			1000 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 16:06	L1B	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: DW-2

Date Collected: 03/26/19 11:45

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-3

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	300.0		5			537864	04/02/19 21:56	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:45	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 13:47	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:15	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 09:38	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 11:37	YZ	TAL IRV

Client Sample ID: DW-3

Date Collected: 03/26/19 13:27

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-4

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	538292	04/04/19 11:00	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 13:04	WC	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 16:27	L1B	TAL IRV
Total/NA	Analysis	300.0		10			537864	04/02/19 22:13	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:47	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 13:53	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:15	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 09:46	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 11:48	YZ	TAL IRV

Client Sample ID: CM-9R3

Date Collected: 03/26/19 10:19

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-5

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	538292	04/04/19 11:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 13:44	WC	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 16:49	L1B	TAL IRV
Total/NA	Analysis	300.0		20			537476	03/31/19 01:23	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:54	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	537081	03/28/19 12:50	KMY	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: CM-9R3

Date Collected: 03/26/19 10:19

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-5

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	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:15	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 09:54	YZ	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 09:54	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 12:04	YZ	TAL IRV

Client Sample ID: CM-10R

Date Collected: 03/26/19 11:53

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-6

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	538292	04/04/19 11:50	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 14:11	WC	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 17:10	L1B	TAL IRV
Total/NA	Analysis	300.0		10			537864	04/02/19 22:29	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:57	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	537081	03/28/19 12:56	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:15	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 10:03	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 12:16	YZ	TAL IRV

Client Sample ID: CM-11R

Date Collected: 03/26/19 08:35

Date Received: 03/26/19 16:39

Lab Sample ID: 440-237134-7

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	538292	04/04/19 12:16	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 14:45	WC	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 17:32	L1B	TAL IRV
Total/NA	Analysis	300.0		20	5 mL	1.0 mL	537478	03/31/19 02:24	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 16:59	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 13:42	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 10:26	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 12:30	YZ	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: MW-13R

Lab Sample ID: 440-237134-8

Date Collected: 03/26/19 13:44

Matrix: Water

Date Received: 03/26/19 16:39

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	538292	04/04/19 12:42	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 15:13	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	536932	03/28/19 15:13	WC	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 17:54	L1B	TAL IRV
Total/NA	Analysis	300.0	DL	100			537478	03/31/19 00:35	NTN	TAL IRV
Total/NA	Analysis	300.0		20			537478	03/31/19 02:42	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 17:01	P1R	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8.0 mL	537081	03/28/19 13:31	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 10:48	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	537291	03/29/19 09:14	YZ	TAL IRV

Client Sample ID: Dup.

Lab Sample ID: 440-237134-9

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 13:48	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 13:07	WC	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	536752	03/27/19 10:30	JAA	TAL IRV
Total/NA	Analysis	8270C		1			536983	03/28/19 18:16	L1B	TAL IRV
Total/NA	Analysis	300.0		20			537476	03/31/19 00:41	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 17:03	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537081	03/28/19 13:37	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539246	04/09/19 14:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536897	03/27/19 11:00	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	537410	03/30/19 06:10	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	537787	04/01/19 06:04	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-237134-10

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 14:13	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 14:23	WC	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237134-11

Date Collected: 03/26/19 00:01

Matrix: Water

Date Received: 03/26/19 16:39

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	536916	03/28/19 14:37	RM	TAL IRV
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	538292	04/04/19 14:48	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 14:48	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: MB 440-536916/4
Matrix: Water
Analysis Batch: 536916

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			03/28/19 08:16	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 08:16	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 08:16	1
Dibromofluoromethane (Surr)	99		76 - 132		03/28/19 08:16	1

Lab Sample ID: LCS 440-536916/3
Matrix: Water
Analysis Batch: 536916

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	31.1	J	ug/L		125	10 - 145
Acrylonitrile	250	235		ug/L		94	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-237268-E-4 MS
Matrix: Water
Analysis Batch: 536916

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	30.8	J	ug/L		123	10 - 147
Acrylonitrile	ND		250	237		ug/L		95	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-237268-F-4 MSD
Matrix: Water
Analysis Batch: 536916

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	42.6	J F1	ug/L		171	10 - 147	32	40
Acrylonitrile	ND		250	300		ug/L		120	38 - 144	23	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	96		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: MB 440-536932/7
Matrix: Water
Analysis Batch: 536932

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			03/28/19 10:13	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 10:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 128		03/28/19 10:13	1
4-Bromofluorobenzene (Surr)	91		80 - 120		03/28/19 10:13	1
Dibromofluoromethane (Surr)	108		76 - 132		03/28/19 10:13	1

Lab Sample ID: LCS 440-536932/4
Matrix: Water
Analysis Batch: 536932

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	21.1	J	ug/L		84	10 - 145
Acrylonitrile	250	215		ug/L		86	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	93		80 - 128
4-Bromofluorobenzene (Surr)	90		80 - 120
Dibromofluoromethane (Surr)	106		76 - 132

Lab Sample ID: LCSD 440-536932/5
Matrix: Water
Analysis Batch: 536932

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acrolein	25.0	23.4	J	ug/L		94	10 - 145	10	30
Acrylonitrile	250	222		ug/L		89	48 - 140	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	94		80 - 128
4-Bromofluorobenzene (Surr)	88		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

Lab Sample ID: 440-237134-1 MS
Matrix: Water
Analysis Batch: 536932

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		25.0	21.7	J	ug/L		87	10 - 147
Acrylonitrile	ND		250	213		ug/L		85	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	94		80 - 128
4-Bromofluorobenzene (Surr)	88		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: 440-237134-1 MSD
Matrix: Water
Analysis Batch: 536932

Client Sample ID: MW-1
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	26.3	J	ug/L		105	10 - 147	19	40
Acrylonitrile	ND		250	257		ug/L		103	38 - 144	19	40
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
Toluene-d8 (Surr)	93		80 - 128								
4-Bromofluorobenzene (Surr)	90		80 - 120								
Dibromofluoromethane (Surr)	111		76 - 132								

Lab Sample ID: MB 440-538292/4
Matrix: Water
Analysis Batch: 538292

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			04/04/19 08:03	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 08:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 08:03	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 08:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 08:03	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 08:03	1
Acetone	ND		20	10	ug/L			04/04/19 08:03	1
Acetonitrile	ND		20	10	ug/L			04/04/19 08:03	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 08:03	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 08:03	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 08:03	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 08:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 08:03	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: MB 440-538292/4
Matrix: Water
Analysis Batch: 538292

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			04/04/19 08:03	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 08:03	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 08:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 08:03	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 08:03	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 08:03	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 08:03	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Propionitrile	ND		20	10	ug/L			04/04/19 08:03	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 08:03	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 08:03	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 08:03	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 08:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 08:03	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 08:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 08:03	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L					04/04/19 08:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		04/04/19 08:03	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/04/19 08:03	1
Dibromofluoromethane (Surr)	103		76 - 132		04/04/19 08:03	1

Lab Sample ID: LCS 440-538292/5
Matrix: Water
Analysis Batch: 538292

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	25.8		ug/L		103	63 - 130
1,1,1,2-Tetrachloroethane	25.0	25.7		ug/L		103	60 - 141

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: LCS 440-538292/5

Matrix: Water

Analysis Batch: 538292

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-Trichloroethane	25.0	27.3		ug/L		109	70 - 130
1,1,1,2,2-Tetrachloroethane	25.0	24.4		ug/L		98	63 - 130
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	24.1		ug/L		96	64 - 130
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130
1,1-Dichloropropene	25.0	25.2		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	25.0	23.8		ug/L		95	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	23.2		ug/L		93	52 - 140
1,2-Dichlorobenzene	25.0	24.8		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	23.6		ug/L		94	57 - 138
1,2-Dichloropropane	25.0	23.1		ug/L		93	67 - 130
1,3-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	25.5		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	26.5		ug/L		106	70 - 130
2,2-Dichloropropane	25.0	28.1		ug/L		112	68 - 141
2-Hexanone	125	162		ug/L		130	10 - 150
Acetone	125	131		ug/L		104	10 - 150
Acrolein	25.0	28.7		ug/L		115	10 - 145
Acrylonitrile	250	249		ug/L		100	48 - 140
Benzene	25.0	23.4		ug/L		94	68 - 130
Bromoform	25.0	27.0		ug/L		108	60 - 148
Bromomethane	25.0	26.0		ug/L		104	64 - 139
Carbon disulfide	25.0	26.3		ug/L		105	52 - 136
Carbon tetrachloride	25.0	27.2		ug/L		109	60 - 150
Chlorobenzene	25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	25.0	24.6		ug/L		98	70 - 130
Chloroethane	25.0	26.7		ug/L		107	64 - 135
Chloroform	25.0	24.3		ug/L		97	70 - 130
Chloromethane	25.0	28.7		ug/L		115	47 - 140
cis-1,2-Dichloroethene	25.0	22.7		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 133
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 145
Dibromomethane	25.0	25.4		ug/L		101	70 - 130
Bromodichloromethane	25.0	25.0		ug/L		100	70 - 132
Dichlorodifluoromethane	25.0	26.2		ug/L		105	29 - 150
Ethylbenzene	25.0	24.8		ug/L		99	70 - 130
m,p-Xylene	25.0	25.8		ug/L		103	70 - 130
Methylene Chloride	25.0	23.9		ug/L		95	52 - 130
Methyl tert-butyl ether	25.0	19.5		ug/L		78	63 - 131
Naphthalene	25.0	20.9		ug/L		84	60 - 140
o-Xylene	25.0	25.5		ug/L		102	70 - 130
Styrene	25.0	24.8		ug/L		99	70 - 134
t-Butanol	250	306		ug/L		122	70 - 130
Tetrachloroethene	25.0	28.2		ug/L		113	70 - 130
Toluene	25.0	24.1		ug/L		97	70 - 130
trans-1,2-Dichloroethene	25.0	23.7		ug/L		95	70 - 130
trans-1,3-Dichloropropene	25.0	24.2		ug/L		97	70 - 132
Trichloroethene	25.0	24.0		ug/L		96	70 - 130
Trichlorofluoromethane	25.0	30.8		ug/L		123	60 - 150

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: LCS 440-538292/5

Matrix: Water

Analysis Batch: 538292

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl acetate	25.0	24.6		ug/L		99	48 - 140
Vinyl chloride	25.0	27.8		ug/L		111	59 - 133
1,2-Dibromoethane (EDB)	25.0	25.1		ug/L		100	70 - 130
2-Butanone (MEK)	125	101		ug/L		81	44 - 150
4-Methyl-2-pentanone (MIBK)	125	134		ug/L		107	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

Lab Sample ID: 440-237134-1 MS

Matrix: Water

Analysis Batch: 538292

Client Sample ID: MW-1

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	26.1		ug/L		104	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	29.6		ug/L		119	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	24.4		ug/L		97	63 - 130
1,1,2-Trichloroethane	ND		25.0	24.4		ug/L		98	70 - 130
1,1-Dichloroethane	ND		25.0	25.9		ug/L		104	65 - 130
1,1-Dichloroethene	ND		25.0	27.8		ug/L		111	70 - 130
1,1-Dichloropropene	ND		25.0	27.3		ug/L		109	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.8		ug/L		103	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	23.5		ug/L		94	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.4		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	23.7		ug/L		95	56 - 146
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	23.9		ug/L		96	70 - 130
1,4-Dichlorobenzene	ND		25.0	27.2		ug/L		109	70 - 130
2,2-Dichloropropane	ND		25.0	31.1		ug/L		124	69 - 138
2-Hexanone	ND		125	157		ug/L		125	10 - 150
Acetone	ND		125	133		ug/L		107	10 - 150
Acrolein	ND		25.0	31.9		ug/L		127	10 - 147
Acrylonitrile	ND		250	256		ug/L		102	38 - 144
Benzene	ND		25.0	24.6		ug/L		99	66 - 130
Bromoform	ND		25.0	25.7		ug/L		103	59 - 150
Bromomethane	ND		25.0	27.2		ug/L		109	62 - 131
Carbon disulfide	ND		25.0	28.3		ug/L		113	49 - 140
Carbon tetrachloride	ND		25.0	30.8		ug/L		123	60 - 150
Chlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	26.2		ug/L		105	70 - 130
Chloroethane	ND		25.0	29.2		ug/L		117	68 - 130
Chloroform	ND		25.0	24.9		ug/L		99	70 - 130
Chloromethane	ND		25.0	29.4		ug/L		118	39 - 144
cis-1,2-Dichloroethene	ND		25.0	24.1		ug/L		97	70 - 130

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: 440-237134-1 MS
Matrix: Water
Analysis Batch: 538292

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 133
Dibromochloromethane	ND		25.0	25.0		ug/L		100	70 - 148
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130
Bromodichloromethane	ND		25.0	25.8		ug/L		103	70 - 138
Dichlorodifluoromethane	ND		25.0	27.4		ug/L		110	25 - 142
Ethylbenzene	ND		25.0	25.0		ug/L		100	70 - 130
m,p-Xylene	ND		25.0	25.2		ug/L		101	70 - 133
Methylene Chloride	ND		25.0	25.3		ug/L		101	52 - 130
Methyl tert-butyl ether	ND		25.0	20.6		ug/L		83	70 - 130
Naphthalene	ND		25.0	21.3		ug/L		85	60 - 140
o-Xylene	ND		25.0	24.9		ug/L		100	70 - 133
Styrene	ND		25.0	24.3		ug/L		97	29 - 150
t-Butanol	ND		250	306		ug/L		122	70 - 130
Tetrachloroethene	ND		25.0	28.8		ug/L		115	70 - 137
Toluene	ND		25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.4		ug/L		98	70 - 138
Trichloroethene	ND		25.0	26.3		ug/L		105	70 - 130
Trichlorofluoromethane	ND		25.0	34.1		ug/L		136	60 - 150
Vinyl acetate	ND		25.0	25.7		ug/L		103	23 - 150
Vinyl chloride	ND		25.0	30.3		ug/L		121	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	24.4		ug/L		98	70 - 131
2-Butanone (MEK)	ND		125	97.7		ug/L		78	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		125	130		ug/L		104	52 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	94		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132

Lab Sample ID: 440-237134-1 MSD
Matrix: Water
Analysis Batch: 538292

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2,3-Trichloropropane	ND		25.0	23.8		ug/L		95	60 - 130	9	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.9		ug/L		99	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	27.1		ug/L		109	70 - 130	9	20
1,1,2,2-Tetrachloroethane	ND		25.0	22.8		ug/L		91	63 - 130	7	30
1,1,2-Trichloroethane	ND		25.0	24.6		ug/L		98	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	24.0		ug/L		96	65 - 130	8	20
1,1-Dichloroethene	ND		25.0	24.4		ug/L		98	70 - 130	13	20
1,1-Dichloropropene	ND		25.0	24.3		ug/L		97	64 - 130	12	20
1,2,4-Trichlorobenzene	ND		25.0	24.3		ug/L		97	60 - 140	6	20
1,2-Dibromo-3-Chloropropane	ND		25.0	25.3		ug/L		101	48 - 140	7	30
1,2-Dichlorobenzene	ND		25.0	23.8		ug/L		95	70 - 130	6	20
1,2-Dichloroethane	ND		25.0	23.2		ug/L		93	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	23.6		ug/L		94	69 - 130	10	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: 440-237134-1 MSD

Matrix: Water

Analysis Batch: 538292

Client Sample ID: MW-1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130	4	20
1,3-Dichloropropane	ND		25.0	22.4		ug/L		90	70 - 130	7	25
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	10	20
2,2-Dichloropropane	ND		25.0	28.0		ug/L		112	69 - 138	10	25
2-Hexanone	ND		125	160		ug/L		128	10 - 150	2	35
Acetone	ND		125	133		ug/L		106	10 - 150	0	35
Acrolein	ND		25.0	31.4		ug/L		126	10 - 147	1	40
Acrylonitrile	ND		250	252		ug/L		101	38 - 144	2	40
Benzene	ND		25.0	22.8		ug/L		91	66 - 130	8	20
Bromoform	ND		25.0	24.9		ug/L		100	59 - 150	3	25
Bromomethane	ND		25.0	25.0		ug/L		100	62 - 131	8	25
Carbon disulfide	ND		25.0	25.4		ug/L		102	49 - 140	11	20
Carbon tetrachloride	ND		25.0	27.4		ug/L		110	60 - 150	12	25
Chlorobenzene	ND		25.0	23.4		ug/L		94	70 - 130	5	20
Bromochloromethane	ND		25.0	24.5		ug/L		98	70 - 130	7	25
Chloroethane	ND		25.0	25.5		ug/L		102	68 - 130	14	25
Chloroform	ND		25.0	23.4		ug/L		94	70 - 130	6	20
Chloromethane	ND		25.0	26.9		ug/L		107	39 - 144	9	25
cis-1,2-Dichloroethene	ND		25.0	22.7		ug/L		91	70 - 130	6	20
cis-1,3-Dichloropropene	ND		25.0	24.6		ug/L		98	70 - 133	3	20
Dibromochloromethane	ND		25.0	25.0		ug/L		100	70 - 148	0	25
Dibromomethane	ND		25.0	25.4		ug/L		101	70 - 130	0	25
Bromodichloromethane	ND		25.0	24.4		ug/L		97	70 - 138	6	20
Dichlorodifluoromethane	ND		25.0	24.3		ug/L		97	25 - 142	12	30
Ethylbenzene	ND		25.0	23.5		ug/L		94	70 - 130	6	20
m,p-Xylene	ND		25.0	23.7		ug/L		95	70 - 133	6	25
Methylene Chloride	ND		25.0	23.9		ug/L		96	52 - 130	6	20
Methyl tert-butyl ether	ND		25.0	19.9		ug/L		80	70 - 130	4	25
Naphthalene	ND		25.0	21.7		ug/L		87	60 - 140	2	30
o-Xylene	ND		25.0	23.0		ug/L		92	70 - 133	8	20
Styrene	ND		25.0	23.2		ug/L		93	29 - 150	4	35
t-Butanol	ND		250	296		ug/L		118	70 - 130	3	25
Tetrachloroethene	ND		25.0	26.8		ug/L		107	70 - 137	7	20
Toluene	ND		25.0	23.7		ug/L		95	70 - 130	4	20
trans-1,2-Dichloroethene	ND		25.0	23.2		ug/L		93	70 - 130	11	20
trans-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 138	2	25
Trichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	6	20
Trichlorofluoromethane	ND		25.0	29.9		ug/L		120	60 - 150	13	25
Vinyl acetate	ND		25.0	24.3		ug/L		97	23 - 150	6	30
Vinyl chloride	ND		25.0	27.0		ug/L		108	50 - 137	11	30
1,2-Dibromoethane (EDB)	ND		25.0	24.2		ug/L		97	70 - 131	1	25
2-Butanone (MEK)	ND		125	103		ug/L		83	48 - 140	6	40
4-Methyl-2-pentanone (MIBK)	ND		125	134		ug/L		107	52 - 150	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-536752/1-A
Matrix: Water
Analysis Batch: 536983

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 536752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/27/19 10:30	03/28/19 10:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		30 - 120				03/27/19 10:30	03/28/19 10:42	1

Lab Sample ID: LCS 440-536752/2-A
Matrix: Water
Analysis Batch: 536983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 536752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.26		ug/L		63	35 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	64		30 - 120				

Lab Sample ID: LCSD 440-536752/3-A
Matrix: Water
Analysis Batch: 536983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 536752

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.27		ug/L		63	35 - 120	1	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	63		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-537474/6
Matrix: Water
Analysis Batch: 537474

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			03/30/19 19:20	1

Lab Sample ID: LCS 440-537474/5
Matrix: Water
Analysis Batch: 537474

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	5.13		mg/L		103	90 - 110

Lab Sample ID: 440-237268-H-5 MS
Matrix: Water
Analysis Batch: 537474

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	14		25.0	39.3		mg/L		102	80 - 120

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-237268-H-5 MSD
Matrix: Water
Analysis Batch: 537474

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	14		25.0	39.6		mg/L		103	80 - 120	1	20

Lab Sample ID: MB 440-537476/6
Matrix: Water
Analysis Batch: 537476

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			03/30/19 18:40	1

Lab Sample ID: LCS 440-537476/5
Matrix: Water
Analysis Batch: 537476

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	4.94		mg/L		99	90 - 110

Lab Sample ID: 440-237555-E-6 MS
Matrix: Water
Analysis Batch: 537476

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	170	E	5.00	175	E 4	mg/L		9	80 - 120

Lab Sample ID: 440-237555-E-6 MSD
Matrix: Water
Analysis Batch: 537476

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	170	E	5.00	175	E 4	mg/L		15	80 - 120	0	20

Lab Sample ID: MB 440-537478/6
Matrix: Water
Analysis Batch: 537478

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			03/30/19 19:08	1

Lab Sample ID: LCS 440-537478/5
Matrix: Water
Analysis Batch: 537478

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	4.71		mg/L		94	90 - 110

Lab Sample ID: MB 440-537864/6
Matrix: Water
Analysis Batch: 537864

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			04/02/19 13:03	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 440-537864/5
Matrix: Water
Analysis Batch: 537864

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	4.64		mg/L		93	90 - 110

Lab Sample ID: 440-237134-6 MS
Matrix: Water
Analysis Batch: 537864

Client Sample ID: CM-10R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	9.4	F2 F1	50.0	54.8		mg/L		91	80 - 120

Lab Sample ID: 440-237134-6 MSD
Matrix: Water
Analysis Batch: 537864

Client Sample ID: CM-10R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.4	F2 F1	50.0	76.6	F1 F2	mg/L		134	80 - 120	33	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 440-237134-8 MS
Matrix: Water
Analysis Batch: 537478

Client Sample ID: MW-13R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride - DL	140		500	628		mg/L		97	80 - 120

Lab Sample ID: 440-237134-8 MSD
Matrix: Water
Analysis Batch: 537478

Client Sample ID: MW-13R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride - DL	140		500	630		mg/L		97	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-537592/1-A
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:01	1

Lab Sample ID: LCS 440-537592/2-A
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.89		mg/L		99	80 - 120

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

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

Lab Sample ID: 440-237133-J-1-B MS
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 537592
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Potassium	42		10.0	53.7	4	mg/L		117	75 - 125

Lab Sample ID: 440-237133-J-1-C MSD
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 537592
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Potassium	42		10.0	53.2	4	mg/L		112	75 - 125	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-537081/10
Matrix: Water
Analysis Batch: 537081

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			03/28/19 11:27	1

Lab Sample ID: LCS 440-537081/11
Matrix: Water
Analysis Batch: 537081

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	5.21		mg/L		104	90 - 110

Lab Sample ID: MRL 440-537081/9
Matrix: Water
Analysis Batch: 537081

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	0.172	J	mg/L		86	50 - 150

Lab Sample ID: 440-236918-H-1 MS
Matrix: Water
Analysis Batch: 537081

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND	F1	5.00	6.84	F1	mg/L		137	90 - 110

Lab Sample ID: 440-236918-H-1 MSD
Matrix: Water
Analysis Batch: 537081

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	Limit
Ammonia (as N)	ND	F1	5.00	6.93	F1	mg/L		139	90 - 110	1	15

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: 410.4 - COD

Lab Sample ID: MB 440-539246/3
Matrix: Water
Analysis Batch: 539246

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			04/09/19 14:15	1

Lab Sample ID: LCS 440-539246/4
Matrix: Water
Analysis Batch: 539246

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	201		mg/L		101	90 - 110

Lab Sample ID: 440-237239-A-8 MS
Matrix: Water
Analysis Batch: 539246

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	80		200	289		mg/L		105	70 - 120

Lab Sample ID: 440-237239-A-8 MSD
Matrix: Water
Analysis Batch: 539246

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	80		200	283		mg/L		101	70 - 120	2	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-536897/3
Matrix: Water
Analysis Batch: 536897

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			03/27/19 05:30	1

Lab Sample ID: MB 440-536897/30
Matrix: Water
Analysis Batch: 536897

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			03/27/19 10:20	1

Lab Sample ID: LCS 440-536897/2
Matrix: Water
Analysis Batch: 536897

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	98.8	99.8		mg/L		101	80 - 120

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 440-536897/29
Matrix: Water
Analysis Batch: 536897

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	98.8	100		mg/L		101	80 - 120

Lab Sample ID: 440-237109-H-2 DU
Matrix: Water
Analysis Batch: 536897

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	1200		1150		mg/L		0.2	20

Lab Sample ID: 440-237134-7 DU
Matrix: Water
Analysis Batch: 536897

Client Sample ID: CM-11R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	40		39.7		mg/L		0.5	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-537410/1
Matrix: Water
Analysis Batch: 537410

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			03/30/19 06:10	1

Lab Sample ID: LCS 440-537410/2
Matrix: Water
Analysis Batch: 537410

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	992		mg/L		99	90 - 110

Lab Sample ID: 440-237134-1 DU
Matrix: Water
Analysis Batch: 537410

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3000		2900		mg/L		2	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-537156/6
Matrix: Water
Analysis Batch: 537156

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			03/28/19 08:24	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-537156/5
Matrix: Water
Analysis Batch: 537156

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	10.2		mg/L		102	85 - 115

Lab Sample ID: MRL 440-537156/4
Matrix: Water
Analysis Batch: 537156

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	0.119		mg/L		119	50 - 150

Lab Sample ID: 580-84756-E-1 MS
Matrix: Water
Analysis Batch: 537156

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	0.77		10.0	11.7		mg/L		109	85 - 115

Lab Sample ID: 580-84756-E-1 MSD
Matrix: Water
Analysis Batch: 537156

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	0.77		10.0	11.2		mg/L		104	85 - 115	5	20

Lab Sample ID: MB 440-537291/6
Matrix: Water
Analysis Batch: 537291

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			03/29/19 05:41	1

Lab Sample ID: LCS 440-537291/5
Matrix: Water
Analysis Batch: 537291

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	9.83		mg/L		98	85 - 115

Lab Sample ID: MRL 440-537291/4
Matrix: Water
Analysis Batch: 537291

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	0.0547	J	mg/L		55	50 - 150

Lab Sample ID: 440-237268-G-2 MS
Matrix: Water
Analysis Batch: 537291

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	3.8		12.0	15.0		mg/L		94	85 - 115

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Method: SM 5310C - TOC

Lab Sample ID: 440-237268-G-2 MSD
Matrix: Water
Analysis Batch: 537291

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	3.8		12.0	15.4		mg/L		96	85 - 115	2	20

Lab Sample ID: MB 440-537787/6
Matrix: Water
Analysis Batch: 537787

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			04/01/19 05:51	1

Lab Sample ID: LCS 440-537787/5
Matrix: Water
Analysis Batch: 537787

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	9.43		mg/L		94	85 - 115

Lab Sample ID: MRL 440-537787/4
Matrix: Water
Analysis Batch: 537787

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	0.0903	J	mg/L		90	50 - 150

Lab Sample ID: 580-84838-I-1 MS
Matrix: Water
Analysis Batch: 537787

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	1.4		10.0	11.3		mg/L		99	85 - 115

Lab Sample ID: 580-84838-I-1 MSD
Matrix: Water
Analysis Batch: 537787

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	1.4		10.0	11.2		mg/L		99	85 - 115	1	20

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

GC/MS VOA

Analysis Batch: 536916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-9	Dup.	Total/NA	Water	8260B	
440-237134-10	Field Blank	Total/NA	Water	8260B	
440-237134-11	Trip Blank	Total/NA	Water	8260B	
MB 440-536916/4	Method Blank	Total/NA	Water	8260B	
LCS 440-536916/3	Lab Control Sample	Total/NA	Water	8260B	
440-237268-E-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-237268-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 536932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	8260B	
440-237134-2	MW-5	Total/NA	Water	8260B	
440-237134-3	DW-2	Total/NA	Water	8260B	
440-237134-4	DW-3	Total/NA	Water	8260B	
440-237134-5	CM-9R3	Total/NA	Water	8260B	
440-237134-6	CM-10R	Total/NA	Water	8260B	
440-237134-7	CM-11R	Total/NA	Water	8260B	
440-237134-8	MW-13R	Total/NA	Water	8260B	
MB 440-536932/7	Method Blank	Total/NA	Water	8260B	
LCS 440-536932/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-536932/5	Lab Control Sample Dup	Total/NA	Water	8260B	
440-237134-1 MS	MW-1	Total/NA	Water	8260B	
440-237134-1 MSD	MW-1	Total/NA	Water	8260B	

Analysis Batch: 538292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	8260B	
440-237134-2	MW-5	Total/NA	Water	8260B	
440-237134-3	DW-2	Total/NA	Water	8260B	
440-237134-4	DW-3	Total/NA	Water	8260B	
440-237134-5	CM-9R3	Total/NA	Water	8260B	
440-237134-6	CM-10R	Total/NA	Water	8260B	
440-237134-7	CM-11R	Total/NA	Water	8260B	
440-237134-8	MW-13R	Total/NA	Water	8260B	
440-237134-9	Dup.	Total/NA	Water	8260B	
440-237134-10	Field Blank	Total/NA	Water	8260B	
440-237134-11	Trip Blank	Total/NA	Water	8260B	
MB 440-538292/4	Method Blank	Total/NA	Water	8260B	
LCS 440-538292/5	Lab Control Sample	Total/NA	Water	8260B	
440-237134-1 MS	MW-1	Total/NA	Water	8260B	
440-237134-1 MSD	MW-1	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 536752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	3520C	
440-237134-2	MW-5	Total/NA	Water	3520C	
440-237134-3	DW-2	Total/NA	Water	3520C	
440-237134-4	DW-3	Total/NA	Water	3520C	
440-237134-5	CM-9R3	Total/NA	Water	3520C	

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

GC/MS Semi VOA (Continued)

Prep Batch: 536752 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-6	CM-10R	Total/NA	Water	3520C	
440-237134-7	CM-11R	Total/NA	Water	3520C	
440-237134-8	MW-13R	Total/NA	Water	3520C	
440-237134-9	Dup.	Total/NA	Water	3520C	
MB 440-536752/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-536752/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-536752/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 536983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	8270C	536752
440-237134-2	MW-5	Total/NA	Water	8270C	536752
440-237134-3	DW-2	Total/NA	Water	8270C	536752
440-237134-4	DW-3	Total/NA	Water	8270C	536752
440-237134-5	CM-9R3	Total/NA	Water	8270C	536752
440-237134-6	CM-10R	Total/NA	Water	8270C	536752
440-237134-7	CM-11R	Total/NA	Water	8270C	536752
440-237134-8	MW-13R	Total/NA	Water	8270C	536752
440-237134-9	Dup.	Total/NA	Water	8270C	536752
MB 440-536752/1-A	Method Blank	Total/NA	Water	8270C	536752
LCS 440-536752/2-A	Lab Control Sample	Total/NA	Water	8270C	536752
LCSD 440-536752/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	536752

HPLC/IC

Analysis Batch: 537474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	300.0	
440-237134-2	MW-5	Total/NA	Water	300.0	
MB 440-537474/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537474/5	Lab Control Sample	Total/NA	Water	300.0	
440-237268-H-5 MS	Matrix Spike	Total/NA	Water	300.0	
440-237268-H-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 537476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-5	CM-9R3	Total/NA	Water	300.0	
440-237134-9	Dup.	Total/NA	Water	300.0	
MB 440-537476/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537476/5	Lab Control Sample	Total/NA	Water	300.0	
440-237555-E-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-237555-E-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 537478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-7	CM-11R	Total/NA	Water	300.0	
440-237134-8 - DL	MW-13R	Total/NA	Water	300.0	
440-237134-8	MW-13R	Total/NA	Water	300.0	
MB 440-537478/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537478/5	Lab Control Sample	Total/NA	Water	300.0	
440-237134-8 MS - DL	MW-13R	Total/NA	Water	300.0	

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

HPLC/IC (Continued)

Analysis Batch: 537478 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-8 MSD - DL	MW-13R	Total/NA	Water	300.0	

Analysis Batch: 537864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-3	DW-2	Total/NA	Water	300.0	
440-237134-4	DW-3	Total/NA	Water	300.0	
440-237134-6	CM-10R	Total/NA	Water	300.0	
MB 440-537864/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537864/5	Lab Control Sample	Total/NA	Water	300.0	
440-237134-6 MS	CM-10R	Total/NA	Water	300.0	
440-237134-6 MSD	CM-10R	Total/NA	Water	300.0	

Metals

Prep Batch: 537592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total Recoverable	Water	3005A	
440-237134-2	MW-5	Total Recoverable	Water	3005A	
440-237134-3	DW-2	Total Recoverable	Water	3005A	
440-237134-4	DW-3	Total Recoverable	Water	3005A	
440-237134-5	CM-9R3	Total Recoverable	Water	3005A	
440-237134-6	CM-10R	Total Recoverable	Water	3005A	
440-237134-7	CM-11R	Total Recoverable	Water	3005A	
440-237134-8	MW-13R	Total Recoverable	Water	3005A	
440-237134-9	Dup.	Total Recoverable	Water	3005A	
MB 440-537592/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-537592/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-237133-J-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-237133-J-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 537756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total Recoverable	Water	6010B	537592
440-237134-2	MW-5	Total Recoverable	Water	6010B	537592
440-237134-3	DW-2	Total Recoverable	Water	6010B	537592
440-237134-4	DW-3	Total Recoverable	Water	6010B	537592
440-237134-5	CM-9R3	Total Recoverable	Water	6010B	537592
440-237134-6	CM-10R	Total Recoverable	Water	6010B	537592
440-237134-7	CM-11R	Total Recoverable	Water	6010B	537592
440-237134-8	MW-13R	Total Recoverable	Water	6010B	537592
440-237134-9	Dup.	Total Recoverable	Water	6010B	537592
MB 440-537592/1-A	Method Blank	Total Recoverable	Water	6010B	537592
LCS 440-537592/2-A	Lab Control Sample	Total Recoverable	Water	6010B	537592
440-237133-J-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	537592
440-237133-J-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	537592

General Chemistry

Analysis Batch: 536897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	SM 2320B	
440-237134-2	MW-5	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

General Chemistry (Continued)

Analysis Batch: 536897 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-3	DW-2	Total/NA	Water	SM 2320B	
440-237134-4	DW-3	Total/NA	Water	SM 2320B	
440-237134-5	CM-9R3	Total/NA	Water	SM 2320B	
440-237134-6	CM-10R	Total/NA	Water	SM 2320B	
440-237134-7	CM-11R	Total/NA	Water	SM 2320B	
440-237134-8	MW-13R	Total/NA	Water	SM 2320B	
440-237134-9	Dup.	Total/NA	Water	SM 2320B	
MB 440-536897/3	Method Blank	Total/NA	Water	SM 2320B	
MB 440-536897/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-536897/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 440-536897/29	Lab Control Sample	Total/NA	Water	SM 2320B	
440-237109-H-2 DU	Duplicate	Total/NA	Water	SM 2320B	
440-237134-7 DU	CM-11R	Total/NA	Water	SM 2320B	

Analysis Batch: 537081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	350.1	
440-237134-2	MW-5	Total/NA	Water	350.1	
440-237134-3	DW-2	Total/NA	Water	350.1	
440-237134-4	DW-3	Total/NA	Water	350.1	
440-237134-5	CM-9R3	Total/NA	Water	350.1	
440-237134-6	CM-10R	Total/NA	Water	350.1	
440-237134-7	CM-11R	Total/NA	Water	350.1	
440-237134-8	MW-13R	Total/NA	Water	350.1	
440-237134-9	Dup.	Total/NA	Water	350.1	
MB 440-537081/10	Method Blank	Total/NA	Water	350.1	
LCS 440-537081/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-537081/9	Lab Control Sample	Total/NA	Water	350.1	
440-236918-H-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-236918-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 537156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-3	DW-2	Total/NA	Water	SM 5310C	
440-237134-4	DW-3	Total/NA	Water	SM 5310C	
440-237134-5	CM-9R3	Total/NA	Water	SM 5310C	
440-237134-6	CM-10R	Total/NA	Water	SM 5310C	
440-237134-7	CM-11R	Total/NA	Water	SM 5310C	
MB 440-537156/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537156/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-537156/4	Lab Control Sample	Total/NA	Water	SM 5310C	
580-84756-E-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
580-84756-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 537291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	SM 5310C	
440-237134-2	MW-5	Total/NA	Water	SM 5310C	
440-237134-8	MW-13R	Total/NA	Water	SM 5310C	
MB 440-537291/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537291/5	Lab Control Sample	Total/NA	Water	SM 5310C	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

General Chemistry (Continued)

Analysis Batch: 537291 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 440-537291/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-237268-G-2 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-237268-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 537410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	SM 2540C	
440-237134-2	MW-5	Total/NA	Water	SM 2540C	
440-237134-3	DW-2	Total/NA	Water	SM 2540C	
440-237134-4	DW-3	Total/NA	Water	SM 2540C	
440-237134-5	CM-9R3	Total/NA	Water	SM 2540C	
440-237134-6	CM-10R	Total/NA	Water	SM 2540C	
440-237134-7	CM-11R	Total/NA	Water	SM 2540C	
440-237134-8	MW-13R	Total/NA	Water	SM 2540C	
440-237134-9	Dup.	Total/NA	Water	SM 2540C	
MB 440-537410/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-537410/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-237134-1 DU	MW-1	Total/NA	Water	SM 2540C	

Analysis Batch: 537787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-9	Dup.	Total/NA	Water	SM 5310C	
MB 440-537787/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537787/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-537787/4	Lab Control Sample	Total/NA	Water	SM 5310C	
580-84838-I-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
580-84838-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 539246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237134-1	MW-1	Total/NA	Water	410.4	
440-237134-2	MW-5	Total/NA	Water	410.4	
440-237134-3	DW-2	Total/NA	Water	410.4	
440-237134-4	DW-3	Total/NA	Water	410.4	
440-237134-5	CM-9R3	Total/NA	Water	410.4	
440-237134-6	CM-10R	Total/NA	Water	410.4	
440-237134-7	CM-11R	Total/NA	Water	410.4	
440-237134-8	MW-13R	Total/NA	Water	410.4	
440-237134-9	Dup.	Total/NA	Water	410.4	
MB 440-539246/3	Method Blank	Total/NA	Water	410.4	
LCS 440-539246/4	Lab Control Sample	Total/NA	Water	410.4	
440-237239-A-8 MS	Matrix Spike	Total/NA	Water	410.4	
440-237239-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
ID	Analyte identified by RT & presence of single mass ion
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	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237134-1

Laboratory: Eurofins 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. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

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

Chain of Custody Record 207199

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (0719)

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: Geo-Logic Republic Address: 11415 W. San Antonio Ct. City/State/Zip: S. D. CA 92727 Phone: 858-431-1156 Fax: 858-431-1087 Project Name: Republic Services Site: Sunshine Gun Landfill P.O.#		Project Manager: Kyle Melchior Tel/Fax: 858-431-1156 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: J. Mills Lab Contact: Kossing Date: 3-26-19 Carrier: TIA		COC No: 1 of 1 COCS Sampler: PS, MR For Lab Use Only: Walk-in Client: Lab Sampling Job / SDG No.: PREPARE AND USE FIELD SAMPLES											
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	VOCs (826)	826 1,4-Dioxane	TKI Alkalinity	Ammonia (as N)	CO2 (Grav)	Chloride (Grav)	Total Phosphorus	TDS (601)	TC (415.1)	Sample Specific Notes
MW-1	3/26/19	1008	G	FW	12	X	X	X	X	X	X	X	X	X	X	X	
MW-5		0916			12	X	X	X	X	X	X	X	X	X	X	X	
DW-2		1145			12	X	X	X	X	X	X	X	X	X	X	X	
DW-3		1327			12	X	X	X	X	X	X	X	X	X	X	X	
CM-9R3		1019			12	X	X	X	X	X	X	X	X	X	X	X	
CM-10R		1153			12	X	X	X	X	X	X	X	X	X	X	X	
CM-11R		0835			12	X	X	X	X	X	X	X	X	X	X	X	
MW-13R		1344			12	X	X	X	X	X	X	X	X	X	X	X	
Dup.					12	X	X	X	X	X	X	X	X	X	X	X	
Field Blank					4	X	X	X	X	X	X	X	X	X	X	X	
Tri Blank					4	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

Special Instructions/QC Requirements & Comments: 8260 includes all 40 CFR Part 258 Appendix I VOCs - Dichlorodifluoromethane and MTBE.

Custody Seal No.: Yes No

Relinquished by: [Signature] Date/Time: 3/26/19 1420
 Relinquished by: [Signature] Date/Time: 3/26/19 1639

Company: SCS - VSSC
 Company: TH 12V

Received by: [Signature] Date/Time: 4/3/19 1639
 Received in Laboratory by: [Signature] Date/Time: 5/1/19 21:31

Company: TH 12V
 Company: TH 12V

Therm ID No.: 22-87

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-237134-1

Login Number: 237134

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-237268-1

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:
4/10/2019 9:56:13 PM

Urvashi Patel, Manager of Project Management
(949)260-3269
urvashi.patel@testamericainc.com

Designee for

Rossina Tomova, Project Manager I
(949)260-3276
rossina.tomova@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-237268-1	DW-1	Water	03/27/19 10:15	03/27/19 17:20
440-237268-2	MW-2A	Water	03/27/19 08:50	03/27/19 17:20
440-237268-3	MW-2B	Water	03/27/19 09:58	03/27/19 17:20
440-237268-4	MW-9	Water	03/27/19 13:09	03/27/19 17:20
440-237268-5	DW-4	Water	03/27/19 10:52	03/27/19 17:20
440-237268-6	Field Blank	Water	03/27/19 00:01	03/27/19 17:20
440-237268-7	Trip Blank	Water	03/27/19 00:01	03/27/19 17:20



Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Job ID: 440-237268-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative
440-237268-1

Comments

No additional comments.

Receipt

The samples were received on 3/27/2019 5:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.9° C and 4.4° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described 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 matrix spike / matrix spike duplicate (MS/MSD) precision for batch 440-537864 was outside control limits for the following analyte: Chloride. (440-237134-H-6 MSD)

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 440-537756 contained Potassium above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL).(CCB 440-537756/25)

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) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-536996. 8270C-1,4-DXN. LCS was performed in duplicate to provide precision of data.

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 Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-1
Date Collected: 03/27/19 10:15
Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-1
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			04/04/19 15:14	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Acrolein	ND		50	2.5	ug/L			03/28/19 15:02	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 15:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 15:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 15:14	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 15:14	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 15:14	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 15:14	1
Acetone	ND		20	10	ug/L			04/04/19 15:14	1
Acetonitrile	ND		20	10	ug/L			04/04/19 15:14	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 15:14	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 15:14	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 15:14	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 15:14	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 15:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 15:14	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 15:14	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 15:14	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 15:14	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 15:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 15:14	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 15:14	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 15:14	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-1

Lab Sample ID: 440-237268-1

Date Collected: 03/27/19 10:15

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 15:14	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 15:14	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Propionitrile	ND		20	10	ug/L			04/04/19 15:14	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 15:14	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 15:14	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 15:14	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 15:14	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 15:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 15:14	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 15:14	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 15:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 15:14	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	920	T J	ug/L		2.19			04/04/19 15:14	1
Unknown	11	T J	ug/L		6.72			04/04/19 15:14	1
Unknown	27	T J	ug/L		15.74			04/04/19 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		03/28/19 15:02	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/28/19 15:02	1
Toluene-d8 (Surr)	105		80 - 128		04/04/19 15:14	1
4-Bromofluorobenzene (Surr)	89		80 - 120		04/04/19 15:14	1
Dibromofluoromethane (Surr)	101		76 - 132		03/28/19 15:02	1
Dibromofluoromethane (Surr)	111		76 - 132		04/04/19 15:14	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		03/28/19 10:24	03/29/19 19:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	03/28/19 10:24	03/29/19 19:56	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			03/30/19 22:57	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.4		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 17:06	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-1
Date Collected: 03/27/19 10:15
Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			04/10/19 12:17	1
Total Dissolved Solids	3200		50	25	mg/L			04/03/19 09:24	1
Ammonia (as N)	2.0		0.50	0.10	mg/L		03/28/19 04:30	03/28/19 09:00	1
Total Organic Carbon	3.0		0.10	0.050	mg/L			03/28/19 09:32	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	540		4.0	4.0	mg/L			03/28/19 05:32	1

Client Sample ID: MW-2A
Date Collected: 03/27/19 08:50
Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-2
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			04/04/19 15:39	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Acrolein	ND		50	2.5	ug/L			03/28/19 15:27	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 15:27	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 15:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 15:39	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 15:39	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 15:39	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 15:39	1
Acetone	ND		20	10	ug/L			04/04/19 15:39	1
Acetonitrile	ND		20	10	ug/L			04/04/19 15:39	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 15:39	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 15:39	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 15:39	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 15:39	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 15:39	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 15:39	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:39	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-2A

Lab Sample ID: 440-237268-2

Date Collected: 03/27/19 08:50

Matrix: Water

Date Received: 03/27/19 17:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 15:39	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 15:39	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 15:39	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 15:39	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 15:39	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 15:39	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 15:39	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 15:39	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 15:39	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Propionitrile	ND		20	10	ug/L			04/04/19 15:39	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 15:39	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 15:39	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 15:39	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 15:39	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 15:39	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 15:39	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 15:39	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 15:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 15:39	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	920	TJ	ug/L		2.19			04/04/19 15:39	1
Unknown	11	TJ	ug/L		6.72			04/04/19 15:39	1
Unknown	28	TJ	ug/L		15.73			04/04/19 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 15:27	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 15:27	1
Toluene-d8 (Surr)	99		80 - 128		04/04/19 15:39	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/04/19 15:39	1
Dibromofluoromethane (Surr)	100		76 - 132		03/28/19 15:27	1
Dibromofluoromethane (Surr)	110		76 - 132		04/04/19 15:39	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		03/28/19 10:24	03/29/19 20:19	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-2A

Date Collected: 03/27/19 08:50

Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	03/28/19 10:24	03/29/19 20:19	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		2.5	1.3	mg/L			03/30/19 23:12	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	6.2		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 17:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 10:11	1
Total Dissolved Solids	2600		20	10	mg/L			04/03/19 09:24	1
Ammonia (as N)	2.9		0.50	0.10	mg/L		03/28/19 04:30	03/28/19 09:00	1
Total Organic Carbon	3.8		0.10	0.050	mg/L			03/29/19 05:58	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	370		4.0	4.0	mg/L			03/28/19 05:42	1

Client Sample ID: MW-2B

Date Collected: 03/27/19 09:58

Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-3

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			04/04/19 16:04	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Acrolein	ND		50	2.5	ug/L			03/28/19 15:52	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 15:52	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 16:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 16:04	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 16:04	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 16:04	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 16:04	1
Acetone	ND		20	10	ug/L			04/04/19 16:04	1
Acetonitrile	ND		20	10	ug/L			04/04/19 16:04	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 16:04	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 16:04	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 16:04	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-2B

Lab Sample ID: 440-237268-3

Date Collected: 03/27/19 09:58

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:04	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 16:04	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 16:04	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 16:04	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 16:04	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 16:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 16:04	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 16:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 16:04	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 16:04	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 16:04	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 16:04	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 16:04	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Propionitrile	ND		20	10	ug/L			04/04/19 16:04	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 16:04	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 16:04	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 16:04	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 16:04	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 16:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 16:04	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 16:04	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 16:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 16:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	890	TJ	ug/L		2.17			04/04/19 16:04	1
Unknown	10	TJ	ug/L		6.72			04/04/19 16:04	1
Unknown	27	TJ	ug/L		15.72			04/04/19 16:04	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-2B

Lab Sample ID: 440-237268-3

Date Collected: 03/27/19 09:58

Matrix: Water

Date Received: 03/27/19 17:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		03/28/19 15:52	1
4-Bromofluorobenzene (Surr)	100		80 - 120		03/28/19 15:52	1
Toluene-d8 (Surr)	100		80 - 128		04/04/19 16:04	1
4-Bromofluorobenzene (Surr)	93		80 - 120		04/04/19 16:04	1
Dibromofluoromethane (Surr)	99		76 - 132		03/28/19 15:52	1
Dibromofluoromethane (Surr)	105		76 - 132		04/04/19 16:04	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		03/28/19 10:24	03/29/19 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		30 - 120	03/28/19 10:24	03/29/19 20:41	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			03/30/19 23:27	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.6		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 17:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			04/10/19 12:17	1
Total Dissolved Solids	2500		20	10	mg/L			04/03/19 09:24	1
Ammonia (as N)	3.2		0.50	0.10	mg/L		03/28/19 04:30	03/28/19 09:00	1
Total Organic Carbon	1.6		0.10	0.050	mg/L			03/29/19 06:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		4.0	4.0	mg/L			03/28/19 05:51	1

Client Sample ID: MW-9

Lab Sample ID: 440-237268-4

Date Collected: 03/27/19 13:09

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:30	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Acrolein	ND	F1	50	2.5	ug/L			03/28/19 12:33	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 12:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 16:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 16:30	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-9

Lab Sample ID: 440-237268-4

Date Collected: 03/27/19 13:09

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:30	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,4-Dichlorobenzene	0.57		0.50	0.25	ug/L			04/04/19 16:30	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 16:30	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 16:30	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 16:30	1
Acetone	ND		20	10	ug/L			04/04/19 16:30	1
Acetonitrile	ND		20	10	ug/L			04/04/19 16:30	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 16:30	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 16:30	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 16:30	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 16:30	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 16:30	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 16:30	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
cis-1,2-Dichloroethene	1.1		0.50	0.25	ug/L			04/04/19 16:30	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 16:30	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 16:30	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 16:30	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 16:30	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 16:30	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 16:30	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 16:30	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 16:30	1
Methyl tert-butyl ether	0.56		0.50	0.25	ug/L			04/04/19 16:30	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 16:30	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Propionitrile	ND		20	10	ug/L			04/04/19 16:30	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
t-Butanol	38		10	5.0	ug/L			04/04/19 16:30	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 16:30	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:30	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 16:30	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:30	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-9

Lab Sample ID: 440-237268-4

Date Collected: 03/27/19 13:09

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:30	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 16:30	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 16:30	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 16:30	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 16:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 16:30	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1200	T J	ug/L		2.17			04/04/19 16:30	1
Unknown	10	T J	ug/L		6.73			04/04/19 16:30	1
Unknown	24	T J	ug/L		15.74			04/04/19 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 12:33	1
4-Bromofluorobenzene (Surr)	99		80 - 120		03/28/19 12:33	1
Toluene-d8 (Surr)	102		80 - 128		04/04/19 16:30	1
4-Bromofluorobenzene (Surr)	91		80 - 120		04/04/19 16:30	1
Dibromofluoromethane (Surr)	100		76 - 132		03/28/19 12:33	1
Dibromofluoromethane (Surr)	106		76 - 132		04/04/19 16:30	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	22		0.98	0.25	ug/L		03/28/19 10:24	03/29/19 21:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	03/28/19 10:24	03/29/19 21:03	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		50	25	mg/L			04/02/19 21:39	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	27		0.50	0.25	mg/L		04/01/19 07:57	04/01/19 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	83		20	10	mg/L			04/10/19 12:17	1
Total Dissolved Solids	3800		50	25	mg/L			04/03/19 09:24	1
Ammonia (as N)	8.1		5.0	1.0	mg/L		03/28/19 04:30	03/28/19 09:00	1
Total Organic Carbon	41		0.50	0.25	mg/L			03/29/19 09:54	5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	890		4.0	4.0	mg/L			03/28/19 06:07	1

Client Sample ID: DW-4

Lab Sample ID: 440-237268-5

Date Collected: 03/27/19 10:52

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:55	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-4

Lab Sample ID: 440-237268-5

Date Collected: 03/27/19 10:52

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:55	1
Acrolein	ND		50	2.5	ug/L			03/28/19 16:17	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 16:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 16:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 16:55	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 16:55	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 16:55	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 16:55	1
Acetone	ND		20	10	ug/L			04/04/19 16:55	1
Acetonitrile	ND		20	10	ug/L			04/04/19 16:55	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 16:55	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 16:55	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 16:55	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 16:55	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 16:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 16:55	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 16:55	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 16:55	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 16:55	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 16:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 16:55	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 16:55	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 16:55	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 16:55	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-4

Lab Sample ID: 440-237268-5

Date Collected: 03/27/19 10:52

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 16:55	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 16:55	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Propionitrile	ND		20	10	ug/L			04/04/19 16:55	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 16:55	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 16:55	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 16:55	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 16:55	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 16:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 16:55	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 16:55	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 16:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 16:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	870	T J	ug/L		2.17			04/04/19 16:55	1
Unknown	10	T J	ug/L		6.72			04/04/19 16:55	1
Unknown	23	T J	ug/L		15.73			04/04/19 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 16:17	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 16:17	1
Toluene-d8 (Surr)	103		80 - 128		04/04/19 16:55	1
4-Bromofluorobenzene (Surr)	94		80 - 120		04/04/19 16:55	1
Dibromofluoromethane (Surr)	99		76 - 132		03/28/19 16:17	1
Dibromofluoromethane (Surr)	107		76 - 132		04/04/19 16:55	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.24	ug/L		03/28/19 10:24	03/29/19 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	57		30 - 120	03/28/19 10:24	03/29/19 21:26	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			03/30/19 23:57	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.5		0.50	0.25	mg/L		04/01/19 07:57	04/01/19 18:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			04/10/19 12:18	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-4

Lab Sample ID: 440-237268-5

Date Collected: 03/27/19 10:52

Matrix: Water

Date Received: 03/27/19 17:20

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900		20	10	mg/L			04/03/19 09:24	1
Ammonia (as N)	3.8		0.50	0.10	mg/L		03/28/19 04:30	03/28/19 09:00	1
Total Organic Carbon	1.8		0.10	0.050	mg/L			03/28/19 09:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			03/28/19 06:21	1

Client Sample ID: Field Blank

Lab Sample ID: 440-237268-6

Date Collected: 03/27/19 00:01

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 17:20	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Acrolein	ND		50	2.5	ug/L			03/28/19 16:42	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 16:42	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 17:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 17:20	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 17:20	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 17:20	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 17:20	1
Acetone	ND		20	10	ug/L			04/04/19 17:20	1
Acetonitrile	ND		20	10	ug/L			04/04/19 17:20	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 17:20	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 17:20	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 17:20	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 17:20	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 17:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 17:20	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 17:20	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: Field Blank

Lab Sample ID: 440-237268-6

Date Collected: 03/27/19 00:01

Matrix: Water

Date Received: 03/27/19 17:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 17:20	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 17:20	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 17:20	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 17:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 17:20	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 17:20	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 17:20	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 17:20	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 17:20	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Propionitrile	ND		20	10	ug/L			04/04/19 17:20	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 17:20	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 17:20	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 17:20	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 17:20	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 17:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 17:20	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 17:20	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 17:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 17:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	100	T J	ug/L		2.19			04/04/19 17:20	1
Unknown	11	T J	ug/L		6.72			04/04/19 17:20	1
Unknown	15	T J	ug/L		14.06			04/04/19 17:20	1
Unknown	7.4	T J	ug/L		15.73			04/04/19 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 16:42	1
4-Bromofluorobenzene (Surr)	97		80 - 120		03/28/19 16:42	1
Toluene-d8 (Surr)	97		80 - 128		04/04/19 17:20	1
4-Bromofluorobenzene (Surr)	89		80 - 120		04/04/19 17:20	1
Dibromofluoromethane (Surr)	101		76 - 132		03/28/19 16:42	1
Dibromofluoromethane (Surr)	105		76 - 132		04/04/19 17:20	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237268-7

Date Collected: 03/27/19 00:01

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 17:46	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Acrolein	ND		50	2.5	ug/L			03/28/19 17:06	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 17:06	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 17:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 17:46	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 17:46	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 17:46	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 17:46	1
Acetone	ND		20	10	ug/L			04/04/19 17:46	1
Acetonitrile	ND		20	10	ug/L			04/04/19 17:46	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 17:46	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 17:46	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 17:46	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 17:46	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 17:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 17:46	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 17:46	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 17:46	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 17:46	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 17:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 17:46	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 17:46	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 17:46	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237268-7

Date Collected: 03/27/19 00:01

Matrix: Water

Date Received: 03/27/19 17:20

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			04/04/19 17:46	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 17:46	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Propionitrile	ND		20	10	ug/L			04/04/19 17:46	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 17:46	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 17:46	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 17:46	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 17:46	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 17:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 17:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 17:46	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 17:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 17:46	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	81	TJ	ug/L		2.18			04/04/19 17:46	1
Unknown	11	TJ	ug/L		6.72			04/04/19 17:46	1
Unknown	9.7	TJ	ug/L		14.06			04/04/19 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		03/28/19 17:06	1
4-Bromofluorobenzene (Surr)	98		80 - 120		03/28/19 17:06	1
Toluene-d8 (Surr)	100		80 - 128		04/04/19 17:46	1
4-Bromofluorobenzene (Surr)	92		80 - 120		04/04/19 17:46	1
Dibromofluoromethane (Surr)	100		76 - 132		03/28/19 17:06	1
Dibromofluoromethane (Surr)	111		76 - 132		04/04/19 17:46	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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
410.4	COD	MCAWW	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV
SM 4500 NH3 D	Ammonia	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
SM 4500 NH3 B	Distillation, Ammonia	SM	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 = Eurofins 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

Job ID: 440-237268-1

Client Sample ID: DW-1

Lab Sample ID: 440-237268-1

Date Collected: 03/27/19 10:15

Matrix: Water

Date Received: 03/27/19 17:20

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	536916	03/28/19 15:02	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 15:14	WC	TAL IRV
Total/NA	Prep	3520C			1000 mL	1.0 mL	536996	03/28/19 10:24	JAA	TAL IRV
Total/NA	Analysis	8270C		1			537317	03/29/19 19:56	L1B	TAL IRV
Total/NA	Analysis	300.0		5			537474	03/30/19 22:57	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 17:06	P1R	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539471	04/10/19 12:17	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536928	03/28/19 05:32	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	538061	04/03/19 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	536939	03/28/19 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			536961	03/28/19 09:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 09:32	YZ	TAL IRV

Client Sample ID: MW-2A

Lab Sample ID: 440-237268-2

Date Collected: 03/27/19 08:50

Matrix: Water

Date Received: 03/27/19 17:20

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	536916	03/28/19 15:27	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 15:39	WC	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	536996	03/28/19 10:24	JAA	TAL IRV
Total/NA	Analysis	8270C		1			537317	03/29/19 20:19	L1B	TAL IRV
Total/NA	Analysis	300.0		5			537474	03/30/19 23:12	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 17:08	P1R	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539184	04/09/19 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536928	03/28/19 05:42	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	538061	04/03/19 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	536939	03/28/19 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			536961	03/28/19 09:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 05:58	YZ	TAL IRV

Client Sample ID: MW-2B

Lab Sample ID: 440-237268-3

Date Collected: 03/27/19 09:58

Matrix: Water

Date Received: 03/27/19 17:20

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	536916	03/28/19 15:52	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 16:04	WC	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: MW-2B

Date Collected: 03/27/19 09:58

Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-3

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	536996	03/28/19 10:24	JAA	TAL IRV
Total/NA	Analysis	8270C		1			537317	03/29/19 20:41	L1B	TAL IRV
Total/NA	Analysis	300.0		5			537474	03/30/19 23:27	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537592	04/01/19 07:52	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537756	04/01/19 17:10	P1R	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539471	04/10/19 12:17	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536928	03/28/19 05:51	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	538061	04/03/19 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	536939	03/28/19 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			536961	03/28/19 09:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 06:10	YZ	TAL IRV

Client Sample ID: MW-9

Date Collected: 03/27/19 13:09

Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-4

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	536916	03/28/19 12:33	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 16:30	WC	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	536996	03/28/19 10:24	JAA	TAL IRV
Total/NA	Analysis	8270C		1			537317	03/29/19 21:03	L1B	TAL IRV
Total/NA	Analysis	300.0		100			537864	04/02/19 21:39	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537593	04/01/19 07:57	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537780	04/01/19 18:56	P1R	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539471	04/10/19 12:17	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536928	03/28/19 06:07	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	538061	04/03/19 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			5.0 mL	50 mL	536939	03/28/19 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			536961	03/28/19 09:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	537291	03/29/19 09:54	YZ	TAL IRV

Client Sample ID: DW-4

Date Collected: 03/27/19 10:52

Date Received: 03/27/19 17:20

Lab Sample ID: 440-237268-5

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	536916	03/28/19 16:17	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 16:55	WC	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	536996	03/28/19 10:24	JAA	TAL IRV
Total/NA	Analysis	8270C		1			537317	03/29/19 21:26	L1B	TAL IRV
Total/NA	Analysis	300.0		5			537474	03/30/19 23:57	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537593	04/01/19 07:57	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537780	04/01/19 18:47	P1R	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Client Sample ID: DW-4

Lab Sample ID: 440-237268-5

Date Collected: 03/27/19 10:52

Matrix: Water

Date Received: 03/27/19 17:20

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	539471	04/10/19 12:18	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			536928	03/28/19 06:21	YZ	TAL IRV
Total/NA	Analysis	SM 2320B		1			536928	03/28/19 06:21	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	538061	04/03/19 09:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	536939	03/28/19 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			536961	03/28/19 09:00	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537156	03/28/19 09:44	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-237268-6

Date Collected: 03/27/19 00:01

Matrix: Water

Date Received: 03/27/19 17:20

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	536916	03/28/19 16:42	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 17:20	WC	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-237268-7

Date Collected: 03/27/19 00:01

Matrix: Water

Date Received: 03/27/19 17:20

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	536916	03/28/19 17:06	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	538292	04/04/19 17:46	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: MB 440-536916/4
Matrix: Water
Analysis Batch: 536916

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			03/28/19 08:16	1
Acrylonitrile	ND		50	1.0	ug/L			03/28/19 08:16	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128					03/28/19 08:16	1
4-Bromofluorobenzene (Surr)	98		80 - 120					03/28/19 08:16	1
Dibromofluoromethane (Surr)	99		76 - 132					03/28/19 08:16	1

Lab Sample ID: LCS 440-536916/3
Matrix: Water
Analysis Batch: 536916

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	31.1	J	ug/L		125	10 - 145
Acrylonitrile	250	235		ug/L		94	48 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)	97		80 - 128				
4-Bromofluorobenzene (Surr)	97		80 - 120				
Dibromofluoromethane (Surr)	98		76 - 132				

Lab Sample ID: 440-237268-4 MS
Matrix: Water
Analysis Batch: 536916

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
Acrolein	ND	F1	25.0	30.8	J	ug/L		123	10 - 147
Acrylonitrile	ND		250	237		ug/L		95	38 - 144
Surrogate	MS %Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	98		80 - 128						
4-Bromofluorobenzene (Surr)	98		80 - 120						
Dibromofluoromethane (Surr)	98		76 - 132						

Lab Sample ID: 440-237268-4 MSD
Matrix: Water
Analysis Batch: 536916

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
Acrolein	ND	F1	25.0	42.6	J F1	ug/L		171	10 - 147	32	40
Acrylonitrile	ND		250	300		ug/L		120	38 - 144	23	40
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Toluene-d8 (Surr)	96		80 - 128								
4-Bromofluorobenzene (Surr)	98		80 - 120								
Dibromofluoromethane (Surr)	100		76 - 132								

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: MB 440-538292/4
Matrix: Water
Analysis Batch: 538292

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			04/04/19 08:03	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/04/19 08:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/04/19 08:03	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/04/19 08:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/04/19 08:03	1
2-Hexanone	ND		5.0	2.5	ug/L			04/04/19 08:03	1
Acetone	ND		20	10	ug/L			04/04/19 08:03	1
Acetonitrile	ND		20	10	ug/L			04/04/19 08:03	1
Acrolein	ND		5.0	2.5	ug/L			04/04/19 08:03	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Benzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Allyl chloride	ND		1.0	0.50	ug/L			04/04/19 08:03	1
Bromoform	ND		1.0	0.40	ug/L			04/04/19 08:03	1
Bromomethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/04/19 08:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Chloroethane	ND		1.0	0.40	ug/L			04/04/19 08:03	1
Chloroform	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Chloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Dibromomethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/04/19 08:03	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Iodomethane	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Isobutyl alcohol	ND		25	13	ug/L			04/04/19 08:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/04/19 08:03	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/04/19 08:03	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/04/19 08:03	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/04/19 08:03	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: MB 440-538292/4
Matrix: Water
Analysis Batch: 538292

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			04/04/19 08:03	1
Naphthalene	ND		1.0	0.40	ug/L			04/04/19 08:03	1
o-Xylene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Propionitrile	ND		20	10	ug/L			04/04/19 08:03	1
Styrene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
t-Butanol	ND		10	5.0	ug/L			04/04/19 08:03	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/04/19 08:03	1
Toluene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/04/19 08:03	1
Trichloroethene	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/04/19 08:03	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/04/19 08:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/04/19 08:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/04/19 08:03	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/04/19 08:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/04/19 08:03	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					04/04/19 08:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		04/04/19 08:03	1
4-Bromofluorobenzene (Surr)	90		80 - 120		04/04/19 08:03	1
Dibromofluoromethane (Surr)	103		76 - 132		04/04/19 08:03	1

Lab Sample ID: LCS 440-538292/5
Matrix: Water
Analysis Batch: 538292

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	25.8		ug/L		103	63 - 130
1,1,1,2-Tetrachloroethane	25.0	25.7		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	27.3		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.4		ug/L		98	63 - 130
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	24.1		ug/L		96	64 - 130
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130
1,1-Dichloropropene	25.0	25.2		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	25.0	23.8		ug/L		95	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	23.2		ug/L		93	52 - 140
1,2-Dichlorobenzene	25.0	24.8		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	23.6		ug/L		94	57 - 138
1,2-Dichloropropane	25.0	23.1		ug/L		93	67 - 130
1,3-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	25.5		ug/L		102	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: LCS 440-538292/5

Matrix: Water

Analysis Batch: 538292

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	26.5		ug/L		106	70 - 130
2,2-Dichloropropane	25.0	28.1		ug/L		112	68 - 141
2-Hexanone	125	162		ug/L		130	10 - 150
Acetone	125	131		ug/L		104	10 - 150
Acrolein	25.0	28.7		ug/L		115	10 - 145
Acrylonitrile	250	249		ug/L		100	48 - 140
Benzene	25.0	23.4		ug/L		94	68 - 130
Bromoform	25.0	27.0		ug/L		108	60 - 148
Bromomethane	25.0	26.0		ug/L		104	64 - 139
Carbon disulfide	25.0	26.3		ug/L		105	52 - 136
Carbon tetrachloride	25.0	27.2		ug/L		109	60 - 150
Chlorobenzene	25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	25.0	24.6		ug/L		98	70 - 130
Chloroethane	25.0	26.7		ug/L		107	64 - 135
Chloroform	25.0	24.3		ug/L		97	70 - 130
Chloromethane	25.0	28.7		ug/L		115	47 - 140
cis-1,2-Dichloroethene	25.0	22.7		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 133
Dibromochloromethane	25.0	25.7		ug/L		103	69 - 145
Dibromomethane	25.0	25.4		ug/L		101	70 - 130
Bromodichloromethane	25.0	25.0		ug/L		100	70 - 132
Dichlorodifluoromethane	25.0	26.2		ug/L		105	29 - 150
Ethylbenzene	25.0	24.8		ug/L		99	70 - 130
m,p-Xylene	25.0	25.8		ug/L		103	70 - 130
Methylene Chloride	25.0	23.9		ug/L		95	52 - 130
Methyl tert-butyl ether	25.0	19.5		ug/L		78	63 - 131
Naphthalene	25.0	20.9		ug/L		84	60 - 140
o-Xylene	25.0	25.5		ug/L		102	70 - 130
Styrene	25.0	24.8		ug/L		99	70 - 134
t-Butanol	250	306		ug/L		122	70 - 130
Tetrachloroethene	25.0	28.2		ug/L		113	70 - 130
Toluene	25.0	24.1		ug/L		97	70 - 130
trans-1,2-Dichloroethene	25.0	23.7		ug/L		95	70 - 130
trans-1,3-Dichloropropene	25.0	24.2		ug/L		97	70 - 132
Trichloroethene	25.0	24.0		ug/L		96	70 - 130
Trichlorofluoromethane	25.0	30.8		ug/L		123	60 - 150
Vinyl acetate	25.0	24.6		ug/L		99	48 - 140
Vinyl chloride	25.0	27.8		ug/L		111	59 - 133
1,2-Dibromoethane (EDB)	25.0	25.1		ug/L		100	70 - 130
2-Butanone (MEK)	125	101		ug/L		81	44 - 150
4-Methyl-2-pentanone (MIBK)	125	134		ug/L		107	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: 440-237134-A-1 MS
Matrix: Water
Analysis Batch: 538292

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	26.1		ug/L		104	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	29.6		ug/L		119	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	24.4		ug/L		97	63 - 130
1,1,2-Trichloroethane	ND		25.0	24.4		ug/L		98	70 - 130
1,1-Dichloroethane	ND		25.0	25.9		ug/L		104	65 - 130
1,1-Dichloroethene	ND		25.0	27.8		ug/L		111	70 - 130
1,1-Dichloropropene	ND		25.0	27.3		ug/L		109	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	25.8		ug/L		103	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	23.5		ug/L		94	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.4		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	23.7		ug/L		95	56 - 146
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
1,3-Dichloropropane	ND		25.0	23.9		ug/L		96	70 - 130
1,4-Dichlorobenzene	ND		25.0	27.2		ug/L		109	70 - 130
2,2-Dichloropropane	ND		25.0	31.1		ug/L		124	69 - 138
2-Hexanone	ND		125	157		ug/L		125	10 - 150
Acetone	ND		125	133		ug/L		107	10 - 150
Acrolein	ND		25.0	31.9		ug/L		127	10 - 147
Acrylonitrile	ND		25.0	256		ug/L		102	38 - 144
Benzene	ND		25.0	24.6		ug/L		99	66 - 130
Bromoform	ND		25.0	25.7		ug/L		103	59 - 150
Bromomethane	ND		25.0	27.2		ug/L		109	62 - 131
Carbon disulfide	ND		25.0	28.3		ug/L		113	49 - 140
Carbon tetrachloride	ND		25.0	30.8		ug/L		123	60 - 150
Chlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	26.2		ug/L		105	70 - 130
Chloroethane	ND		25.0	29.2		ug/L		117	68 - 130
Chloroform	ND		25.0	24.9		ug/L		99	70 - 130
Chloromethane	ND		25.0	29.4		ug/L		118	39 - 144
cis-1,2-Dichloroethene	ND		25.0	24.1		ug/L		97	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 133
Dibromochloromethane	ND		25.0	25.0		ug/L		100	70 - 148
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130
Bromodichloromethane	ND		25.0	25.8		ug/L		103	70 - 138
Dichlorodifluoromethane	ND		25.0	27.4		ug/L		110	25 - 142
Ethylbenzene	ND		25.0	25.0		ug/L		100	70 - 130
m,p-Xylene	ND		25.0	25.2		ug/L		101	70 - 133
Methylene Chloride	ND		25.0	25.3		ug/L		101	52 - 130
Methyl tert-butyl ether	ND		25.0	20.6		ug/L		83	70 - 130
Naphthalene	ND		25.0	21.3		ug/L		85	60 - 140
o-Xylene	ND		25.0	24.9		ug/L		100	70 - 133
Styrene	ND		25.0	24.3		ug/L		97	29 - 150
t-Butanol	ND		250	306		ug/L		122	70 - 130
Tetrachloroethene	ND		25.0	28.8		ug/L		115	70 - 137
Toluene	ND		25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.8		ug/L		103	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: 440-237134-A-1 MS

Matrix: Water

Analysis Batch: 538292

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		25.0	24.4		ug/L		98	70 - 138
Trichloroethene	ND		25.0	26.3		ug/L		105	70 - 130
Trichlorofluoromethane	ND		25.0	34.1		ug/L		136	60 - 150
Vinyl acetate	ND		25.0	25.7		ug/L		103	23 - 150
Vinyl chloride	ND		25.0	30.3		ug/L		121	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	24.4		ug/L		98	70 - 131
2-Butanone (MEK)	ND		125	97.7		ug/L		78	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		125	130		ug/L		104	52 - 150
		MS		MS					
Surrogate		%Recovery		Qualifier		Limits			
Toluene-d8 (Surr)		94				80 - 128			
4-Bromofluorobenzene (Surr)		99				80 - 120			
Dibromofluoromethane (Surr)		102				76 - 132			

Lab Sample ID: 440-237134-A-1 MSD

Matrix: Water

Analysis Batch: 538292

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		25.0	23.8		ug/L		95	60 - 130	9	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.9		ug/L		99	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	27.1		ug/L		109	70 - 130	9	20
1,1,2,2-Tetrachloroethane	ND		25.0	22.8		ug/L		91	63 - 130	7	30
1,1,2-Trichloroethane	ND		25.0	24.6		ug/L		98	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	24.0		ug/L		96	65 - 130	8	20
1,1-Dichloroethene	ND		25.0	24.4		ug/L		98	70 - 130	13	20
1,1-Dichloropropene	ND		25.0	24.3		ug/L		97	64 - 130	12	20
1,2,4-Trichlorobenzene	ND		25.0	24.3		ug/L		97	60 - 140	6	20
1,2-Dibromo-3-Chloropropane	ND		25.0	25.3		ug/L		101	48 - 140	7	30
1,2-Dichlorobenzene	ND		25.0	23.8		ug/L		95	70 - 130	6	20
1,2-Dichloroethane	ND		25.0	23.2		ug/L		93	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	23.6		ug/L		94	69 - 130	10	20
1,3-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130	4	20
1,3-Dichloropropane	ND		25.0	22.4		ug/L		90	70 - 130	7	25
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	10	20
2,2-Dichloropropane	ND		25.0	28.0		ug/L		112	69 - 138	10	25
2-Hexanone	ND		125	160		ug/L		128	10 - 150	2	35
Acetone	ND		125	133		ug/L		106	10 - 150	0	35
Acrolein	ND		25.0	31.4		ug/L		126	10 - 147	1	40
Acrylonitrile	ND		250	252		ug/L		101	38 - 144	2	40
Benzene	ND		25.0	22.8		ug/L		91	66 - 130	8	20
Bromoform	ND		25.0	24.9		ug/L		100	59 - 150	3	25
Bromomethane	ND		25.0	25.0		ug/L		100	62 - 131	8	25
Carbon disulfide	ND		25.0	25.4		ug/L		102	49 - 140	11	20
Carbon tetrachloride	ND		25.0	27.4		ug/L		110	60 - 150	12	25
Chlorobenzene	ND		25.0	23.4		ug/L		94	70 - 130	5	20
Bromochloromethane	ND		25.0	24.5		ug/L		98	70 - 130	7	25
Chloroethane	ND		25.0	25.5		ug/L		102	68 - 130	14	25

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: 440-237134-A-1 MSD
Matrix: Water
Analysis Batch: 538292

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	23.4		ug/L		94	70 - 130	6	20
Chloromethane	ND		25.0	26.9		ug/L		107	39 - 144	9	25
cis-1,2-Dichloroethene	ND		25.0	22.7		ug/L		91	70 - 130	6	20
cis-1,3-Dichloropropene	ND		25.0	24.6		ug/L		98	70 - 133	3	20
Dibromochloromethane	ND		25.0	25.0		ug/L		100	70 - 148	0	25
Dibromomethane	ND		25.0	25.4		ug/L		101	70 - 130	0	25
Bromodichloromethane	ND		25.0	24.4		ug/L		97	70 - 138	6	20
Dichlorodifluoromethane	ND		25.0	24.3		ug/L		97	25 - 142	12	30
Ethylbenzene	ND		25.0	23.5		ug/L		94	70 - 130	6	20
m,p-Xylene	ND		25.0	23.7		ug/L		95	70 - 133	6	25
Methylene Chloride	ND		25.0	23.9		ug/L		96	52 - 130	6	20
Methyl tert-butyl ether	ND		25.0	19.9		ug/L		80	70 - 130	4	25
Naphthalene	ND		25.0	21.7		ug/L		87	60 - 140	2	30
o-Xylene	ND		25.0	23.0		ug/L		92	70 - 133	8	20
Styrene	ND		25.0	23.2		ug/L		93	29 - 150	4	35
t-Butanol	ND		250	296		ug/L		118	70 - 130	3	25
Tetrachloroethene	ND		25.0	26.8		ug/L		107	70 - 137	7	20
Toluene	ND		25.0	23.7		ug/L		95	70 - 130	4	20
trans-1,2-Dichloroethene	ND		25.0	23.2		ug/L		93	70 - 130	11	20
trans-1,3-Dichloropropene	ND		25.0	23.8		ug/L		95	70 - 138	2	25
Trichloroethene	ND		25.0	24.6		ug/L		99	70 - 130	6	20
Trichlorofluoromethane	ND		25.0	29.9		ug/L		120	60 - 150	13	25
Vinyl acetate	ND		25.0	24.3		ug/L		97	23 - 150	6	30
Vinyl chloride	ND		25.0	27.0		ug/L		108	50 - 137	11	30
1,2-Dibromoethane (EDB)	ND		25.0	24.2		ug/L		97	70 - 131	1	25
2-Butanone (MEK)	ND		125	103		ug/L		83	48 - 140	6	40
4-Methyl-2-pentanone (MIBK)	ND		125	134		ug/L		107	52 - 150	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-536996/1-A
Matrix: Water
Analysis Batch: 537317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 536996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/28/19 10:24	03/29/19 16:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	73		30 - 120	03/28/19 10:24	03/29/19 16:17	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-536996/2-A
Matrix: Water
Analysis Batch: 537317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 536996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.41		ug/L		71	35 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	70		30 - 120				

Lab Sample ID: LCSD 440-536996/3-A
Matrix: Water
Analysis Batch: 537317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 536996

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.37		ug/L		69	35 - 120	3	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	69		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-537474/6
Matrix: Water
Analysis Batch: 537474

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			03/30/19 19:20	1

Lab Sample ID: LCS 440-537474/5
Matrix: Water
Analysis Batch: 537474

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	5.13		mg/L		103	90 - 110

Lab Sample ID: 440-237268-5 MS
Matrix: Water
Analysis Batch: 537474

Client Sample ID: DW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	14		25.0	39.3		mg/L		102	80 - 120

Lab Sample ID: 440-237268-5 MSD
Matrix: Water
Analysis Batch: 537474

Client Sample ID: DW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14		25.0	39.6		mg/L		103	80 - 120	1	20

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-537864/6
Matrix: Water
Analysis Batch: 537864

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			04/02/19 13:03	1

Lab Sample ID: LCS 440-537864/5
Matrix: Water
Analysis Batch: 537864

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	4.64		mg/L		93	90 - 110

Lab Sample ID: 440-237134-H-6 MS
Matrix: Water
Analysis Batch: 537864

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	9.4	F2 F1	50.0	54.8		mg/L		91	80 - 120

Lab Sample ID: 440-237134-H-6 MSD
Matrix: Water
Analysis Batch: 537864

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	9.4	F2 F1	50.0	76.6	F1 F2	mg/L		134	80 - 120	33	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-537592/1-A
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		04/01/19 07:52	04/01/19 16:01	1

Lab Sample ID: LCS 440-537592/2-A
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.89		mg/L		99	80 - 120

Lab Sample ID: 440-237133-J-1-B MS
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	42		10.0	53.7	4	mg/L		117	75 - 125

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

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

Lab Sample ID: 440-237133-J-1-C MSD
Matrix: Water
Analysis Batch: 537756

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 537592

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	42		10.0	53.2	4	mg/L		112	75 - 125	1	20

Lab Sample ID: MB 440-537593/1-A
Matrix: Water
Analysis Batch: 537780

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 537593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		04/01/19 07:57	04/01/19 18:40	1

Lab Sample ID: LCS 440-537593/2-A
Matrix: Water
Analysis Batch: 537780

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 537593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	10.2		mg/L		102	80 - 120

Lab Sample ID: 440-237268-5 MS
Matrix: Water
Analysis Batch: 537780

Client Sample ID: DW-4
Prep Type: Total Recoverable
Prep Batch: 537593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	4.5		10.0	15.3		mg/L		108	75 - 125

Lab Sample ID: 440-237268-5 MSD
Matrix: Water
Analysis Batch: 537780

Client Sample ID: DW-4
Prep Type: Total Recoverable
Prep Batch: 537593

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	4.5		10.0	15.2		mg/L		107	75 - 125	1	20

Method: 410.4 - COD

Lab Sample ID: MB 440-539184/3
Matrix: Water
Analysis Batch: 539184

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			04/09/19 10:09	1

Lab Sample ID: LCS 440-539184/4
Matrix: Water
Analysis Batch: 539184

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	205		mg/L		103	90 - 110

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-237269-B-1 MS
Matrix: Water
Analysis Batch: 539184

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	19	J	200	203		mg/L		92	70 - 120

Lab Sample ID: 440-237269-B-1 MSD
Matrix: Water
Analysis Batch: 539184

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	19	J	200	207		mg/L		94	70 - 120	2	15

Lab Sample ID: 440-237220-A-1 DU
Matrix: Water
Analysis Batch: 539184

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	74		72.2		mg/L		2	15

Lab Sample ID: MB 440-539471/3
Matrix: Water
Analysis Batch: 539471

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			04/10/19 12:17	1

Lab Sample ID: LCS 440-539471/4
Matrix: Water
Analysis Batch: 539471

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	204		mg/L		102	90 - 110

Lab Sample ID: 440-237818-C-1 MS
Matrix: Water
Analysis Batch: 539471

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	64		200	243		mg/L		90	70 - 120

Lab Sample ID: 440-237818-C-1 MSD
Matrix: Water
Analysis Batch: 539471

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	64		200	242		mg/L		89	70 - 120	0	15

Lab Sample ID: 440-237818-A-1 DU
Matrix: Water
Analysis Batch: 539471

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	64		59.0		mg/L		8	15

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-536928/3
Matrix: Water
Analysis Batch: 536928

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			03/28/19 04:50	1

Lab Sample ID: LCS 440-536928/2
Matrix: Water
Analysis Batch: 536928

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	98.8	101		mg/L		102	80 - 120

Lab Sample ID: 440-237268-5 DU
Matrix: Water
Analysis Batch: 536928

Client Sample ID: DW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	350		352		mg/L		1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-538061/1
Matrix: Water
Analysis Batch: 538061

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			04/03/19 09:24	1

Lab Sample ID: LCS 440-538061/2
Matrix: Water
Analysis Batch: 538061

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	958		mg/L		96	90 - 110

Lab Sample ID: 440-237268-1 DU
Matrix: Water
Analysis Batch: 538061

Client Sample ID: DW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3200		3190		mg/L		2	5

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-536939/2-A
Matrix: Water
Analysis Batch: 536961

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 536939

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		03/28/19 04:30	03/28/19 09:00	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: LCS 440-536939/1-A
Matrix: Water
Analysis Batch: 536961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 536939
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	2.50	2.33		mg/L		93	85 - 115

Lab Sample ID: 440-237220-A-1-C MS
Matrix: Water
Analysis Batch: 536961

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 536939
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	1.8		2.50	3.96		mg/L		87	75 - 125

Lab Sample ID: 440-237220-A-1-D MSD
Matrix: Water
Analysis Batch: 536961

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 536939
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ammonia (as N)	1.8		2.50	4.11		mg/L		93	75 - 125	4	15

Lab Sample ID: 440-237220-A-1-B DU
Matrix: Water
Analysis Batch: 536961

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 536939
%Rec.

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Ammonia (as N)	1.8		1.79		mg/L		0	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-537156/6
Matrix: Water
Analysis Batch: 537156

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			03/28/19 08:24	1

Lab Sample ID: LCS 440-537156/5
Matrix: Water
Analysis Batch: 537156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon	10.0	10.2		mg/L		102	85 - 115

Lab Sample ID: MRL 440-537156/4
Matrix: Water
Analysis Batch: 537156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
%Rec.

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon	0.100	0.119		mg/L		119	50 - 150

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 580-84756-E-1 MS
Matrix: Water
Analysis Batch: 537156

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	0.77		10.0	11.7		mg/L		109	85 - 115

Lab Sample ID: 580-84756-E-1 MSD
Matrix: Water
Analysis Batch: 537156

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	0.77		10.0	11.2		mg/L		104	85 - 115	5	20

Lab Sample ID: MB 440-537291/6
Matrix: Water
Analysis Batch: 537291

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			03/29/19 05:41	1

Lab Sample ID: LCS 440-537291/5
Matrix: Water
Analysis Batch: 537291

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	9.83		mg/L		98	85 - 115

Lab Sample ID: MRL 440-537291/4
Matrix: Water
Analysis Batch: 537291

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	0.0547	J	mg/L		55	50 - 150

Lab Sample ID: 440-237268-2 MS
Matrix: Water
Analysis Batch: 537291

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
Total Organic Carbon	3.8		12.0	15.0		mg/L		94	85 - 115

Lab Sample ID: 440-237268-2 MSD
Matrix: Water
Analysis Batch: 537291

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
Total Organic Carbon	3.8		12.0	15.4		mg/L		96	85 - 115	2	20

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

GC/MS VOA

Analysis Batch: 536916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	8260B	
440-237268-2	MW-2A	Total/NA	Water	8260B	
440-237268-3	MW-2B	Total/NA	Water	8260B	
440-237268-4	MW-9	Total/NA	Water	8260B	
440-237268-5	DW-4	Total/NA	Water	8260B	
440-237268-6	Field Blank	Total/NA	Water	8260B	
440-237268-7	Trip Blank	Total/NA	Water	8260B	
MB 440-536916/4	Method Blank	Total/NA	Water	8260B	
LCS 440-536916/3	Lab Control Sample	Total/NA	Water	8260B	
440-237268-4 MS	MW-9	Total/NA	Water	8260B	
440-237268-4 MSD	MW-9	Total/NA	Water	8260B	

Analysis Batch: 538292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	8260B	
440-237268-2	MW-2A	Total/NA	Water	8260B	
440-237268-3	MW-2B	Total/NA	Water	8260B	
440-237268-4	MW-9	Total/NA	Water	8260B	
440-237268-5	DW-4	Total/NA	Water	8260B	
440-237268-6	Field Blank	Total/NA	Water	8260B	
440-237268-7	Trip Blank	Total/NA	Water	8260B	
MB 440-538292/4	Method Blank	Total/NA	Water	8260B	
LCS 440-538292/5	Lab Control Sample	Total/NA	Water	8260B	
440-237134-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-237134-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 536996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	3520C	
440-237268-2	MW-2A	Total/NA	Water	3520C	
440-237268-3	MW-2B	Total/NA	Water	3520C	
440-237268-4	MW-9	Total/NA	Water	3520C	
440-237268-5	DW-4	Total/NA	Water	3520C	
MB 440-536996/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-536996/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-536996/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 537317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	8270C	536996
440-237268-2	MW-2A	Total/NA	Water	8270C	536996
440-237268-3	MW-2B	Total/NA	Water	8270C	536996
440-237268-4	MW-9	Total/NA	Water	8270C	536996
440-237268-5	DW-4	Total/NA	Water	8270C	536996
MB 440-536996/1-A	Method Blank	Total/NA	Water	8270C	536996
LCS 440-536996/2-A	Lab Control Sample	Total/NA	Water	8270C	536996
LCSD 440-536996/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	536996

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

HPLC/IC

Analysis Batch: 537474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	300.0	
440-237268-2	MW-2A	Total/NA	Water	300.0	
440-237268-3	MW-2B	Total/NA	Water	300.0	
440-237268-5	DW-4	Total/NA	Water	300.0	
MB 440-537474/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537474/5	Lab Control Sample	Total/NA	Water	300.0	
440-237268-5 MS	DW-4	Total/NA	Water	300.0	
440-237268-5 MSD	DW-4	Total/NA	Water	300.0	

Analysis Batch: 537864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-4	MW-9	Total/NA	Water	300.0	
MB 440-537864/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537864/5	Lab Control Sample	Total/NA	Water	300.0	
440-237134-H-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-237134-H-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 537592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total Recoverable	Water	3005A	
440-237268-2	MW-2A	Total Recoverable	Water	3005A	
440-237268-3	MW-2B	Total Recoverable	Water	3005A	
MB 440-537592/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-537592/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-237133-J-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-237133-J-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 537593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-4	MW-9	Total Recoverable	Water	3005A	
440-237268-5	DW-4	Total Recoverable	Water	3005A	
MB 440-537593/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-537593/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-237268-5 MS	DW-4	Total Recoverable	Water	3005A	
440-237268-5 MSD	DW-4	Total Recoverable	Water	3005A	

Analysis Batch: 537756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total Recoverable	Water	6010B	537592
440-237268-2	MW-2A	Total Recoverable	Water	6010B	537592
440-237268-3	MW-2B	Total Recoverable	Water	6010B	537592
MB 440-537592/1-A	Method Blank	Total Recoverable	Water	6010B	537592
LCS 440-537592/2-A	Lab Control Sample	Total Recoverable	Water	6010B	537592
440-237133-J-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	537592
440-237133-J-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	537592

Analysis Batch: 537780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-4	MW-9	Total Recoverable	Water	6010B	537593

Eurofins TestAmerica, Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Metals (Continued)

Analysis Batch: 537780 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-5	DW-4	Total Recoverable	Water	6010B	537593
MB 440-537593/1-A	Method Blank	Total Recoverable	Water	6010B	537593
LCS 440-537593/2-A	Lab Control Sample	Total Recoverable	Water	6010B	537593
440-237268-5 MS	DW-4	Total Recoverable	Water	6010B	537593
440-237268-5 MSD	DW-4	Total Recoverable	Water	6010B	537593

General Chemistry

Analysis Batch: 536928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	SM 2320B	
440-237268-2	MW-2A	Total/NA	Water	SM 2320B	
440-237268-3	MW-2B	Total/NA	Water	SM 2320B	
440-237268-4	MW-9	Total/NA	Water	SM 2320B	
440-237268-5	DW-4	Total/NA	Water	SM 2320B	
MB 440-536928/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-536928/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-237268-5 DU	DW-4	Total/NA	Water	SM 2320B	

Prep Batch: 536939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	SM 4500 NH3 B	
440-237268-2	MW-2A	Total/NA	Water	SM 4500 NH3 B	
440-237268-3	MW-2B	Total/NA	Water	SM 4500 NH3 B	
440-237268-4	MW-9	Total/NA	Water	SM 4500 NH3 B	
440-237268-5	DW-4	Total/NA	Water	SM 4500 NH3 B	
MB 440-536939/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-536939/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-237220-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-237220-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-237220-A-1-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 536961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	SM 4500 NH3 D	536939
440-237268-2	MW-2A	Total/NA	Water	SM 4500 NH3 D	536939
440-237268-3	MW-2B	Total/NA	Water	SM 4500 NH3 D	536939
440-237268-4	MW-9	Total/NA	Water	SM 4500 NH3 D	536939
440-237268-5	DW-4	Total/NA	Water	SM 4500 NH3 D	536939
MB 440-536939/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	536939
LCS 440-536939/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	536939
440-237220-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	536939
440-237220-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	536939
440-237220-A-1-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	536939

Analysis Batch: 537156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	SM 5310C	
440-237268-5	DW-4	Total/NA	Water	SM 5310C	
MB 440-537156/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537156/5	Lab Control Sample	Total/NA	Water	SM 5310C	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

General Chemistry (Continued)

Analysis Batch: 537156 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 440-537156/4	Lab Control Sample	Total/NA	Water	SM 5310C	
580-84756-E-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
580-84756-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 537291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-2	MW-2A	Total/NA	Water	SM 5310C	
440-237268-3	MW-2B	Total/NA	Water	SM 5310C	
440-237268-4	MW-9	Total/NA	Water	SM 5310C	
MB 440-537291/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537291/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-537291/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-237268-2 MS	MW-2A	Total/NA	Water	SM 5310C	
440-237268-2 MSD	MW-2A	Total/NA	Water	SM 5310C	

Analysis Batch: 538061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	SM 2540C	
440-237268-2	MW-2A	Total/NA	Water	SM 2540C	
440-237268-3	MW-2B	Total/NA	Water	SM 2540C	
440-237268-4	MW-9	Total/NA	Water	SM 2540C	
440-237268-5	DW-4	Total/NA	Water	SM 2540C	
MB 440-538061/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-538061/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-237268-1 DU	DW-1	Total/NA	Water	SM 2540C	

Analysis Batch: 539184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-2	MW-2A	Total/NA	Water	410.4	
MB 440-539184/3	Method Blank	Total/NA	Water	410.4	
LCS 440-539184/4	Lab Control Sample	Total/NA	Water	410.4	
440-237269-B-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-237269-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	
440-237220-A-1 DU	Duplicate	Total/NA	Water	410.4	

Analysis Batch: 539471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237268-1	DW-1	Total/NA	Water	410.4	
440-237268-3	MW-2B	Total/NA	Water	410.4	
440-237268-4	MW-9	Total/NA	Water	410.4	
440-237268-5	DW-4	Total/NA	Water	410.4	
MB 440-539471/3	Method Blank	Total/NA	Water	410.4	
LCS 440-539471/4	Lab Control Sample	Total/NA	Water	410.4	
440-237818-C-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-237818-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	
440-237818-A-1 DU	Duplicate	Total/NA	Water	410.4	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237268-1

Laboratory: Eurofins 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. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

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

Chain of Custody Record 208865

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (07/13)

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Kyle Welchans Tel/Fax: 858-451-1136		Site Contact: S. Mills Lab Contact: Rossing		Date: 3-27-19 Carrier: TA		COC No.: _____ Sampler: BS, NR	
Company Name: Geo-Logic Associates Address: 1415 W. Bernardo Ct. City/State/Zip: S.D. CA 92127 Phone: 858-451-1136 Fax: 858-451-1087		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No.: _____		Metals are not detected. Sample Specific Notes: _____	
Project Name: Republr Services Site: Sundance Executive Center P.O.#: _____		Filtered Sample (Y/N) _____ Perform MS/MSD (Y/N) _____		440-237268 Chain of Custody		3/27/19 AR	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)
DW-1	3/27/19	1015	G	GW	12	X	X
MW-2A		0850			12	X	X
MW-2B		0958			12	X	X
MW-9		1309			12	X	X
DW-4		1052			12	X	X
Field Blank					5	X	X
Trap Blank					5	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
Special Instructions/QC Requirements & Comments: see note #1 for vocs on the SWB bottle order.
 Custody Seals Intact: Yes No
 Relinquished by: *[Signature]* Company: **Geo-Logic**
 Relinquished by: *[Signature]* Company: **TA-REV**
 Relinquished by: *[Signature]* Company: **TA-REV**
 Date/Time: 3/27/19 1425
 Date/Time: 3/27/19 1425
 Date/Time: 3/27/19 1720
 Therm ID No.: _____
 Cooler Temp. (°C): Obs'd _____ Cor'd _____
 Received by: *[Signature]* Company: **TA-REV**
 Received by: *[Signature]* Company: _____
 Received in Laboratory: *[Signature]* Company: **TA-REV**
 Temp: 4.9 / 4.4 A.A. / 3.9 18-44

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Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-237268-1

Login Number: 237268

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-237344-1

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:
4/11/2019 7:28:46 PM

Rossina Tomova, Project Manager I
(949)260-3276

rossina.tomova@testamericainc.com

LINKS

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results through
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www.testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-237344-1	PZ-4	Water	03/28/19 09:50	03/28/19 16:45
440-237344-2	Field Blank	Water	03/28/19 00:01	03/28/19 16:45
440-237344-3	Trip Blank	Water	03/28/19 00:01	03/28/19 16:45

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Job ID: 440-237344-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-237344-1

Comments

No additional comments.

Receipt

The samples were received on 3/28/2019 4:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

GC/MS VOA

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 5 and the following sample was analyzed after 7 days from sampling: Field Blank (440-237344-2).

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 preparation batch 440-537430. LCS was performed in duplicate to maintain precision of data. 8270 1,4 DXN

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 Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: PZ-4

Lab Sample ID: 440-237344-1

Date Collected: 03/28/19 09:50

Matrix: Water

Date Received: 03/28/19 16:45

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			04/10/19 23:31	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Acrolein	ND		50	2.5	ug/L			04/02/19 12:03	1
Acrylonitrile	ND		50	1.0	ug/L			04/02/19 12:03	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/10/19 23:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/10/19 23:31	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/10/19 23:31	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/10/19 23:31	1
2-Hexanone	ND		5.0	2.5	ug/L			04/10/19 23:31	1
Acetone	12 J		20	10	ug/L			04/10/19 23:31	1
Acetonitrile	ND		20	10	ug/L			04/10/19 23:31	1
Acrolein	ND		5.0	2.5	ug/L			04/10/19 23:31	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/10/19 23:31	1
Benzene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Allyl chloride	ND		1.0	0.50	ug/L			04/10/19 23:31	1
Bromoform	ND		1.0	0.40	ug/L			04/10/19 23:31	1
Bromomethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/10/19 23:31	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Chloroethane	ND		1.0	0.40	ug/L			04/10/19 23:31	1
Chloroform	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Chloromethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Dibromomethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/10/19 23:31	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/10/19 23:31	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Iodomethane	ND		2.0	1.0	ug/L			04/10/19 23:31	1
Isobutyl alcohol	ND		25	13	ug/L			04/10/19 23:31	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/10/19 23:31	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/10/19 23:31	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/10/19 23:31	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/10/19 23:31	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: PZ-4

Lab Sample ID: 440-237344-1

Date Collected: 03/28/19 09:50

Matrix: Water

Date Received: 03/28/19 16:45

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			04/10/19 23:31	1
Naphthalene	ND		1.0	0.40	ug/L			04/10/19 23:31	1
o-Xylene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Propionitrile	ND		20	10	ug/L			04/10/19 23:31	1
Styrene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
t-Butanol	ND		10	5.0	ug/L			04/10/19 23:31	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/10/19 23:31	1
Toluene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/10/19 23:31	1
Trichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/10/19 23:31	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/10/19 23:31	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/10/19 23:31	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/10/19 23:31	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/10/19 23:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/10/19 23:31	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	T J	ug/L		5.99			04/10/19 23:31	1
Unknown	6.4	T J	ug/L		10.77			04/10/19 23:31	1
Unknown	3.9	T J	ug/L		12.84			04/10/19 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		80 - 128		04/02/19 12:03	1
4-Bromofluorobenzene (Surr)	89		80 - 120		04/02/19 12:03	1
Toluene-d8 (Surr)	99		80 - 128		04/10/19 23:31	1
4-Bromofluorobenzene (Surr)	106		80 - 120		04/10/19 23:31	1
Dibromofluoromethane (Surr)	113		76 - 132		04/02/19 12:03	1
Dibromofluoromethane (Surr)	98		76 - 132		04/10/19 23:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.50	0.25	ug/L			04/11/19 13:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	760	T J	ug/L		2.17			04/11/19 13:11	1
Unknown	11	T J	ug/L		6.72			04/11/19 13:11	1
Unknown	14	T J	ug/L		14.06			04/11/19 13:11	1
Unknown	5.0	T J	ug/L		15.73			04/11/19 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		80 - 128		04/11/19 13:11	1
4-Bromofluorobenzene (Surr)	89		80 - 120		04/11/19 13:11	1
Dibromofluoromethane (Surr)	110		76 - 132		04/11/19 13:11	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		03/30/19 08:34	04/03/19 22:05	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: PZ-4

Lab Sample ID: 440-237344-1

Date Collected: 03/28/19 09:50

Matrix: Water

Date Received: 03/28/19 16:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		30 - 120	03/30/19 08:34	04/03/19 22:05	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.4		1.0	0.50	mg/L			03/31/19 00:13	2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.9		0.50	0.25	mg/L		04/02/19 08:55	04/02/19 14:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.1		0.20	0.10	mg/L			03/29/19 17:23	1
Chemical Oxygen Demand	ND		20	10	mg/L			04/09/19 10:11	1
Total Dissolved Solids	1300		10	5.0	mg/L			04/04/19 09:02	1
Total Organic Carbon	2.0		0.10	0.050	mg/L			03/29/19 10:47	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		4.0	4.0	mg/L			03/29/19 07:59	1

Client Sample ID: Field Blank

Lab Sample ID: 440-237344-2

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

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			04/10/19 23:56	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Acrolein	ND		50	2.5	ug/L			04/02/19 11:05	1
Acrylonitrile	ND		50	1.0	ug/L			04/02/19 11:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/10/19 23:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/10/19 23:56	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/10/19 23:56	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/10/19 23:56	1
2-Hexanone	ND		5.0	2.5	ug/L			04/10/19 23:56	1
Acetone	ND		20	10	ug/L			04/10/19 23:56	1
Acetonitrile	ND		20	10	ug/L			04/10/19 23:56	1
Acrolein	ND		5.0	2.5	ug/L			04/10/19 23:56	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/10/19 23:56	1
Benzene	ND		0.50	0.25	ug/L			04/10/19 23:56	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: Field Blank

Lab Sample ID: 440-237344-2

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

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			04/10/19 23:56	1
Bromoform	ND		1.0	0.40	ug/L			04/10/19 23:56	1
Bromomethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/10/19 23:56	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Chloroethane	ND		1.0	0.40	ug/L			04/10/19 23:56	1
Chloroform	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Chloromethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Dibromomethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/10/19 23:56	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/10/19 23:56	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Iodomethane	ND		2.0	1.0	ug/L			04/10/19 23:56	1
Isobutyl alcohol	ND		25	13	ug/L			04/10/19 23:56	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/10/19 23:56	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/10/19 23:56	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/10/19 23:56	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/10/19 23:56	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Naphthalene	ND		1.0	0.40	ug/L			04/10/19 23:56	1
o-Xylene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Propionitrile	ND		20	10	ug/L			04/10/19 23:56	1
Styrene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
t-Butanol	ND		10	5.0	ug/L			04/10/19 23:56	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/10/19 23:56	1
Toluene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/10/19 23:56	1
Trichloroethene	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/10/19 23:56	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/10/19 23:56	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/10/19 23:56	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/10/19 23:56	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/10/19 23:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/10/19 23:56	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	29	TJ	ug/L		1.83			04/10/19 23:56	1
Unknown	10	TJ	ug/L		5.99			04/10/19 23:56	1
Unknown	4.4	TJ	ug/L		10.77			04/10/19 23:56	1
Unknown	3.1	TJ	ug/L		12.84			04/10/19 23:56	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: Field Blank

Lab Sample ID: 440-237344-2

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		04/02/19 11:05	1
4-Bromofluorobenzene (Surr)	87		80 - 120		04/02/19 11:05	1
Toluene-d8 (Surr)	103		80 - 128		04/10/19 23:56	1
4-Bromofluorobenzene (Surr)	102		80 - 120		04/10/19 23:56	1
Dibromofluoromethane (Surr)	110		76 - 132		04/02/19 11:05	1
Dibromofluoromethane (Surr)	97		76 - 132		04/10/19 23:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.50	0.25	ug/L			04/11/19 13:36	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	76	TJ	ug/L		2.17			04/11/19 13:36	1
Unknown	2.6	TJ	ug/L		3.59			04/11/19 13:36	1
Unknown	2.8	TJ	ug/L		4.13			04/11/19 13:36	1
Unknown	11	TJ	ug/L		6.72			04/11/19 13:36	1
Unknown	15	TJ	ug/L		14.06			04/11/19 13:36	1
Unknown	6.3	TJ	ug/L		15.73			04/11/19 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		80 - 128		04/11/19 13:36	1
4-Bromofluorobenzene (Surr)	92		80 - 120		04/11/19 13:36	1
Dibromofluoromethane (Surr)	110		76 - 132		04/11/19 13:36	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237344-3

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

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			04/11/19 00:20	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Acrolein	ND		50	2.5	ug/L			04/02/19 11:35	1
Acrylonitrile	ND		50	1.0	ug/L			04/02/19 11:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/11/19 00:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/11/19 00:20	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/11/19 00:20	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/11/19 00:20	1
2-Hexanone	ND		5.0	2.5	ug/L			04/11/19 00:20	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237344-3

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

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			04/11/19 00:20	1
Acetonitrile	ND		20	10	ug/L			04/11/19 00:20	1
Acrolein	ND		5.0	2.5	ug/L			04/11/19 00:20	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/11/19 00:20	1
Benzene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Allyl chloride	ND		1.0	0.50	ug/L			04/11/19 00:20	1
Bromoform	ND		1.0	0.40	ug/L			04/11/19 00:20	1
Bromomethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/19 00:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Chloroethane	ND		1.0	0.40	ug/L			04/11/19 00:20	1
Chloroform	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Chloromethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Dibromomethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/11/19 00:20	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/11/19 00:20	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Iodomethane	ND		2.0	1.0	ug/L			04/11/19 00:20	1
Isobutyl alcohol	ND		25	13	ug/L			04/11/19 00:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/11/19 00:20	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/11/19 00:20	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/11/19 00:20	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/11/19 00:20	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Naphthalene	ND		1.0	0.40	ug/L			04/11/19 00:20	1
o-Xylene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Propionitrile	ND		20	10	ug/L			04/11/19 00:20	1
Styrene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
t-Butanol	ND		10	5.0	ug/L			04/11/19 00:20	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/11/19 00:20	1
Toluene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/11/19 00:20	1
Trichloroethene	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/11/19 00:20	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/11/19 00:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/11/19 00:20	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/11/19 00:20	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/11/19 00:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/11/19 00:20	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-237344-3

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Unknown	10	TJ	ug/L		5.99			04/11/19 00:20	1
Unknown	5.8	TJ	ug/L		10.78			04/11/19 00:20	1
Unknown	3.2	TJ	ug/L		12.84			04/11/19 00:20	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Toluene-d8 (Surr)	97		80 - 128					04/02/19 11:35	1
4-Bromofluorobenzene (Surr)	90		80 - 120					04/02/19 11:35	1
Toluene-d8 (Surr)	101		80 - 128					04/11/19 00:20	1
4-Bromofluorobenzene (Surr)	106		80 - 120					04/11/19 00:20	1
Dibromofluoromethane (Surr)	111		76 - 132					04/02/19 11:35	1
Dibromofluoromethane (Surr)	97		76 - 132					04/11/19 00:20	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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 = Eurofins 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

Job ID: 440-237344-1

Client Sample ID: PZ-4

Lab Sample ID: 440-237344-1

Date Collected: 03/28/19 09:50

Matrix: Water

Date Received: 03/28/19 16:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	539541	04/10/19 23:31	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	539648	04/11/19 13:11	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	539648	04/11/19 13:11	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	537807	04/02/19 12:03	DCD	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	537430	03/30/19 08:34	JAA	TAL IRV
Total/NA	Analysis	8270C		1			538037	04/03/19 22:05	L1B	TAL IRV
Total/NA	Analysis	300.0		2			537476	03/31/19 00:13	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	537836	04/02/19 08:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			537953	04/02/19 14:49	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	537613	03/29/19 17:23	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	539184	04/09/19 10:11	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			537412	03/29/19 07:59	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	538337	04/04/19 09:02	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	537291	03/29/19 10:47	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-237344-2

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	539541	04/10/19 23:56	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	539648	04/11/19 13:36	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	537807	04/02/19 11:05	DCD	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-237344-3

Date Collected: 03/28/19 00:01

Matrix: Water

Date Received: 03/28/19 16:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	539541	04/11/19 00:20	JB	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	537807	04/02/19 11:35	DCD	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: MB 440-537807/4

Matrix: Water

Analysis Batch: 537807

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acrolein	ND		50	2.5	ug/L			04/02/19 08:31	1
Acrylonitrile	ND		50	1.0	ug/L			04/02/19 08:31	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Toluene-d8 (Surr)	96		80 - 128				04/02/19 08:31	1	
4-Bromofluorobenzene (Surr)	87		80 - 120				04/02/19 08:31	1	
Dibromofluoromethane (Surr)	112		76 - 132				04/02/19 08:31	1	

Lab Sample ID: LCS 440-537807/5

Matrix: Water

Analysis Batch: 537807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acrolein	25.0	17.6	J	ug/L		70	10 - 145
Acrylonitrile	250	210		ug/L		84	48 - 140
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	91		80 - 128				
4-Bromofluorobenzene (Surr)	87		80 - 120				
Dibromofluoromethane (Surr)	114		76 - 132				

Lab Sample ID: 440-236829-A-9 MS

Matrix: Water

Analysis Batch: 537807

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Acrolein	ND		25.0	17.9	J	ug/L		72	10 - 147
Acrylonitrile	ND		250	187		ug/L		75	38 - 144
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	91		80 - 128						
4-Bromofluorobenzene (Surr)	87		80 - 120						
Dibromofluoromethane (Surr)	110		76 - 132						

Lab Sample ID: 440-236829-A-9 MSD

Matrix: Water

Analysis Batch: 537807

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Acrolein	ND		25.0	22.5	J	ug/L		90	10 - 147	23	40
Acrylonitrile	ND		250	251		ug/L		100	38 - 144	29	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	90		80 - 128								
4-Bromofluorobenzene (Surr)	87		80 - 120								
Dibromofluoromethane (Surr)	116		76 - 132								

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: MB 440-539541/4

Matrix: Water

Analysis Batch: 539541

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			04/10/19 18:14	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/10/19 18:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/10/19 18:14	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/10/19 18:14	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/10/19 18:14	1
2-Hexanone	ND		5.0	2.5	ug/L			04/10/19 18:14	1
Acetone	ND		20	10	ug/L			04/10/19 18:14	1
Acetonitrile	ND		20	10	ug/L			04/10/19 18:14	1
Acrolein	ND		5.0	2.5	ug/L			04/10/19 18:14	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/10/19 18:14	1
Benzene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Allyl chloride	ND		1.0	0.50	ug/L			04/10/19 18:14	1
Bromoform	ND		1.0	0.40	ug/L			04/10/19 18:14	1
Bromomethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/10/19 18:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Chloroethane	ND		1.0	0.40	ug/L			04/10/19 18:14	1
Chloroform	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Chloromethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Dibromomethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/10/19 18:14	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/10/19 18:14	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Iodomethane	ND		2.0	1.0	ug/L			04/10/19 18:14	1
Isobutyl alcohol	ND		25	13	ug/L			04/10/19 18:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/10/19 18:14	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/10/19 18:14	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/10/19 18:14	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/10/19 18:14	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: MB 440-539541/4

Matrix: Water

Analysis Batch: 539541

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Naphthalene	ND		1.0	0.40	ug/L			04/10/19 18:14	1
o-Xylene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Propionitrile	ND		20	10	ug/L			04/10/19 18:14	1
Styrene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
t-Butanol	ND		10	5.0	ug/L			04/10/19 18:14	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/10/19 18:14	1
Toluene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/10/19 18:14	1
Trichloroethene	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/10/19 18:14	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/10/19 18:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/10/19 18:14	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/10/19 18:14	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/10/19 18:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/10/19 18:14	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					04/10/19 18:14	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	96		80 - 128		04/10/19 18:14	1
4-Bromofluorobenzene (Surr)	104		80 - 120		04/10/19 18:14	1
Dibromofluoromethane (Surr)	97		76 - 132		04/10/19 18:14	1

Lab Sample ID: LCS 440-539541/5

Matrix: Water

Analysis Batch: 539541

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	25.4		ug/L		102	60 - 141
1,1,1-Trichloroethane	25.0	25.1		ug/L		100	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.3		ug/L		97	63 - 130
1,1,2-Trichloroethane	25.0	25.7		ug/L		103	70 - 130
1,1-Dichloroethane	25.0	23.8		ug/L		95	64 - 130
1,1-Dichloroethane	25.0	24.9		ug/L		100	70 - 130
1,1-Dichloropropene	25.0	24.2		ug/L		97	70 - 130
1,2,4-Trichlorobenzene	25.0	22.3		ug/L		89	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	21.6		ug/L		86	52 - 140
1,2-Dichlorobenzene	25.0	24.5		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	23.6		ug/L		94	57 - 138
1,2-Dichloropropane	25.0	26.4		ug/L		106	67 - 130
1,3-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	24.5		ug/L		98	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: LCS 440-539541/5

Matrix: Water

Analysis Batch: 539541

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	24.4		ug/L		97	70 - 130
2,2-Dichloropropane	25.0	24.9		ug/L		100	68 - 141
2-Hexanone	125	117		ug/L		94	10 - 150
Acetone	125	108		ug/L		86	10 - 150
Acrolein	25.0	30.6		ug/L		122	10 - 145
Acrylonitrile	25.0	24.0		ug/L		96	48 - 140
Benzene	25.0	24.8		ug/L		99	68 - 130
Bromoform	25.0	26.9		ug/L		108	60 - 148
Bromomethane	25.0	23.7		ug/L		95	64 - 139
Carbon disulfide	25.0	24.1		ug/L		96	52 - 136
Carbon tetrachloride	25.0	26.2		ug/L		105	60 - 150
Chlorobenzene	25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	25.0	23.8		ug/L		95	70 - 130
Chloroethane	25.0	22.6		ug/L		91	64 - 135
Chloroform	25.0	24.5		ug/L		98	70 - 130
Chloromethane	25.0	21.4		ug/L		86	47 - 140
cis-1,2-Dichloroethene	25.0	25.3		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	26.0		ug/L		104	70 - 133
Dibromochloromethane	25.0	25.5		ug/L		102	69 - 145
Dibromomethane	25.0	24.1		ug/L		96	70 - 130
Bromodichloromethane	25.0	26.0		ug/L		104	70 - 132
Dichlorodifluoromethane	25.0	22.2		ug/L		89	29 - 150
Ethylbenzene	25.0	25.7		ug/L		103	70 - 130
m,p-Xylene	25.0	24.9		ug/L		100	70 - 130
Methylene Chloride	25.0	23.3		ug/L		93	52 - 130
Methyl tert-butyl ether	25.0	22.6		ug/L		90	63 - 131
Naphthalene	25.0	21.7		ug/L		87	60 - 140
o-Xylene	25.0	24.1		ug/L		96	70 - 130
Styrene	25.0	26.1		ug/L		104	70 - 134
t-Butanol	250	260		ug/L		104	70 - 130
Tetrachloroethene	25.0	25.6		ug/L		103	70 - 130
Toluene	25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 130
trans-1,3-Dichloropropene	25.0	26.1		ug/L		104	70 - 132
Trichloroethene	25.0	24.8		ug/L		99	70 - 130
Trichlorofluoromethane	25.0	24.1		ug/L		96	60 - 150
Vinyl acetate	25.0	25.7		ug/L		103	48 - 140
Vinyl chloride	25.0	24.1		ug/L		96	59 - 133
1,2-Dibromoethane (EDB)	25.0	25.3		ug/L		101	70 - 130
2-Butanone (MEK)	125	117		ug/L		94	44 - 150
4-Methyl-2-pentanone (MIBK)	125	115		ug/L		92	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	96		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: 440-237317-C-1 MS

Matrix: Water

Analysis Batch: 539541

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		25.0	23.7		ug/L		95	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.0		ug/L		100	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.4		ug/L		102	63 - 130
1,1,2-Trichloroethane	ND		25.0	24.4		ug/L		98	70 - 130
1,1-Dichloroethane	ND		25.0	23.7		ug/L		95	65 - 130
1,1-Dichloroethene	1.2		25.0	25.5		ug/L		97	70 - 130
1,1-Dichloropropene	ND		25.0	24.4		ug/L		98	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	22.7		ug/L		91	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	22.8		ug/L		91	48 - 140
1,2-Dichlorobenzene	ND		25.0	24.6		ug/L		99	70 - 130
1,2-Dichloroethane	ND		25.0	22.8		ug/L		91	56 - 146
1,2-Dichloropropane	ND		25.0	26.1		ug/L		104	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	ND		25.0	25.1		ug/L		101	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.0		ug/L		100	70 - 130
2,2-Dichloropropane	ND		25.0	24.9		ug/L		100	69 - 138
2-Hexanone	ND		125	115		ug/L		92	10 - 150
Acetone	ND		125	104		ug/L		83	10 - 150
Acrolein	ND		25.0	32.0		ug/L		128	10 - 147
Acrylonitrile	ND		250	244		ug/L		98	38 - 144
Benzene	ND		25.0	24.5		ug/L		98	66 - 130
Bromoform	ND		25.0	26.2		ug/L		105	59 - 150
Bromomethane	ND		25.0	23.4		ug/L		94	62 - 131
Carbon disulfide	ND		25.0	23.8		ug/L		95	49 - 140
Carbon tetrachloride	ND		25.0	26.0		ug/L		104	60 - 150
Chlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	ND		25.0	24.7		ug/L		99	70 - 130
Chloroethane	ND		25.0	23.0		ug/L		92	68 - 130
Chloroform	0.32	J	25.0	24.9		ug/L		98	70 - 130
Chloromethane	ND		25.0	21.9		ug/L		87	39 - 144
cis-1,2-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.9		ug/L		104	70 - 133
Dibromochloromethane	ND		25.0	25.5		ug/L		102	70 - 148
Dibromomethane	ND		25.0	24.4		ug/L		98	70 - 130
Bromodichloromethane	ND		25.0	26.5		ug/L		106	70 - 138
Dichlorodifluoromethane	ND		25.0	21.8		ug/L		87	25 - 142
Ethylbenzene	ND		25.0	25.2		ug/L		101	70 - 130
m,p-Xylene	ND		25.0	24.6		ug/L		99	70 - 133
Methylene Chloride	ND		25.0	22.9		ug/L		92	52 - 130
Methyl tert-butyl ether	ND		25.0	22.7		ug/L		91	70 - 130
Naphthalene	0.71	J	25.0	22.3		ug/L		86	60 - 140
o-Xylene	ND		25.0	23.9		ug/L		96	70 - 133
Styrene	ND		25.0	23.1		ug/L		92	29 - 150
t-Butanol	ND		250	258		ug/L		103	70 - 130
Tetrachloroethene	ND		25.0	25.1		ug/L		100	70 - 137
Toluene	ND		25.0	24.2		ug/L		97	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: 440-237317-C-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 539541

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	70 - 138
Trichloroethene	ND		25.0	24.9		ug/L		100	70 - 130
Trichlorofluoromethane	ND		25.0	23.5		ug/L		94	60 - 150
Vinyl acetate	ND		25.0	25.5		ug/L		102	23 - 150
Vinyl chloride	ND		25.0	24.2		ug/L		97	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	23.4		ug/L		94	70 - 131
2-Butanone (MEK)	ND		125	124		ug/L		99	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		125	117		ug/L		93	52 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	95		80 - 128
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: 440-237317-C-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 539541

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		25.0	23.0		ug/L		92	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		25.0	25.6		ug/L		102	60 - 149	2	20
1,1,1,1-Trichloroethane	ND		25.0	23.9		ug/L		96	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	24.7		ug/L		99	70 - 130	1	25
1,1-Dichloroethane	ND		25.0	22.8		ug/L		91	65 - 130	4	20
1,1-Dichloroethene	1.2		25.0	24.7		ug/L		94	70 - 130	3	20
1,1-Dichloropropene	ND		25.0	23.2		ug/L		93	64 - 130	5	20
1,2,4-Trichlorobenzene	ND		25.0	22.8		ug/L		91	60 - 140	0	20
1,2-Dibromo-3-Chloropropane	ND		25.0	21.5		ug/L		86	48 - 140	6	30
1,2-Dichlorobenzene	ND		25.0	24.4		ug/L		97	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	22.8		ug/L		91	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	25.5		ug/L		102	69 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	23.9		ug/L		95	70 - 130	5	25
1,4-Dichlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	23.4		ug/L		94	69 - 138	6	25
2-Hexanone	ND		125	112		ug/L		89	10 - 150	3	35
Acetone	ND		125	96.9		ug/L		77	10 - 150	7	35
Acrolein	ND		25.0	31.0		ug/L		124	10 - 147	3	40
Acrylonitrile	ND		250	226		ug/L		90	38 - 144	8	40
Benzene	ND		25.0	24.1		ug/L		96	66 - 130	2	20
Bromoform	ND		25.0	26.1		ug/L		105	59 - 150	0	25
Bromomethane	ND		25.0	22.8		ug/L		91	62 - 131	3	25
Carbon disulfide	ND		25.0	23.1		ug/L		93	49 - 140	3	20
Carbon tetrachloride	ND		25.0	24.5		ug/L		98	60 - 150	6	25
Chlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130	0	20
Bromochloromethane	ND		25.0	24.0		ug/L		96	70 - 130	3	25
Chloroethane	ND		25.0	21.8		ug/L		87	68 - 130	5	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: 440-237317-C-1 MSD

Matrix: Water

Analysis Batch: 539541

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroform	0.32	J	25.0	24.2		ug/L		96	70 - 130	3	20
Chloromethane	ND		25.0	20.5		ug/L		82	39 - 144	6	25
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	26.5		ug/L		106	70 - 133	2	20
Dibromochloromethane	ND		25.0	25.8		ug/L		103	70 - 148	1	25
Dibromomethane	ND		25.0	22.9		ug/L		92	70 - 130	6	25
Bromodichloromethane	ND		25.0	25.5		ug/L		102	70 - 138	4	20
Dichlorodifluoromethane	ND		25.0	20.0		ug/L		80	25 - 142	9	30
Ethylbenzene	ND		25.0	25.2		ug/L		101	70 - 130	0	20
m,p-Xylene	ND		25.0	24.4		ug/L		98	70 - 133	1	25
Methylene Chloride	ND		25.0	22.8		ug/L		91	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	21.5		ug/L		86	70 - 130	5	25
Naphthalene	0.71	J	25.0	20.4		ug/L		79	60 - 140	9	30
o-Xylene	ND		25.0	24.1		ug/L		96	70 - 133	1	20
Styrene	ND		25.0	20.0		ug/L		80	29 - 150	14	35
t-Butanol	ND		250	258		ug/L		103	70 - 130	0	25
Tetrachloroethene	ND		25.0	25.6		ug/L		102	70 - 137	2	20
Toluene	ND		25.0	24.7		ug/L		99	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	23.6		ug/L		95	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	70 - 138	2	25
Trichloroethene	ND		25.0	24.3		ug/L		97	70 - 130	3	20
Trichlorofluoromethane	ND		25.0	22.7		ug/L		91	60 - 150	4	25
Vinyl acetate	ND		25.0	23.5		ug/L		94	23 - 150	8	30
Vinyl chloride	ND		25.0	22.5		ug/L		90	50 - 137	7	30
1,2-Dibromoethane (EDB)	ND		25.0	24.1		ug/L		96	70 - 131	3	25
2-Butanone (MEK)	ND		125	110		ug/L		88	48 - 140	12	40
4-Methyl-2-pentanone (MIBK)	ND		125	111		ug/L		89	52 - 150	5	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

Lab Sample ID: MB 440-539648/7

Matrix: Water

Analysis Batch: 539648

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chlorobenzene	ND		0.50	0.25	ug/L			04/11/19 08:57	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					04/11/19 08:57	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	97		80 - 128		04/11/19 08:57	1
4-Bromofluorobenzene (Surr)	88		80 - 120		04/11/19 08:57	1
Dibromofluoromethane (Surr)	103		76 - 132		04/11/19 08:57	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

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

Lab Sample ID: LCS 440-539648/8

Matrix: Water

Analysis Batch: 539648

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	25.0	23.7		ug/L		95	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	93		80 - 128				
4-Bromofluorobenzene (Surr)	91		80 - 120				
Dibromofluoromethane (Surr)	101		76 - 132				

Lab Sample ID: 440-237928-B-2 MS

Matrix: Water

Analysis Batch: 539648

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
Chlorobenzene	2600	E	625	3100	E 4	ug/L		87	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	97		80 - 128						
4-Bromofluorobenzene (Surr)	90		80 - 120						
Dibromofluoromethane (Surr)	102		76 - 132						

Lab Sample ID: 440-237928-B-2 MSD

Matrix: Water

Analysis Batch: 539648

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	Limit
Chlorobenzene	2600	E	625	3190	E 4	ug/L		101	70 - 130	3	20
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	99		80 - 128								
4-Bromofluorobenzene (Surr)	92		80 - 120								
Dibromofluoromethane (Surr)	102		76 - 132								

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-537430/1-A

Matrix: Water

Analysis Batch: 538037

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 537430

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		03/30/19 08:34	04/03/19 19:53	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,4-Dioxane-d8 (Surr)	67		30 - 120	03/30/19 08:34	04/03/19 19:53	1			

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-537430/2-A
Matrix: Water
Analysis Batch: 538037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 537430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.32		ug/L		66	35 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	67		30 - 120				

Lab Sample ID: LCSD 440-537430/3-A
Matrix: Water
Analysis Batch: 538037

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 537430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.09		ug/L		54	35 - 120	19	35
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	54		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-537476/6
Matrix: Water
Analysis Batch: 537476

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			03/30/19 18:40	1

Lab Sample ID: LCS 440-537476/5
Matrix: Water
Analysis Batch: 537476

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	4.94		mg/L		99	90 - 110

Lab Sample ID: 440-237555-E-6 MS
Matrix: Water
Analysis Batch: 537476

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	170	E	5.00	175	E 4	mg/L		9	80 - 120

Lab Sample ID: 440-237555-E-6 MSD
Matrix: Water
Analysis Batch: 537476

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	170	E	5.00	175	E 4	mg/L		15	80 - 120	0	20

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-537836/1-A
 Matrix: Water
 Analysis Batch: 537953

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 537836

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		04/02/19 08:55	04/02/19 14:33	1

Lab Sample ID: LCS 440-537836/2-A
 Matrix: Water
 Analysis Batch: 537953

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 537836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.45		mg/L		95	80 - 120

Lab Sample ID: 440-237344-1 MS
 Matrix: Water
 Analysis Batch: 537953

Client Sample ID: PZ-4
 Prep Type: Total Recoverable
 Prep Batch: 537836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	4.9		10.0	15.0		mg/L		100	75 - 125

Lab Sample ID: 440-237344-1 MSD
 Matrix: Water
 Analysis Batch: 537953

Client Sample ID: PZ-4
 Prep Type: Total Recoverable
 Prep Batch: 537836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	4.9		10.0	14.9		mg/L		100	75 - 125	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-537613/10
 Matrix: Water
 Analysis Batch: 537613

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			03/29/19 17:12	1

Lab Sample ID: LCS 440-537613/11
 Matrix: Water
 Analysis Batch: 537613

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	5.10		mg/L		102	90 - 110

Lab Sample ID: MRL 440-537613/9
 Matrix: Water
 Analysis Batch: 537613

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	0.204		mg/L		102	50 - 150

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 440-237344-1 MS
Matrix: Water
Analysis Batch: 537613

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
Ammonia (as N)	3.1		5.00	8.38		mg/L		106	90 - 110

Lab Sample ID: 440-237344-1 MSD
Matrix: Water
Analysis Batch: 537613

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
Ammonia (as N)	3.1		5.00	8.48		mg/L		108	90 - 110	1	15

Method: 410.4 - COD

Lab Sample ID: MB 440-539184/3
Matrix: Water
Analysis Batch: 539184

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			04/09/19 10:09	1

Lab Sample ID: LCS 440-539184/4
Matrix: Water
Analysis Batch: 539184

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	205		mg/L		103	90 - 110

Lab Sample ID: 440-237269-B-1 MS
Matrix: Water
Analysis Batch: 539184

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	19	J	200	203		mg/L		92	70 - 120

Lab Sample ID: 440-237269-B-1 MSD
Matrix: Water
Analysis Batch: 539184

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	19	J	200	207		mg/L		94	70 - 120	2	15

Lab Sample ID: 440-237220-A-1 DU
Matrix: Water
Analysis Batch: 539184

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	74		72.2		mg/L		2	15

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-537412/3
 Matrix: Water
 Analysis Batch: 537412

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	-		03/29/19 07:48	1

Lab Sample ID: LCS 440-537412/2
 Matrix: Water
 Analysis Batch: 537412

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	98.8	101		mg/L	-	102	80 - 120

Lab Sample ID: 440-237344-1 DU
 Matrix: Water
 Analysis Batch: 537412

Client Sample ID: PZ-4
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	340		339		mg/L	-	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-538337/1
 Matrix: Water
 Analysis Batch: 538337

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	-		04/04/19 09:02	1

Lab Sample ID: LCS 440-538337/2
 Matrix: Water
 Analysis Batch: 538337

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	988		mg/L	-	99	90 - 110

Lab Sample ID: 440-237344-1 DU
 Matrix: Water
 Analysis Batch: 538337

Client Sample ID: PZ-4
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300		1280		mg/L	-	0.9	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-537291/6
 Matrix: Water
 Analysis Batch: 537291

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	-		03/29/19 05:41	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-537291/5

Matrix: Water

Analysis Batch: 537291

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	9.83		mg/L		98	85 - 115

Lab Sample ID: MRL 440-537291/4

Matrix: Water

Analysis Batch: 537291

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	0.0547	J	mg/L		55	50 - 150

Lab Sample ID: 440-237268-G-2 MS

Matrix: Water

Analysis Batch: 537291

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	3.8		12.0	15.0		mg/L		94	85 - 115

Lab Sample ID: 440-237268-G-2 MSD

Matrix: Water

Analysis Batch: 537291

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	3.8		12.0	15.4		mg/L		96	85 - 115	2	20

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

GC/MS VOA

Analysis Batch: 537807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	8260B	
440-237344-2	Field Blank	Total/NA	Water	8260B	
440-237344-3	Trip Blank	Total/NA	Water	8260B	
MB 440-537807/4	Method Blank	Total/NA	Water	8260B	
LCS 440-537807/5	Lab Control Sample	Total/NA	Water	8260B	
440-236829-A-9 MS	Matrix Spike	Total/NA	Water	8260B	
440-236829-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 539541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	8260B	
440-237344-2	Field Blank	Total/NA	Water	8260B	
440-237344-3	Trip Blank	Total/NA	Water	8260B	
MB 440-539541/4	Method Blank	Total/NA	Water	8260B	
LCS 440-539541/5	Lab Control Sample	Total/NA	Water	8260B	
440-237317-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-237317-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 539648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1 - RA	PZ-4	Total/NA	Water	8260B	
440-237344-2 - RA	Field Blank	Total/NA	Water	8260B	
MB 440-539648/7	Method Blank	Total/NA	Water	8260B	
LCS 440-539648/8	Lab Control Sample	Total/NA	Water	8260B	
440-237928-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-237928-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 537430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	3520C	
MB 440-537430/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-537430/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-537430/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 538037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	8270C	537430
MB 440-537430/1-A	Method Blank	Total/NA	Water	8270C	537430
LCS 440-537430/2-A	Lab Control Sample	Total/NA	Water	8270C	537430
LCSD 440-537430/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	537430

HPLC/IC

Analysis Batch: 537476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	300.0	
MB 440-537476/6	Method Blank	Total/NA	Water	300.0	
LCS 440-537476/5	Lab Control Sample	Total/NA	Water	300.0	
440-237555-E-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-237555-E-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

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QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Metals

Prep Batch: 537836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total Recoverable	Water	3005A	
MB 440-537836/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-537836/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-237344-1 MS	PZ-4	Total Recoverable	Water	3005A	
440-237344-1 MSD	PZ-4	Total Recoverable	Water	3005A	

Analysis Batch: 537953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total Recoverable	Water	6010B	537836
MB 440-537836/1-A	Method Blank	Total Recoverable	Water	6010B	537836
LCS 440-537836/2-A	Lab Control Sample	Total Recoverable	Water	6010B	537836
440-237344-1 MS	PZ-4	Total Recoverable	Water	6010B	537836
440-237344-1 MSD	PZ-4	Total Recoverable	Water	6010B	537836

General Chemistry

Analysis Batch: 537291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	SM 5310C	
MB 440-537291/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-537291/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-537291/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-237268-G-2 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-237268-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 537412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	SM 2320B	
MB 440-537412/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-537412/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-237344-1 DU	PZ-4	Total/NA	Water	SM 2320B	

Analysis Batch: 537613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	350.1	
MB 440-537613/10	Method Blank	Total/NA	Water	350.1	
LCS 440-537613/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-537613/9	Lab Control Sample	Total/NA	Water	350.1	
440-237344-1 MS	PZ-4	Total/NA	Water	350.1	
440-237344-1 MSD	PZ-4	Total/NA	Water	350.1	

Analysis Batch: 538337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	SM 2540C	
MB 440-538337/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-538337/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-237344-1 DU	PZ-4	Total/NA	Water	SM 2540C	

Analysis Batch: 539184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-237344-1	PZ-4	Total/NA	Water	410.4	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

General Chemistry (Continued)

Analysis Batch: 539184 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-539184/3	Method Blank	Total/NA	Water	410.4	
LCS 440-539184/4	Lab Control Sample	Total/NA	Water	410.4	
440-237269-B-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-237269-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	
440-237220-A-1 DU	Duplicate	Total/NA	Water	410.4	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Qualifiers

GC/MS VOA

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-237344-1

Laboratory: Eurofins 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. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

Regulatory Program: DW NPDES RCRA Other:

Company Name: GALA REPUBLIC Address: 11415 W. BERNARDO ST City/State/Zip: S. D. CA 92707 Phone: 951-451-1136 Fax: 951-451-1136 Project Name: Republic Services Site: Sunshine Can Landfill P O #		Client Contact Project Manager: Kyle Welch Tel/Fax: 951-451-1136 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: J. Mills Lab Contact: Rossina Date: 3-28-19 Carrier: JTA COC No: 1 of 1 COCs	
Sample Identification PE-4 Field Blank Tap Blank		Filtered Sample (Y/N) Perform MS/MSD (Y/N) EPA 8260B VOCs (27014-Bioxane) TOC (45.1) TDS (150.1) COD (10.4) Chloride (300.0) Ammonia (1.2) 30.1 Total Alkalinity		Sample Specific Notes: Metals are not field filtered 6/1/85/19 00/00/19	
Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	
3/28/19	0850	G	GW	12	
↓	—	↓	LAB	4	
↓	—	↓	"	5	
440-237344 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 <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					
Special Instructions/QC Requirements & Comments: 8260 VOCs includes all VOCs per 258 Appx. 1 VOCs Dichloro di Fluoromethane and mPE					
Custody Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		Cooler Temp (°C): Obs'd: 0.6 Corr'd: 0.6		Therm ID No.: JF-89	
Relinquished by: Rossina		Received by: J. Mills Date/Time: 3/28/19 1130		Date/Time: 3/28/19 1130	
Relinquished by: J. Mills		Received by: J. Mills Date/Time: 3/28/19 1645		Date/Time: 3/28/19 1645	



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-237344-1

Login Number: 237344

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-241925-1

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:
5/30/2019 12:39:07 PM

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-241925-1	MW-5-A	Water	05/20/19 11:45	05/20/19 17:40	
440-241925-2	MW-5-B	Water	05/20/19 11:50	05/20/19 17:40	
440-241925-3	PZ-2-A	Water	05/20/19 12:58	05/20/19 17:40	
440-241925-4	PZ-2-B	Water	05/20/19 13:03	05/20/19 17:40	
440-241925-5	PZ-4-A	Water	05/20/19 10:36	05/20/19 17:40	
440-241925-6	PZ-4-B	Water	05/20/19 10:41	05/20/19 17:40	
440-241925-7	FIELD BLANK	Water	05/20/19 00:01	05/20/19 17:40	
440-241925-8	TRIP BLANK	Water	05/20/19 00:01	05/20/19 17:40	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Job ID: 440-241925-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Receipt

The samples were received on 5/20/2019 5:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-549405 recovered above the upper control limit for Vinyl acetate and 2-Methyl-2-propanol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data has been reported.

No additional analytical or quality issues were noted, other than those described above or 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.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: MW-5-A

Lab Sample ID: 440-241925-1

Date Collected: 05/20/19 11:45

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 03:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/29/19 03:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/29/19 03:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/29/19 03:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/29/19 03:35	1
2-Hexanone	ND		5.0	2.5	ug/L			05/29/19 03:35	1
Acetone	ND		20	10	ug/L			05/29/19 03:35	1
Acetonitrile	ND		20	10	ug/L			05/29/19 03:35	1
Acrolein	ND		5.0	2.5	ug/L			05/29/19 03:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/29/19 03:35	1
Benzene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Allyl chloride	ND		1.0	0.50	ug/L			05/29/19 03:35	1
Bromoform	ND		1.0	0.40	ug/L			05/29/19 03:35	1
Bromomethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/29/19 03:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Chloroethane	ND		1.0	0.40	ug/L			05/29/19 03:35	1
Chloroform	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Chloromethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Dibromomethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/29/19 03:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 03:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Iodomethane	ND		2.0	1.0	ug/L			05/29/19 03:35	1
Isobutyl alcohol	ND		25	13	ug/L			05/29/19 03:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/29/19 03:35	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/29/19 03:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 03:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/29/19 03:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/29/19 03:35	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: MW-5-A

Lab Sample ID: 440-241925-1

Date Collected: 05/20/19 11:45

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 03:35	1
o-Xylene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Propionitrile	ND		20	10	ug/L			05/29/19 03:35	1
Styrene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Tetrahydrofuran	20		10	5.0	ug/L			05/29/19 03:35	1
Toluene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/29/19 03:35	1
Trichloroethene	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/29/19 03:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/29/19 03:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/29/19 03:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/29/19 03:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/29/19 03:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/29/19 03:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	600	T J	ug/L		2.29			05/29/19 03:35	1
Silane, fluorotrimethyl-	5.5	T J N	ug/L		3.24	420-56-4		05/29/19 03:35	1
Unknown	11	T J	ug/L		5.40			05/29/19 03:35	1
Unknown	12	T J	ug/L		6.86			05/29/19 03:35	1
Unknown	34	T J	ug/L		14.19			05/29/19 03:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		05/29/19 03:35	1
4-Bromofluorobenzene (Surr)	104		80 - 120		05/29/19 03:35	1
Dibromofluoromethane (Surr)	100		76 - 132		05/29/19 03:35	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butanol	79		10	5.0	ug/L			05/29/19 18:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	650	T J	ug/L		2.29			05/29/19 18:20	1
Silane, fluorotrimethyl-	7.6	T J N	ug/L		3.24	420-56-4		05/29/19 18:20	1
Silanol, trimethyl-	11	T J N	ug/L		5.40	1066-40-6		05/29/19 18:20	1
Unknown	12	T J	ug/L		6.86			05/29/19 18:20	1
Unknown	38	T J	ug/L		16.80			05/29/19 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		05/29/19 18:20	1
4-Bromofluorobenzene (Surr)	100		80 - 120		05/29/19 18:20	1
Dibromofluoromethane (Surr)	95		76 - 132		05/29/19 18:20	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	930		4.0	4.0	mg/L			05/21/19 14:04	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: MW-5-B

Lab Sample ID: 440-241925-2

Date Collected: 05/20/19 11:50

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 04:00	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/29/19 04:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/29/19 04:00	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/29/19 04:00	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/29/19 04:00	1
2-Hexanone	ND		5.0	2.5	ug/L			05/29/19 04:00	1
Acetone	ND		20	10	ug/L			05/29/19 04:00	1
Acetonitrile	ND		20	10	ug/L			05/29/19 04:00	1
Acrolein	ND		5.0	2.5	ug/L			05/29/19 04:00	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/29/19 04:00	1
Benzene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Allyl chloride	ND		1.0	0.50	ug/L			05/29/19 04:00	1
Bromoform	ND		1.0	0.40	ug/L			05/29/19 04:00	1
Bromomethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/29/19 04:00	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Chloroethane	ND		1.0	0.40	ug/L			05/29/19 04:00	1
Chloroform	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Chloromethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Dibromomethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/29/19 04:00	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 04:00	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Iodomethane	ND		2.0	1.0	ug/L			05/29/19 04:00	1
Isobutyl alcohol	ND		25	13	ug/L			05/29/19 04:00	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/29/19 04:00	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/29/19 04:00	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 04:00	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/29/19 04:00	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/29/19 04:00	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: MW-5-B

Lab Sample ID: 440-241925-2

Date Collected: 05/20/19 11:50

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 04:00	1
o-Xylene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Propionitrile	ND		20	10	ug/L			05/29/19 04:00	1
Styrene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Tetrahydrofuran	20		10	5.0	ug/L			05/29/19 04:00	1
Toluene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/29/19 04:00	1
Trichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/29/19 04:00	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/29/19 04:00	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/29/19 04:00	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/29/19 04:00	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/29/19 04:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/29/19 04:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	570	T J	ug/L		2.30			05/29/19 04:00	1
Silane, fluorotrimethyl-	6.5	T J N	ug/L		3.25	420-56-4		05/29/19 04:00	1
Unknown	11	T J	ug/L		5.40			05/29/19 04:00	1
Unknown	12	T J	ug/L		6.87			05/29/19 04:00	1
Unknown	35	T J	ug/L		16.82			05/29/19 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		80 - 128		05/29/19 04:00	1
4-Bromofluorobenzene (Surr)	101		80 - 120		05/29/19 04:00	1
Dibromofluoromethane (Surr)	101		76 - 132		05/29/19 04:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butanol	80		10	5.0	ug/L			05/29/19 18:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	630	T J	ug/L		2.30			05/29/19 18:45	1
Silane, fluorotrimethyl-	9.0	T J N	ug/L		3.25	420-56-4		05/29/19 18:45	1
Unknown	12	T J	ug/L		5.40			05/29/19 18:45	1
Unknown	37	T J	ug/L		16.81			05/29/19 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		05/29/19 18:45	1
4-Bromofluorobenzene (Surr)	97		80 - 120		05/29/19 18:45	1
Dibromofluoromethane (Surr)	102		76 - 132		05/29/19 18:45	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	920		4.0	4.0	mg/L			05/21/19 14:20	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: PZ-2-A

Lab Sample ID: 440-241925-3

Date Collected: 05/20/19 12:58

Matrix: Water

Date Received: 05/20/19 17:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.4		0.50	0.25	mg/L		05/24/19 10:31	05/28/19 21:28	1

Client Sample ID: PZ-2-B

Lab Sample ID: 440-241925-4

Date Collected: 05/20/19 13:03

Matrix: Water

Date Received: 05/20/19 17:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.5		0.50	0.25	mg/L		05/24/19 10:31	05/28/19 21:25	1

Client Sample ID: PZ-4-A

Lab Sample ID: 440-241925-5

Date Collected: 05/20/19 10:36

Matrix: Water

Date Received: 05/20/19 17:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.0		0.20	0.10	mg/L			05/22/19 14:39	1

Client Sample ID: PZ-4-B

Lab Sample ID: 440-241925-6

Date Collected: 05/20/19 10:41

Matrix: Water

Date Received: 05/20/19 17:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.1		0.20	0.10	mg/L			05/22/19 14:44	1

Client Sample ID: FIELD BLANK

Lab Sample ID: 440-241925-7

Date Collected: 05/20/19 00:01

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 04:25	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/29/19 04:25	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/29/19 04:25	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/29/19 04:25	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/29/19 04:25	1
2-Hexanone	ND		5.0	2.5	ug/L			05/29/19 04:25	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 440-241925-7

Date Collected: 05/20/19 00:01

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 04:25	1
Acetonitrile	ND		20	10	ug/L			05/29/19 04:25	1
Acrolein	ND		5.0	2.5	ug/L			05/29/19 04:25	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/29/19 04:25	1
Benzene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Allyl chloride	ND		1.0	0.50	ug/L			05/29/19 04:25	1
Bromoform	ND		1.0	0.40	ug/L			05/29/19 04:25	1
Bromomethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/29/19 04:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Chloroethane	ND		1.0	0.40	ug/L			05/29/19 04:25	1
Chloroform	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Chloromethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Dibromomethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/29/19 04:25	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 04:25	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Iodomethane	ND		2.0	1.0	ug/L			05/29/19 04:25	1
Isobutyl alcohol	ND		25	13	ug/L			05/29/19 04:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/29/19 04:25	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/29/19 04:25	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 04:25	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/29/19 04:25	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Naphthalene	ND		1.0	0.40	ug/L			05/29/19 04:25	1
o-Xylene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Propionitrile	ND		20	10	ug/L			05/29/19 04:25	1
Styrene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
t-Butanol	ND		10	5.0	ug/L			05/29/19 04:25	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/29/19 04:25	1
Toluene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/29/19 04:25	1
Trichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/29/19 04:25	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/29/19 04:25	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/29/19 04:25	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/29/19 04:25	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/29/19 04:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/29/19 04:25	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 440-241925-7

Date Collected: 05/20/19 00:01

Matrix: Water

Date Received: 05/20/19 17:40

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	14	TJ	ug/L		2.30			05/29/19 04:25	1
Unknown	12	TJ	ug/L		6.87			05/29/19 04:25	1
Unknown	40	TJ	ug/L		15.88			05/29/19 04:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 128					05/29/19 04:25	1
4-Bromofluorobenzene (Surr)	101		80 - 120					05/29/19 04:25	1
Dibromofluoromethane (Surr)	106		76 - 132					05/29/19 04:25	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 440-241925-8

Date Collected: 05/20/19 00:01

Matrix: Water

Date Received: 05/20/19 17:40

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			05/29/19 04:49	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/29/19 04:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/29/19 04:49	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/29/19 04:49	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/29/19 04:49	1
2-Hexanone	ND		5.0	2.5	ug/L			05/29/19 04:49	1
Acetone	ND		20	10	ug/L			05/29/19 04:49	1
Acetonitrile	ND		20	10	ug/L			05/29/19 04:49	1
Acrolein	ND		5.0	2.5	ug/L			05/29/19 04:49	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/29/19 04:49	1
Benzene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Allyl chloride	ND		1.0	0.50	ug/L			05/29/19 04:49	1
Bromoform	ND		1.0	0.40	ug/L			05/29/19 04:49	1
Bromomethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/29/19 04:49	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Chloroethane	ND		1.0	0.40	ug/L			05/29/19 04:49	1
Chloroform	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Chloromethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:49	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 440-241925-8

Date Collected: 05/20/19 00:01

Matrix: Water

Date Received: 05/20/19 17:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Dibromomethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/29/19 04:49	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 04:49	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Iodomethane	ND		2.0	1.0	ug/L			05/29/19 04:49	1
Isobutyl alcohol	ND		25	13	ug/L			05/29/19 04:49	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/29/19 04:49	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/29/19 04:49	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/29/19 04:49	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/29/19 04:49	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Naphthalene	ND		1.0	0.40	ug/L			05/29/19 04:49	1
o-Xylene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Propionitrile	ND		20	10	ug/L			05/29/19 04:49	1
Styrene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
t-Butanol	ND		10	5.0	ug/L			05/29/19 04:49	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/29/19 04:49	1
Toluene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/29/19 04:49	1
Trichloroethene	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/29/19 04:49	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/29/19 04:49	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/29/19 04:49	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/29/19 04:49	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/29/19 04:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/29/19 04:49	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.5	T J	ug/L		2.19			05/29/19 04:49	1
Unknown	20	T J	ug/L		2.30			05/29/19 04:49	1
Unknown	13	T J	ug/L		6.87			05/29/19 04:49	1
Unknown	42	T J	ug/L		14.19			05/29/19 04:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 128		05/29/19 04:49	1
4-Bromofluorobenzene (Surr)	103		80 - 120		05/29/19 04:49	1
Dibromofluoromethane (Surr)	101		76 - 132		05/29/19 04:49	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
350.1	Nitrogen, Ammonia	MCAWW	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	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 = Eurofins 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

Job ID: 440-241925-1

Client Sample ID: MW-5-A

Date Collected: 05/20/19 11:45

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-1

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	549405	05/29/19 03:35	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	549458	05/29/19 18:20	AYL	TAL IRV
Total/NA	Analysis	SM 2320B		1			548110	05/21/19 14:04	YZ	TAL IRV

Client Sample ID: MW-5-B

Date Collected: 05/20/19 11:50

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-2

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	549405	05/29/19 04:00	JB	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	549458	05/29/19 18:45	AYL	TAL IRV
Total/NA	Analysis	SM 2320B		1			548110	05/21/19 14:20	YZ	TAL IRV

Client Sample ID: PZ-2-A

Date Collected: 05/20/19 12:58

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-3

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	548786	05/24/19 10:31	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			549438	05/28/19 21:28	P1R	TAL IRV

Client Sample ID: PZ-2-B

Date Collected: 05/20/19 13:03

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-4

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	548786	05/24/19 10:31	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			549438	05/28/19 21:25	P1R	TAL IRV

Client Sample ID: PZ-4-A

Date Collected: 05/20/19 10:36

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-5

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	350.1		1	0.8 mL	8.0 mL	548466	05/22/19 14:39	KMY	TAL IRV

Client Sample ID: PZ-4-B

Date Collected: 05/20/19 10:41

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-6

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	350.1		1	0.8 mL	8.0 mL	548466	05/22/19 14:44	KMY	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Client Sample ID: FIELD BLANK

Date Collected: 05/20/19 00:01

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-7

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	549405	05/29/19 04:25	JB	TAL IRV

Client Sample ID: TRIP BLANK

Date Collected: 05/20/19 00:01

Date Received: 05/20/19 17:40

Lab Sample ID: 440-241925-8

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	549405	05/29/19 04:49	JB	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: MB 440-549405/5

Matrix: Water

Analysis Batch: 549405

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			05/28/19 20:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			05/28/19 20:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			05/28/19 20:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			05/28/19 20:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			05/28/19 20:07	1
2-Hexanone	ND		5.0	2.5	ug/L			05/28/19 20:07	1
Acetone	ND		20	10	ug/L			05/28/19 20:07	1
Acetonitrile	ND		20	10	ug/L			05/28/19 20:07	1
Acrolein	ND		5.0	2.5	ug/L			05/28/19 20:07	1
Acrylonitrile	ND		2.0	1.0	ug/L			05/28/19 20:07	1
Benzene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Allyl chloride	ND		1.0	0.50	ug/L			05/28/19 20:07	1
Bromoform	ND		1.0	0.40	ug/L			05/28/19 20:07	1
Bromomethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/28/19 20:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Chloroethane	ND		1.0	0.40	ug/L			05/28/19 20:07	1
Chloroform	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Chloromethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Dibromomethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			05/28/19 20:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			05/28/19 20:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Iodomethane	ND		2.0	1.0	ug/L			05/28/19 20:07	1
Isobutyl alcohol	ND		25	13	ug/L			05/28/19 20:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/28/19 20:07	1
Methylacrylonitrile	ND		10	2.5	ug/L			05/28/19 20:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			05/28/19 20:07	1
Methylene Chloride	ND		2.0	0.88	ug/L			05/28/19 20:07	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: MB 440-549405/5

Matrix: Water

Analysis Batch: 549405

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			05/28/19 20:07	1
Naphthalene	ND		1.0	0.40	ug/L			05/28/19 20:07	1
o-Xylene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Propionitrile	ND		20	10	ug/L			05/28/19 20:07	1
Styrene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
t-Butanol	ND		10	5.0	ug/L			05/28/19 20:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Tetrahydrofuran	ND		10	5.0	ug/L			05/28/19 20:07	1
Toluene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			05/28/19 20:07	1
Trichloroethene	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			05/28/19 20:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			05/28/19 20:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			05/28/19 20:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			05/28/19 20:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			05/28/19 20:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			05/28/19 20:07	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					05/28/19 20:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 128		05/28/19 20:07	1
4-Bromofluorobenzene (Surr)	100		80 - 120		05/28/19 20:07	1
Dibromofluoromethane (Surr)	102		76 - 132		05/28/19 20:07	1

Lab Sample ID: LCS 440-549405/6

Matrix: Water

Analysis Batch: 549405

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	10.0	9.49		ug/L		95	63 - 130
1,1,1,2-Tetrachloroethane	10.0	10.1		ug/L		101	60 - 141
1,1,1-Trichloroethane	10.0	11.3		ug/L		113	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.73		ug/L		97	63 - 130
1,1,2-Trichloroethane	10.0	10.3		ug/L		103	70 - 130
1,1-Dichloroethane	10.0	11.2		ug/L		112	64 - 130
1,1-Dichloroethane	10.0	11.6		ug/L		116	70 - 130
1,1-Dichloropropene	10.0	11.4		ug/L		114	70 - 130
1,2,4-Trichlorobenzene	10.0	8.80		ug/L		88	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	9.59		ug/L		96	52 - 140
1,2-Dichlorobenzene	10.0	9.34		ug/L		93	70 - 130
1,2-Dichloroethane	10.0	10.0		ug/L		100	57 - 138
1,2-Dichloropropane	10.0	10.6		ug/L		106	67 - 130
1,3-Dichlorobenzene	10.0	9.61		ug/L		96	70 - 130
1,3-Dichloropropane	10.0	9.84		ug/L		98	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: LCS 440-549405/6

Matrix: Water

Analysis Batch: 549405

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	10.0	9.30		ug/L		93	70 - 130
2,2-Dichloropropane	10.0	11.8		ug/L		118	68 - 141
2-Hexanone	50.0	51.5		ug/L		103	10 - 150
Acetone	50.0	45.5		ug/L		91	10 - 150
Acrolein	9.98	7.38		ug/L		74	10 - 145
Acrylonitrile	100	121		ug/L		121	48 - 140
Benzene	10.0	10.6		ug/L		106	68 - 130
Bromoform	10.0	10.6		ug/L		106	60 - 148
Bromomethane	10.0	10.8		ug/L		108	64 - 139
Carbon disulfide	10.0	12.0		ug/L		120	52 - 136
Carbon tetrachloride	10.0	12.0		ug/L		120	60 - 150
Chlorobenzene	10.0	10.0		ug/L		100	70 - 130
Bromochloromethane	10.0	10.3		ug/L		103	70 - 130
Chloroethane	10.0	11.7		ug/L		117	64 - 135
Chloroform	10.0	10.7		ug/L		107	70 - 130
Chloromethane	10.0	11.0		ug/L		110	47 - 140
cis-1,2-Dichloroethene	10.0	11.0		ug/L		110	70 - 133
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	70 - 133
Dibromochloromethane	10.0	10.5		ug/L		105	69 - 145
Dibromomethane	10.0	10.4		ug/L		104	70 - 130
Bromodichloromethane	10.0	10.9		ug/L		109	70 - 132
Dichlorodifluoromethane	10.0	11.0		ug/L		110	29 - 150
Ethylbenzene	10.0	10.6		ug/L		106	70 - 130
m,p-Xylene	10.0	10.5		ug/L		105	70 - 130
Methylene Chloride	10.0	10.6		ug/L		106	52 - 130
Methyl tert-butyl ether	10.0	10.8		ug/L		108	63 - 131
Naphthalene	10.0	9.06		ug/L		91	60 - 140
o-Xylene	10.0	10.7		ug/L		107	70 - 130
Styrene	10.0	10.9		ug/L		109	70 - 134
t-Butanol	100	98.9		ug/L		99	70 - 130
Tetrachloroethene	10.0	11.2		ug/L		112	70 - 130
Toluene	10.0	10.9		ug/L		109	70 - 130
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	70 - 130
trans-1,3-Dichloropropene	10.0	10.2		ug/L		102	70 - 132
Trichloroethene	10.0	10.9		ug/L		109	70 - 130
Trichlorofluoromethane	10.0	11.6		ug/L		116	60 - 150
Vinyl acetate	10.0	13.0		ug/L		130	48 - 140
Vinyl chloride	10.0	10.7		ug/L		107	59 - 133
1,2-Dibromoethane (EDB)	10.0	10.1		ug/L		101	70 - 130
2-Butanone (MEK)	50.0	50.4		ug/L		101	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	48.5		ug/L		97	59 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: 440-241562-A-13 MS

Matrix: Water

Analysis Batch: 549405

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		1000	907		ug/L		91	60 - 130
1,1,1,2-Tetrachloroethane	ND		1000	986		ug/L		99	60 - 149
1,1,1-Trichloroethane	ND		1000	1070		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	ND		1000	967		ug/L		97	63 - 130
1,1,2-Trichloroethane	ND		1000	941		ug/L		94	70 - 130
1,1-Dichloroethane	2200		1000	3280		ug/L		109	65 - 130
1,1-Dichloroethene	1900		1000	3050		ug/L		115	70 - 130
1,1-Dichloropropene	ND		1000	1030		ug/L		103	64 - 130
1,2,4-Trichlorobenzene	ND		1000	966		ug/L		97	60 - 140
1,2-Dibromo-3-Chloropropane	ND		1000	900		ug/L		90	48 - 140
1,2-Dichlorobenzene	ND		1000	955		ug/L		95	70 - 130
1,2-Dichloroethane	ND		1000	968		ug/L		97	56 - 146
1,2-Dichloropropane	ND		1000	1060		ug/L		106	69 - 130
1,3-Dichlorobenzene	ND		1000	999		ug/L		100	70 - 130
1,3-Dichloropropane	ND		1000	930		ug/L		93	70 - 130
1,4-Dichlorobenzene	ND		1000	955		ug/L		95	70 - 130
2,2-Dichloropropane	ND		1000	1130		ug/L		113	69 - 138
2-Hexanone	ND		5000	4500		ug/L		90	10 - 150
Acetone	ND		5000	3680		ug/L		74	10 - 150
Acrolein	ND		998	543		ug/L		54	10 - 147
Acrylonitrile	ND		10000	10800		ug/L		108	38 - 144
Benzene	ND		1000	1010		ug/L		101	66 - 130
Bromoform	ND		1000	953		ug/L		95	59 - 150
Bromomethane	ND		1000	998		ug/L		100	62 - 131
Carbon disulfide	ND		1000	1070		ug/L		107	49 - 140
Carbon tetrachloride	ND		1000	1100		ug/L		110	60 - 150
Chlorobenzene	ND		1000	980		ug/L		98	70 - 130
Bromochloromethane	ND		1000	928		ug/L		93	70 - 130
Chloroethane	ND		1000	1030		ug/L		103	68 - 130
Chloroform	ND		1000	1010		ug/L		101	70 - 130
Chloromethane	ND		1000	1030		ug/L		103	39 - 144
cis-1,2-Dichloroethene	340		1000	1400		ug/L		106	70 - 130
cis-1,3-Dichloropropene	ND		1000	993		ug/L		99	70 - 133
Dibromochloromethane	ND		1000	1020		ug/L		102	70 - 148
Dibromomethane	ND		1000	955		ug/L		95	70 - 130
Bromodichloromethane	ND		1000	995		ug/L		99	70 - 138
Dichlorodifluoromethane	ND		1000	1080		ug/L		108	25 - 142
Ethylbenzene	ND		1000	1010		ug/L		101	70 - 130
m,p-Xylene	ND		1000	987		ug/L		99	70 - 133
Methylene Chloride	ND		1000	1050		ug/L		105	52 - 130
Methyl tert-butyl ether	ND		1000	1000		ug/L		100	70 - 130
Naphthalene	47	J	1000	896		ug/L		85	60 - 140
o-Xylene	ND		1000	1060		ug/L		106	70 - 133
Styrene	ND		1000	1040		ug/L		104	29 - 150
t-Butanol	ND		10000	10300		ug/L		103	70 - 130
Tetrachloroethene	ND		1000	1030		ug/L		103	70 - 137
Toluene	ND		1000	982		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		1000	1010		ug/L		101	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: 440-241562-A-13 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 549405

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		1000	992		ug/L		99	70 - 138
Trichloroethene	800		1000	1880		ug/L		108	70 - 130
Trichlorofluoromethane	ND		1000	1060		ug/L		106	60 - 150
Vinyl acetate	ND		1000	1180		ug/L		118	23 - 150
Vinyl chloride	ND		1000	1070		ug/L		107	50 - 137
1,2-Dibromoethane (EDB)	ND		1000	960		ug/L		96	70 - 131
2-Butanone (MEK)	ND		5000	4090		ug/L		82	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		5000	4650		ug/L		93	52 - 150
Surrogate	MS	MS							
	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	98		80 - 128						
4-Bromofluorobenzene (Surr)	99		80 - 120						
Dibromofluoromethane (Surr)	103		76 - 132						

Lab Sample ID: 440-241562-A-13 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 549405

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		1000	861		ug/L		86	60 - 130	5	30
1,1,1,2-Tetrachloroethane	ND		1000	1020		ug/L		102	60 - 149	4	20
1,1,1-Trichloroethane	ND		1000	1090		ug/L		109	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		1000	996		ug/L		100	63 - 130	3	30
1,1,2-Trichloroethane	ND		1000	1090		ug/L		109	70 - 130	15	25
1,1-Dichloroethane	2200		1000	3060		ug/L		87	65 - 130	7	20
1,1-Dichloroethene	1900		1000	2730		ug/L		83	70 - 130	11	20
1,1-Dichloropropene	ND		1000	979		ug/L		98	64 - 130	5	20
1,2,4-Trichlorobenzene	ND		1000	979		ug/L		98	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		1000	962		ug/L		96	48 - 140	7	30
1,2-Dichlorobenzene	ND		1000	999		ug/L		100	70 - 130	4	20
1,2-Dichloroethane	ND		1000	981		ug/L		98	56 - 146	1	20
1,2-Dichloropropane	ND		1000	1050		ug/L		105	69 - 130	1	20
1,3-Dichlorobenzene	ND		1000	1060		ug/L		106	70 - 130	6	20
1,3-Dichloropropane	ND		1000	947		ug/L		95	70 - 130	2	25
1,4-Dichlorobenzene	ND		1000	991		ug/L		99	70 - 130	4	20
2,2-Dichloropropane	ND		1000	1110		ug/L		111	69 - 138	2	25
2-Hexanone	ND		5000	4760		ug/L		95	10 - 150	6	35
Acetone	ND		5000	3950		ug/L		79	10 - 150	7	35
Acrolein	ND		998	516		ug/L		52	10 - 147	5	40
Acrylonitrile	ND		10000	10600		ug/L		106	38 - 144	2	40
Benzene	ND		1000	1020		ug/L		102	66 - 130	0	20
Bromoform	ND		1000	1040		ug/L		104	59 - 150	9	25
Bromomethane	ND		1000	947		ug/L		95	62 - 131	5	25
Carbon disulfide	ND		1000	1100		ug/L		110	49 - 140	2	20
Carbon tetrachloride	ND		1000	1130		ug/L		113	60 - 150	3	25
Chlorobenzene	ND		1000	1040		ug/L		104	70 - 130	6	20
Bromochloromethane	ND		1000	964		ug/L		96	70 - 130	4	25
Chloroethane	ND		1000	987		ug/L		99	68 - 130	4	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: 440-241562-A-13 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 549405

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroform	ND		1000	1020		ug/L		102	70 - 130	1	20
Chloromethane	ND		1000	944		ug/L		94	39 - 144	8	25
cis-1,2-Dichloroethene	340		1000	1340		ug/L		100	70 - 130	4	20
cis-1,3-Dichloropropene	ND		1000	1030		ug/L		103	70 - 133	4	20
Dibromochloromethane	ND		1000	1040		ug/L		104	70 - 148	2	25
Dibromomethane	ND		1000	960		ug/L		96	70 - 130	1	25
Bromodichloromethane	ND		1000	1050		ug/L		105	70 - 138	6	20
Dichlorodifluoromethane	ND		1000	957		ug/L		96	25 - 142	12	30
Ethylbenzene	ND		1000	1030		ug/L		103	70 - 130	2	20
m,p-Xylene	ND		1000	1030		ug/L		103	70 - 133	4	25
Methylene Chloride	ND		1000	912		ug/L		91	52 - 130	14	20
Methyl tert-butyl ether	ND		1000	1030		ug/L		103	70 - 130	2	25
Naphthalene	47	J	1000	936		ug/L		89	60 - 140	4	30
o-Xylene	ND		1000	1040		ug/L		104	70 - 133	2	20
Styrene	ND		1000	1070		ug/L		107	29 - 150	2	35
t-Butanol	ND		10000	11400		ug/L		114	70 - 130	10	25
Tetrachloroethene	ND		1000	1070		ug/L		107	70 - 137	4	20
Toluene	ND		1000	1020		ug/L		102	70 - 130	4	20
trans-1,2-Dichloroethene	ND		1000	997		ug/L		100	70 - 130	1	20
trans-1,3-Dichloropropene	ND		1000	983		ug/L		98	70 - 138	1	25
Trichloroethene	800		1000	1780		ug/L		98	70 - 130	6	20
Trichlorofluoromethane	ND		1000	1050		ug/L		105	60 - 150	1	25
Vinyl acetate	ND		1000	1290		ug/L		129	23 - 150	9	30
Vinyl chloride	ND		1000	1020		ug/L		102	50 - 137	5	30
1,2-Dibromoethane (EDB)	ND		1000	1000		ug/L		100	70 - 131	4	25
2-Butanone (MEK)	ND		5000	4390		ug/L		88	48 - 140	7	40
4-Methyl-2-pentanone (MIBK)	ND		5000	4640		ug/L		93	52 - 150	0	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132

Lab Sample ID: MB 440-549458/4

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 549458

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
t-Butanol	ND		10	5.0	ug/L			05/29/19 08:08	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					05/29/19 08:08	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	95		80 - 128		05/29/19 08:08	1
4-Bromofluorobenzene (Surr)	98		80 - 120		05/29/19 08:08	1
Dibromofluoromethane (Surr)	99		76 - 132		05/29/19 08:08	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: LCS 440-549458/5

Matrix: Water

Analysis Batch: 549458

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
i-Butanol	100	98.9		ug/L		99	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	98		80 - 128				
4-Bromofluorobenzene (Surr)	93		80 - 120				
Dibromofluoromethane (Surr)	104		76 - 132				

Lab Sample ID: 440-242155-A-12 MS

Matrix: Water

Analysis Batch: 549458

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
i-Butanol	57		100	179		ug/L		122	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	99		80 - 128						
4-Bromofluorobenzene (Surr)	96		80 - 120						
Dibromofluoromethane (Surr)	103		76 - 132						

Lab Sample ID: 440-242155-A-12 MSD

Matrix: Water

Analysis Batch: 549458

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	Limit
i-Butanol	57		100	148		ug/L		91	70 - 130	19	25
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	101		80 - 128								
4-Bromofluorobenzene (Surr)	99		80 - 120								
Dibromofluoromethane (Surr)	100		76 - 132								

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-548786/1-A

Matrix: Water

Analysis Batch: 549438

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 548786

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		05/24/19 10:31	05/28/19 20:53	1

Lab Sample ID: LCS 440-548786/2-A

Matrix: Water

Analysis Batch: 549438

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 548786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.38		mg/L		94	80 - 120

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

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

Lab Sample ID: 440-242239-F-3-B MS
 Matrix: Water
 Analysis Batch: 549438

Client Sample ID: Matrix Spike
 Prep Type: Total Recoverable
 Prep Batch: 548786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	3.8		10.0	13.2		mg/L		94	75 - 125

Lab Sample ID: 440-242239-F-3-C MSD
 Matrix: Water
 Analysis Batch: 549438

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total Recoverable
 Prep Batch: 548786

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Potassium	3.8		10.0	13.5		mg/L		97	75 - 125	3	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-548466/10
 Matrix: Water
 Analysis Batch: 548466

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			05/22/19 12:23	1

Lab Sample ID: LCS 440-548466/11
 Matrix: Water
 Analysis Batch: 548466

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	5.09		mg/L		102	90 - 110

Lab Sample ID: MRL 440-548466/9
 Matrix: Water
 Analysis Batch: 548466

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	0.179	J	mg/L		90	50 - 150

Lab Sample ID: 440-240850-H-1 MS
 Matrix: Water
 Analysis Batch: 548466

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)	0.94		5.00	6.06		mg/L		102	90 - 110

Lab Sample ID: 440-240850-H-1 MSD
 Matrix: Water
 Analysis Batch: 548466

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	Limit
Ammonia (as N)	0.94		5.00	5.82		mg/L		98	90 - 110	4	15

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-548110/3
Matrix: Water
Analysis Batch: 548110

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			05/21/19 10:54	1

Lab Sample ID: LCS 440-548110/2
Matrix: Water
Analysis Batch: 548110

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	98.8	98.2		mg/L		99	80 - 120

Lab Sample ID: 440-241908-I-7 DU
Matrix: Water
Analysis Batch: 548110

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	99		99.4		mg/L		0.7	20

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

GC/MS VOA

Analysis Batch: 549405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-241925-1	MW-5-A	Total/NA	Water	8260B	
440-241925-2	MW-5-B	Total/NA	Water	8260B	
440-241925-7	FIELD BLANK	Total/NA	Water	8260B	
440-241925-8	TRIP BLANK	Total/NA	Water	8260B	
MB 440-549405/5	Method Blank	Total/NA	Water	8260B	
LCS 440-549405/6	Lab Control Sample	Total/NA	Water	8260B	
440-241562-A-13 MS	Matrix Spike	Total/NA	Water	8260B	
440-241562-A-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 549458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-241925-1 - RA	MW-5-A	Total/NA	Water	8260B	
440-241925-2 - RA	MW-5-B	Total/NA	Water	8260B	
MB 440-549458/4	Method Blank	Total/NA	Water	8260B	
LCS 440-549458/5	Lab Control Sample	Total/NA	Water	8260B	
440-242155-A-12 MS	Matrix Spike	Total/NA	Water	8260B	
440-242155-A-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Metals

Prep Batch: 548786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-241925-3	PZ-2-A	Total Recoverable	Water	3005A	
440-241925-4	PZ-2-B	Total Recoverable	Water	3005A	
MB 440-548786/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-548786/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-242239-F-3-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-242239-F-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 549438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-241925-3	PZ-2-A	Total Recoverable	Water	6010B	548786
440-241925-4	PZ-2-B	Total Recoverable	Water	6010B	548786
MB 440-548786/1-A	Method Blank	Total Recoverable	Water	6010B	548786
LCS 440-548786/2-A	Lab Control Sample	Total Recoverable	Water	6010B	548786
440-242239-F-3-B MS	Matrix Spike	Total Recoverable	Water	6010B	548786
440-242239-F-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	548786

General Chemistry

Analysis Batch: 548110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-241925-1	MW-5-A	Total/NA	Water	SM 2320B	
440-241925-2	MW-5-B	Total/NA	Water	SM 2320B	
MB 440-548110/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-548110/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-241908-I-7 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 548466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-241925-5	PZ-4-A	Total/NA	Water	350.1	
440-241925-6	PZ-4-B	Total/NA	Water	350.1	

Eurofins TestAmerica, Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

General Chemistry (Continued)

Analysis Batch: 548466 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-548466/10	Method Blank	Total/NA	Water	350.1	
LCS 440-548466/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-548466/9	Lab Control Sample	Total/NA	Water	350.1	
440-240850-H-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-240850-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

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Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Qualifiers

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.

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-241925-1

Laboratory: Eurofins 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. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19
Nevada	State Program	9	CA015312018-1	07-31-19
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-18-00214	07-09-21
Washington	State Program	10	C900	09-03-19

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

Chain of Custody Record 208858

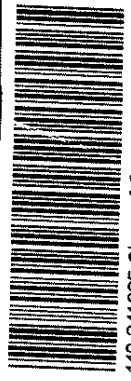
TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-8210 (0713)

Regulatory Program: DW NPDES RCRA Other:

Project Manager: **Kyle Wehman** Site Contact: **Sush Mills** Date: **5/20/2019** Carrier: _____
 Tel/Fax: **(858) 451-1136** Lab Contact: _____
 Analysis Turnaround Time: _____
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below: _____
 2 weeks 1 week 2 days 1 day

Company Name: **GEO-LOGIC ASSOCIATES** Client Contact: _____
 Address: **11415 W. BERNARDO CT. SUITE 200**
 City/State/Zip: **SAN DIEGO CA 92127**
 Phone: **(858) 451-1136**
 Fax: _____
 Project Name: **SUNSHINE CANYON - Republic Services**
 Site: **SUNSHINE CANYON**
 P.O.#: **SOP.1074**

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 8160B - TRAHYDROFORMAN	EPA 83101 - TOTAL ALKALINITY	EPA 8610B - Total Potassium	EPA 3502 - Ammonia as N	Sample Specific Notes
MW-5-A	5/20/19	1145	GW	GW	4		X					
MW-5-B		1150	GW	GW	4		X					
PZ-2-A		1258	GW	GW	1		X					
PZ-2-B		1303	GW	GW	1		X					
PZ-4-A		1036	GW	GW	1			X				
PZ-4-B		1041	GW	GW	1			X				
FIELD BLANK		-	LAB H ₂ O	LAB H ₂ O	3		X					
TRIS BLANK		-	LAB H ₂ O	LAB H ₂ O	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
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments: _____
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Relinquished by:	Company	Date/Time	Received by:	Company	Date/Time	Therm ID No
<i>[Signature]</i>	GLA	5-20-19 1601	<i>[Signature]</i>	TA-1RV	5/20/19 1601	12-94
<i>[Signature]</i>	TA-1RV	5/20/19	<i>[Signature]</i>	TA-1RV	5/20/19	1700



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-241925-1

Login Number: 241925

List Source: Eurofins 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	

ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-238585-1

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:
6/26/2019 5:31:10 PM

Rossina Tomova, Project Manager I
(949)260-3276

rossina.tomova@testamericainc.com

LINKS

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-238585-1	Deep Leachate	Water	04/10/19 11:00	04/11/19 16:40	
440-238585-2	Field Blank	Water	04/10/19 00:01	04/11/19 16:40	
440-238585-3	Trip Blank	Water	04/10/19 00:01	04/11/19 16:40	

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Job ID: 440-238585-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-238585-1

Comments

No additional comments.

Receipt

The samples were received on 4/11/2019 4:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3° C and 3.0° C.

GC/MS VOA

Method(s) 8260B: The following sample was diluted due to the abundance of non-target analytes: Deep Leachate (440-238585-1). Elevated reporting limits (RLs) are provided.

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 8 and the following sample was analyzed after 7 days from sampling: Deep Leachate (440-238585-1).

Method(s) 8260B: The Lab was not able to locate the preserved VOA for sample Field Blank (440-238585-2). The sample was analyzed from an unpreserved VOA container within 7 days of sampling.

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 continuing calibration verification (CCV) associated with batch 440-541416 recovered above the upper control limit for Methapyrilene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270C: The following sample required a dilution due to the nature of the sample matrix: Deep Leachate (440-238585-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C: The following sample was diluted due to the abundance of non-target analytes: Deep Leachate (440-238585-1). Elevated reporting limits (RLs) are provided.

Method(s) 8270C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-540634 and analytical batch 440-540907. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8270C LL: The percent recovery in the laboratory control sample (LCS) was below acceptance limits for the following compounds: Benzidine, 3,3'-Dichlorobenzidine, and 4-Chloroaniline. These analytes are classified as poor performers and yield erratic recoveries. The reported results may be biased low. (LCS 440-540261/2-A)

Method(s) 8270C LL: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 440-540261 and analytical batch 440-540672 recovered outside control limits for the following analytes: 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline, Benzidine and 3,3'-Dichlorobenzidine.

Method(s) 8270C LL: The following sample required a dilution due to the nature of the sample matrix: Deep Leachate (440-238585-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C LL: The following sample was diluted due to the nature of the sample matrix: hydrocarbons Deep Leachate (440-238585-1). 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.

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Job ID: 440-238585-1 (Continued)

Laboratory: Eurofins TestAmerica, Irvine (Continued)

Metals

Method(s) 3005A: The following sample was diluted due to the nature of the sample matrix: Deep Leachate (440-238585-1). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The initial calibration verification (ICV) result for batch 440-542977 was above the upper control limit. Sample results were non-detects, and have been reported as qualified data.

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) 3520C/8270: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-540261. LCS was performed in duplicate to maintain precision of data.

Method(s) 3520C/8270-1,4-DXN: The following sample was diluted due to the nature of the sample matrix: Deep Leachate (440-238585-1) at 200 ml. Elevated reporting limits (RLs) are provided.

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 440-540634. LCS was performed in duplicate to maintain precision of data.

Method(s) 3520C/8270: Due to the matrix, the following sample could not be concentrated to the final method required volume: Deep Leachate (440-238585-1). The reporting limits (RLs) are elevated proportionately.

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 Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Deep Leachate

Lab Sample ID: 440-238585-1

Date Collected: 04/10/19 11:00

Matrix: Water

Date Received: 04/11/19 16:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		500	200	ug/L			04/24/19 18:19	500
1,1,1,2-Tetrachloroethane	ND		250	130	ug/L			04/24/19 18:19	500
Acrolein	ND		25000	1300	ug/L			04/16/19 16:55	500
Acrylonitrile	ND		25000	500	ug/L			04/16/19 16:55	500
1,1,1-Trichloroethane	ND		250	130	ug/L			04/24/19 18:19	500
1,1,2,2-Tetrachloroethane	ND		250	130	ug/L			04/24/19 18:19	500
1,1,2-Trichloroethane	ND		250	130	ug/L			04/24/19 18:19	500
1,1-Dichloroethane	ND		250	130	ug/L			04/24/19 18:19	500
1,1-Dichloroethene	ND		250	130	ug/L			04/24/19 18:19	500
1,1-Dichloropropene	ND		250	130	ug/L			04/24/19 18:19	500
1,2,4-Trichlorobenzene	ND		500	200	ug/L			04/24/19 18:19	500
1,2-Dibromo-3-Chloropropane	ND		500	250	ug/L			04/24/19 18:19	500
1,2-Dichlorobenzene	ND		250	130	ug/L			04/24/19 18:19	500
1,2-Dichloroethane	ND		250	130	ug/L			04/24/19 18:19	500
1,2-Dichloropropane	ND		250	130	ug/L			04/24/19 18:19	500
1,3-Dichlorobenzene	ND		250	130	ug/L			04/24/19 18:19	500
1,3-Dichloropropane	ND		250	130	ug/L			04/24/19 18:19	500
1,4-Dichlorobenzene	ND		250	130	ug/L			04/24/19 18:19	500
2,2-Dichloropropane	ND		500	200	ug/L			04/24/19 18:19	500
2-Chloro-1,3-butadiene	ND		500	250	ug/L			04/24/19 18:19	500
2-Hexanone	ND		2500	1300	ug/L			04/24/19 18:19	500
Acetone	18000		10000	5000	ug/L			04/24/19 18:19	500
Acetonitrile	ND		10000	5000	ug/L			04/24/19 18:19	500
Acrolein	ND		2500	1300	ug/L			04/24/19 18:19	500
Acrylonitrile	ND		1000	500	ug/L			04/24/19 18:19	500
Benzene	ND		250	130	ug/L			04/24/19 18:19	500
Allyl chloride	ND		500	250	ug/L			04/24/19 18:19	500
Bromoform	ND		500	200	ug/L			04/24/19 18:19	500
Bromomethane	ND		250	130	ug/L			04/24/19 18:19	500
Carbon disulfide	ND		500	250	ug/L			04/24/19 18:19	500
Carbon tetrachloride	ND		250	130	ug/L			04/24/19 18:19	500
Chlorobenzene	ND		250	130	ug/L			04/24/19 18:19	500
Bromochloromethane	ND		250	130	ug/L			04/24/19 18:19	500
Chloroethane	ND		500	200	ug/L			04/24/19 18:19	500
Chloroform	ND		250	130	ug/L			04/24/19 18:19	500
Chloromethane	ND		250	130	ug/L			04/24/19 18:19	500
cis-1,2-Dichloroethene	ND		250	130	ug/L			04/24/19 18:19	500
cis-1,3-Dichloropropene	ND		250	130	ug/L			04/24/19 18:19	500
Dibromochloromethane	ND		250	130	ug/L			04/24/19 18:19	500
Dibromomethane	ND		250	130	ug/L			04/24/19 18:19	500
Bromodichloromethane	ND		250	130	ug/L			04/24/19 18:19	500
Dichlorodifluoromethane	ND		500	200	ug/L			04/24/19 18:19	500
Ethyl methacrylate	ND		1000	500	ug/L			04/24/19 18:19	500
Ethylbenzene	ND		250	130	ug/L			04/24/19 18:19	500
Iodomethane	ND		1000	500	ug/L			04/24/19 18:19	500
Isobutyl alcohol	ND		13000	6300	ug/L			04/24/19 18:19	500
m,p-Xylene	ND		500	250	ug/L			04/24/19 18:19	500
Methylacrylonitrile	ND		5000	1300	ug/L			04/24/19 18:19	500
Methyl methacrylate	ND		1000	500	ug/L			04/24/19 18:19	500

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Deep Leachate

Lab Sample ID: 440-238585-1

Date Collected: 04/10/19 11:00

Matrix: Water

Date Received: 04/11/19 16:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		1000	440	ug/L			04/24/19 18:19	500
Methyl tert-butyl ether	ND		250	130	ug/L			04/24/19 18:19	500
Naphthalene	ND		500	200	ug/L			04/24/19 18:19	500
o-Xylene	ND		250	130	ug/L			04/24/19 18:19	500
Propionitrile	ND		10000	5000	ug/L			04/24/19 18:19	500
Styrene	ND		250	130	ug/L			04/24/19 18:19	500
t-Butanol	ND		5000	2500	ug/L			04/24/19 18:19	500
Tetrachloroethene	ND		250	130	ug/L			04/24/19 18:19	500
Tetrahydrofuran	ND		5000	2500	ug/L			04/24/19 18:19	500
Toluene	ND		250	130	ug/L			04/24/19 18:19	500
trans-1,2-Dichloroethene	ND		250	130	ug/L			04/24/19 18:19	500
trans-1,3-Dichloropropene	ND		250	130	ug/L			04/24/19 18:19	500
trans-1,4-Dichloro-2-butene	ND		2500	1300	ug/L			04/24/19 18:19	500
Trichloroethene	ND		250	130	ug/L			04/24/19 18:19	500
Trichlorofluoromethane	ND		250	130	ug/L			04/24/19 18:19	500
Vinyl acetate	ND		2000	1000	ug/L			04/24/19 18:19	500
Vinyl chloride	ND		250	130	ug/L			04/24/19 18:19	500
1,2-Dibromoethane (EDB)	ND		250	130	ug/L			04/24/19 18:19	500
2-Butanone (MEK)	16000		2500	1300	ug/L			04/24/19 18:19	500
4-Methyl-2-pentanone (MIBK)	ND		2500	1300	ug/L			04/24/19 18:19	500

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	19000	T J	ug/L		1.83			04/24/19 18:19	500
Unknown	4900	T J	ug/L		6.00			04/24/19 18:19	500
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (S)-	2500	T J N	ug/L		11.80	5989-54-8		04/24/19 18:19	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 128		04/16/19 16:55	500
4-Bromofluorobenzene (Surr)	87		80 - 120		04/16/19 16:55	500
Toluene-d8 (Surr)	103		80 - 128		04/24/19 18:19	500
4-Bromofluorobenzene (Surr)	104		80 - 120		04/24/19 18:19	500
Dibromofluoromethane (Surr)	121		76 - 132		04/16/19 16:55	500
Dibromofluoromethane (Surr)	95		76 - 132		04/24/19 18:19	500

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		990	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
1,2-Dichlorobenzene	ND		490	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
1,2-Diphenylhydrazine(as Azobenzene)	ND		990	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
1,3-Dichlorobenzene	ND		490	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
1,4-Dichlorobenzene	ND		490	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,4,5-Trichlorophenol	ND		2000	300	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,4,6-Trichlorophenol	ND		990	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,4-Dichlorophenol	ND		2000	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,4-Dimethylphenol	ND		2000	490	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,4-Dinitrophenol	ND		4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,4-Dinitrotoluene	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
2,6-Dinitrotoluene	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
2-Chloronaphthalene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Deep Leachate

Lab Sample ID: 440-238585-1

Date Collected: 04/10/19 11:00

Matrix: Water

Date Received: 04/11/19 16:40

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		990	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
2-Methylnaphthalene	ND		990	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
2-Methylphenol	ND		2000	300	ug/L		04/14/19 13:11	04/18/19 08:46	500
2-Nitroaniline	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
2-Nitrophenol	ND		2000	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
3,3'-Dichlorobenzidine	ND	*	4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
3-Methylphenol + 4-Methylphenol	8600		4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
3-Nitroaniline	ND	*	4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
4,6-Dinitro-2-methylphenol	ND		4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
4-Bromophenyl phenyl ether	ND		990	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
4-Chloro-3-methylphenol	ND		2000	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
4-Chloroaniline	ND	*	2000	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
4-Chlorophenyl phenyl ether	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
4-Nitroaniline	ND	*	4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
4-Nitrophenol	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
Acenaphthene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Acenaphthylene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Aniline	ND	*	9900	740	ug/L		04/14/19 13:11	04/18/19 08:46	500
Anthracene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzidine	ND	*	9900	4900	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzo[a]anthracene	ND		4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzo[a]pyrene	ND		2000	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzo[b]fluoranthene	ND		2000	300	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzo[g,h,i]perylene	ND		4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzo[k]fluoranthene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzoic acid	ND		9900	3900	ug/L		04/14/19 13:11	04/18/19 08:46	500
Benzyl alcohol	1600	J	4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
bis (2-chloroisopropyl) ether	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Bis(2-chloroethoxy)methane	ND		490	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Bis(2-chloroethyl)ether	ND		490	49	ug/L		04/14/19 13:11	04/18/19 08:46	500
Bis(2-ethylhexyl) phthalate	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
Butyl benzyl phthalate	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
Chrysene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Dibenz(a,h)anthracene	ND		490	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Dibenzofuran	ND		490	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Diethyl phthalate	ND		990	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Dimethyl phthalate	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Di-n-butyl phthalate	ND		2000	490	ug/L		04/14/19 13:11	04/18/19 08:46	500
Di-n-octyl phthalate	ND		4900	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
Fluoranthene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Fluorene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Hexachlorobenzene	ND		990	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Hexachlorobutadiene	ND		2000	490	ug/L		04/14/19 13:11	04/18/19 08:46	500
Hexachlorocyclopentadiene	ND		4900	2000	ug/L		04/14/19 13:11	04/18/19 08:46	500
Hexachloroethane	ND		3000	490	ug/L		04/14/19 13:11	04/18/19 08:46	500
Indeno[1,2,3-cd]pyrene	ND		2000	390	ug/L		04/14/19 13:11	04/18/19 08:46	500
Isophorone	ND		990	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Naphthalene	ND		990	49	ug/L		04/14/19 13:11	04/18/19 08:46	500
Nitrobenzene	ND		990	200	ug/L		04/14/19 13:11	04/18/19 08:46	500

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Deep Leachate

Lab Sample ID: 440-238585-1

Date Collected: 04/10/19 11:00

Matrix: Water

Date Received: 04/11/19 16:40

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		2000	300	ug/L		04/14/19 13:11	04/18/19 08:46	500
N-Nitrosodi-n-propylamine	ND		2000	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
N-Nitrosodiphenylamine	ND		990	200	ug/L		04/14/19 13:11	04/18/19 08:46	500
Pentachlorophenol	ND		2000	990	ug/L		04/14/19 13:11	04/18/19 08:46	500
Phenanthrene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Phenol	29000		990	99	ug/L		04/14/19 13:11	04/18/19 08:46	500
Pyrene	ND		490	99	ug/L		04/14/19 13:11	04/18/19 08:46	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	579	X	40 - 120	04/14/19 13:11	04/18/19 08:46	500
2-Fluorobiphenyl	337	X	50 - 120	04/14/19 13:11	04/18/19 08:46	500
2-Fluorophenol (Surr)	0	X	30 - 120	04/14/19 13:11	04/18/19 08:46	500
Nitrobenzene-d5 (Surr)	0	X	45 - 120	04/14/19 13:11	04/18/19 08:46	500
Phenol-d6 (Surr)	0	X	35 - 120	04/14/19 13:11	04/18/19 08:46	500
Terphenyl-d14 (Surr)	634	X	37 - 144	04/14/19 13:11	04/18/19 08:46	500

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		510	130	ug/L		04/17/19 10:58	04/19/19 22:12	25
1,4-Dioxane	86		5.0	1.3	ug/L		04/16/19 10:56	04/17/19 14:31	1
1,4-Naphthoquinone	ND		510	210	ug/L		04/17/19 10:58	04/19/19 22:12	25
1,4-phenylenediamine	ND		3100	1300	ug/L		04/17/19 10:58	04/19/19 22:12	25
1-Naphthylamine	ND		770	280	ug/L		04/17/19 10:58	04/19/19 22:12	25
2,3,4,6-Tetrachlorophenol	ND		770	230	ug/L		04/17/19 10:58	04/19/19 22:12	25
2,6-Dichlorophenol	ND		770	100	ug/L		04/17/19 10:58	04/19/19 22:12	25
2-Acetylaminofluorene	ND		510	150	ug/L		04/17/19 10:58	04/19/19 22:12	25
2-Naphthylamine	ND		1300	620	ug/L		04/17/19 10:58	04/19/19 22:12	25
3,3'-Dimethylbenzidine	ND		1300	510	ug/L		04/17/19 10:58	04/19/19 22:12	25
3-Methylcholanthrene	ND		1300	380	ug/L		04/17/19 10:58	04/19/19 22:12	25
4-Aminobiphenyl	ND		1300	620	ug/L		04/17/19 10:58	04/19/19 22:12	25
5-Nitro-o-toluidine	ND		510	150	ug/L		04/17/19 10:58	04/19/19 22:12	25
7,12-Dimethylbenz(a)anthracene	ND		510	210	ug/L		04/17/19 10:58	04/19/19 22:12	25
Acetophenone	280	J	770	100	ug/L		04/17/19 10:58	04/19/19 22:12	25
alpha,alpha-Dimethyl phenethylamine	ND		3100	1700	ug/L		04/17/19 10:58	04/19/19 22:12	25
Diallate	ND		770	160	ug/L		04/17/19 10:58	04/19/19 22:12	25
Dimethyl aminoazobenzene	ND		510	210	ug/L		04/17/19 10:58	04/19/19 22:12	25
Diphenylamine	ND		510	150	ug/L		04/17/19 10:58	04/19/19 22:12	25
Ethyl 4,4'-Dichlorobenzilate	ND		510	130	ug/L		04/17/19 10:58	04/19/19 22:12	25
Ethyl methanesulfonate	ND		510	150	ug/L		04/17/19 10:58	04/19/19 22:12	25
Isodrin	ND		510	130	ug/L		04/17/19 10:58	04/19/19 22:12	25
Isosafrole	ND		770	310	ug/L		04/17/19 10:58	04/19/19 22:12	25
Kepone	ND		5100	1800	ug/L		04/17/19 10:58	04/19/19 22:12	25
Methapyrilene	ND		1000	260	ug/L		04/17/19 10:58	04/19/19 22:12	25
Methyl methanesulfonate	ND		770	120	ug/L		04/17/19 10:58	04/19/19 22:12	25
N-Nitrosodiethylamine	ND		510	150	ug/L		04/17/19 10:58	04/19/19 22:12	25
N-Nitrosodi-n-butylamine	ND		510	170	ug/L		04/17/19 10:58	04/19/19 22:12	25
N-Nitrosomethylethylamine	ND		510	130	ug/L		04/17/19 10:58	04/19/19 22:12	25
N-Nitrosopiperidine	ND		510	190	ug/L		04/17/19 10:58	04/19/19 22:12	25
N-Nitrosopyrrolidine	ND		510	160	ug/L		04/17/19 10:58	04/19/19 22:12	25
o,o',o''-Triethylphosphorothioate	ND		770	160	ug/L		04/17/19 10:58	04/19/19 22:12	25

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Deep Leachate

Lab Sample ID: 440-238585-1

Date Collected: 04/10/19 11:00

Matrix: Water

Date Received: 04/11/19 16:40

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Toluidine	ND		510	130	ug/L		04/17/19 10:58	04/19/19 22:12	25
Pentachlorobenzene	ND		510	150	ug/L		04/17/19 10:58	04/19/19 22:12	25
Pentachloronitrobenzene	ND		510	130	ug/L		04/17/19 10:58	04/19/19 22:12	25
Phenacetin	ND		510	180	ug/L		04/17/19 10:58	04/19/19 22:12	25
Phorate	ND		510	260	ug/L		04/17/19 10:58	04/19/19 22:12	25
Pronamide	ND		770	260	ug/L		04/17/19 10:58	04/19/19 22:12	25
Safrole, Total	ND		510	190	ug/L		04/17/19 10:58	04/19/19 22:12	25

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	30		30 - 120				04/16/19 10:56	04/17/19 14:31	1
2,4,6-Tribromophenol (Surr)	130	X	40 - 120				04/17/19 10:58	04/19/19 22:12	25
2-Fluorobiphenyl	0	X	50 - 120				04/17/19 10:58	04/19/19 22:12	25
2-Fluorophenol (Surr)	99		30 - 120				04/17/19 10:58	04/19/19 22:12	25
Nitrobenzene-d5 (Surr)	0	X	45 - 120				04/17/19 10:58	04/19/19 22:12	25
Phenol-d6 (Surr)	188	X	35 - 120				04/17/19 10:58	04/19/19 22:12	25
Terphenyl-d14 (Surr)	0	X	10 - 150				04/17/19 10:58	04/19/19 22:12	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.25	0.15	mg/L		04/17/19 07:43	04/17/19 19:36	5
Arsenic	0.24	J	0.25	0.22	mg/L		04/17/19 07:43	04/17/19 19:36	5
Barium	0.45		0.25	0.13	mg/L		04/17/19 07:43	04/17/19 19:36	5
Beryllium	ND		0.050	0.025	mg/L		04/17/19 07:43	04/17/19 19:36	5
Chromium	0.53		0.13	0.063	mg/L		04/17/19 07:43	04/17/19 19:36	5
Nickel	0.31		0.25	0.13	mg/L		04/17/19 07:43	04/17/19 19:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.028		0.0010	0.00050	mg/L		04/29/19 16:27	04/30/19 13:56	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Sulfide	ND		0.050	0.027	mg/L			04/15/19 16:32	1

Client Sample ID: Field Blank

Lab Sample ID: 440-238585-2

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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			04/14/19 10:53	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Acrolein	ND		50	2.5	ug/L			04/14/19 10:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Acrylonitrile	ND		50	1.0	ug/L			04/14/19 10:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/14/19 10:53	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Field Blank

Lab Sample ID: 440-238585-2

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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			04/14/19 10:53	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/14/19 10:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/14/19 10:53	1
2-Hexanone	ND		5.0	2.5	ug/L			04/14/19 10:53	1
Acetone	ND		20	10	ug/L			04/14/19 10:53	1
Acetonitrile	ND		20	10	ug/L			04/14/19 10:53	1
Acrolein	ND		5.0	2.5	ug/L			04/14/19 10:53	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/14/19 10:53	1
Benzene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Allyl chloride	ND		1.0	0.50	ug/L			04/14/19 10:53	1
Bromoform	ND		1.0	0.40	ug/L			04/14/19 10:53	1
Bromomethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/14/19 10:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Chloroethane	ND		1.0	0.40	ug/L			04/14/19 10:53	1
Chloroform	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Chloromethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Dibromomethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/14/19 10:53	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/14/19 10:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Iodomethane	ND		2.0	1.0	ug/L			04/14/19 10:53	1
Isobutyl alcohol	ND		25	13	ug/L			04/14/19 10:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/14/19 10:53	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/14/19 10:53	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/14/19 10:53	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/14/19 10:53	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Naphthalene	ND		1.0	0.40	ug/L			04/14/19 10:53	1
o-Xylene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Propionitrile	ND		20	10	ug/L			04/14/19 10:53	1
Styrene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
t-Butanol	ND		10	5.0	ug/L			04/14/19 10:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/14/19 10:53	1
Toluene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/14/19 10:53	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Field Blank

Lab Sample ID: 440-238585-2

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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			04/14/19 10:53	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/14/19 10:53	1
Trichloroethene	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/14/19 10:53	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/14/19 10:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/14/19 10:53	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/14/19 10:53	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/14/19 10:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/14/19 10:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.5	T J	ug/L		6.53			04/14/19 10:53	1
Unknown	8.7	T J	ug/L		16.52			04/14/19 10:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		04/14/19 10:53	1
4-Bromofluorobenzene (Surr)	95		80 - 120		04/14/19 10:53	1
Dibromofluoromethane (Surr)	104		76 - 132		04/14/19 10:53	1
Toluene-d8 (Surr)	108		80 - 128		04/14/19 10:53	1
4-Bromofluorobenzene (Surr)	95		80 - 120		04/14/19 10:53	1
Dibromofluoromethane (Surr)	104		76 - 132		04/14/19 10:53	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-238585-3

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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			04/24/19 18:44	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Acrolein	ND		50	2.5	ug/L			04/14/19 12:33	1
Acrylonitrile	ND		50	1.0	ug/L			04/14/19 12:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/24/19 18:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/24/19 18:44	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/24/19 18:44	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/24/19 18:44	1
2-Hexanone	ND		5.0	2.5	ug/L			04/24/19 18:44	1
Acetone	ND		20	10	ug/L			04/24/19 18:44	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-238585-3

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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			04/24/19 18:44	1
Acrolein	ND		5.0	2.5	ug/L			04/24/19 18:44	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/24/19 18:44	1
Benzene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Allyl chloride	ND		1.0	0.50	ug/L			04/24/19 18:44	1
Bromoform	ND		1.0	0.40	ug/L			04/24/19 18:44	1
Bromomethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/19 18:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Chloroethane	ND		1.0	0.40	ug/L			04/24/19 18:44	1
Chloroform	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Chloromethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Dibromomethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/24/19 18:44	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/24/19 18:44	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Iodomethane	ND		2.0	1.0	ug/L			04/24/19 18:44	1
Isobutyl alcohol	ND		25	13	ug/L			04/24/19 18:44	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/24/19 18:44	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/24/19 18:44	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/24/19 18:44	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/24/19 18:44	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Naphthalene	ND		1.0	0.40	ug/L			04/24/19 18:44	1
o-Xylene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Propionitrile	ND		20	10	ug/L			04/24/19 18:44	1
Styrene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
t-Butanol	ND		10	5.0	ug/L			04/24/19 18:44	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/24/19 18:44	1
Toluene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/24/19 18:44	1
Trichloroethene	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/24/19 18:44	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/24/19 18:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/24/19 18:44	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/24/19 18:44	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/24/19 18:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/24/19 18:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	30	TJ	ug/L		1.83			04/24/19 18:44	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-238585-3

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Unknown	10	TJ	ug/L		6.00			04/24/19 18:44	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Toluene-d8 (Surr)	106		80 - 128					04/14/19 12:33	1
4-Bromofluorobenzene (Surr)	95		80 - 120					04/14/19 12:33	1
Toluene-d8 (Surr)	102		80 - 128					04/24/19 18:44	1
4-Bromofluorobenzene (Surr)	104		80 - 120					04/24/19 18:44	1
Dibromofluoromethane (Surr)	103		76 - 132					04/14/19 12:33	1
Dibromofluoromethane (Surr)	95		76 - 132					04/24/19 18:44	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
SM 4500 S2 D	Sulfide, Total	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
7470A	Preparation, Mercury	SW846	TAL IRV

Protocol References:

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 = Eurofins 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

Job ID: 440-238585-1

Client Sample ID: Deep Leachate

Lab Sample ID: 440-238585-1

Date Collected: 04/10/19 11:00

Matrix: Water

Date Received: 04/11/19 16:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	10 mL	10 mL	542176	04/24/19 18:19	TCN	TAL IRV
Total/NA	Analysis	8260B		500	10 mL	10 mL	540551	04/16/19 16:55	RM	TAL IRV
Total/NA	Prep	3520C			200 mL	1.0 mL	540634	04/16/19 10:56	JAA	TAL IRV
Total/NA	Analysis	8270C		1			540907	04/17/19 14:31	JS1	TAL IRV
Total/NA	Prep	3520C			975 mL	4.0 mL	540893	04/17/19 10:58	JAA	TAL IRV
Total/NA	Analysis	8270C		25			541416	04/19/19 22:12	L1B	TAL IRV
Total/NA	Prep	3520C			1015 mL	4 mL	540261	04/14/19 13:11	AJP	TAL IRV
Total/NA	Analysis	8270C LL		500			541097	04/18/19 08:46	HN	TAL IRV
Total Recoverable	Prep	3005A			5 mL	25 mL	540833	04/17/19 07:43	BV	TAL IRV
Total Recoverable	Analysis	6010B		5			541055	04/17/19 19:36	P1R	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	543262	04/29/19 16:27	DB	TAL IRV
Total/NA	Analysis	7470A		5			543486	04/30/19 13:56	DB	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	540467	04/15/19 16:32	KMY	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-238585-2

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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	540219	04/14/19 10:53	RM	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-238585-3

Date Collected: 04/10/19 00:01

Matrix: Water

Date Received: 04/11/19 16:40

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	540219	04/14/19 12:33	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	542176	04/24/19 18:44	TCN	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: MB 440-540219/4

Matrix: Water

Analysis Batch: 540219

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			04/14/19 09:33	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			04/14/19 09:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/14/19 09:33	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/14/19 09:33	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/14/19 09:33	1
2-Hexanone	ND		5.0	2.5	ug/L			04/14/19 09:33	1
Acetone	ND		20	10	ug/L			04/14/19 09:33	1
Acetonitrile	ND		20	10	ug/L			04/14/19 09:33	1
Acrolein	ND		5.0	2.5	ug/L			04/14/19 09:33	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/14/19 09:33	1
Benzene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Allyl chloride	ND		1.0	0.50	ug/L			04/14/19 09:33	1
Bromoform	ND		1.0	0.40	ug/L			04/14/19 09:33	1
Bromomethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/14/19 09:33	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Chloroethane	ND		1.0	0.40	ug/L			04/14/19 09:33	1
Chloroform	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Chloromethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Dibromomethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/14/19 09:33	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/14/19 09:33	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Iodomethane	ND		2.0	1.0	ug/L			04/14/19 09:33	1
Isobutyl alcohol	ND		25	13	ug/L			04/14/19 09:33	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/14/19 09:33	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/14/19 09:33	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/14/19 09:33	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/14/19 09:33	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: MB 440-540219/4

Matrix: Water

Analysis Batch: 540219

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			04/14/19 09:33	1
Naphthalene	ND		1.0	0.40	ug/L			04/14/19 09:33	1
o-Xylene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Propionitrile	ND		20	10	ug/L			04/14/19 09:33	1
Styrene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
t-Butanol	ND		10	5.0	ug/L			04/14/19 09:33	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/14/19 09:33	1
Toluene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/14/19 09:33	1
Trichloroethene	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/14/19 09:33	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/14/19 09:33	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/14/19 09:33	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/14/19 09:33	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/14/19 09:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/14/19 09:33	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	17.2	TJ	ug/L		15.58			04/14/19 09:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		04/14/19 09:33	1
4-Bromofluorobenzene (Surr)	96		80 - 120		04/14/19 09:33	1
Dibromofluoromethane (Surr)	101		76 - 132		04/14/19 09:33	1

Lab Sample ID: LCS 440-540219/5

Matrix: Water

Analysis Batch: 540219

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	25.3		ug/L		101	63 - 130
1,1,1,2-Tetrachloroethane	25.0	25.4		ug/L		102	60 - 141
1,1,1-Trichloroethane	25.0	23.4		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.7		ug/L		99	63 - 130
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	22.7		ug/L		91	64 - 130
1,1-Dichloroethane	25.0	22.9		ug/L		92	70 - 130
1,1-Dichloropropene	25.0	22.4		ug/L		90	70 - 130
1,2,4-Trichlorobenzene	25.0	26.5		ug/L		106	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	26.7		ug/L		107	52 - 140
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	21.3		ug/L		85	57 - 138
1,2-Dichloropropane	25.0	22.6		ug/L		90	67 - 130
1,3-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	23.9		ug/L		96	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: LCS 440-540219/5

Matrix: Water

Analysis Batch: 540219

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	24.0		ug/L		96	70 - 130
2,2-Dichloropropane	25.0	22.9		ug/L		92	68 - 141
2-Hexanone	125	122		ug/L		97	10 - 150
Acetone	125	115		ug/L		92	10 - 150
Acrolein	25.0	28.8		ug/L		115	10 - 145
Acrylonitrile	25.0	222		ug/L		89	48 - 140
Benzene	25.0	21.8		ug/L		87	68 - 130
Bromoform	25.0	25.5		ug/L		102	60 - 148
Bromomethane	25.0	21.5		ug/L		86	64 - 139
Carbon disulfide	25.0	21.2		ug/L		85	52 - 136
Carbon tetrachloride	25.0	23.3		ug/L		93	60 - 150
Chlorobenzene	25.0	23.6		ug/L		94	70 - 130
Bromochloromethane	25.0	23.7		ug/L		95	70 - 130
Chloroethane	25.0	21.6		ug/L		87	64 - 135
Chloroform	25.0	22.6		ug/L		90	70 - 130
Chloromethane	25.0	19.7		ug/L		79	47 - 140
cis-1,2-Dichloroethene	25.0	22.8		ug/L		91	70 - 133
cis-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 133
Dibromochloromethane	25.0	25.4		ug/L		102	69 - 145
Dibromomethane	25.0	23.2		ug/L		93	70 - 130
Bromodichloromethane	25.0	23.7		ug/L		95	70 - 132
Dichlorodifluoromethane	25.0	18.0		ug/L		72	29 - 150
Ethylbenzene	25.0	23.1		ug/L		92	70 - 130
m,p-Xylene	25.0	23.9		ug/L		96	70 - 130
Methylene Chloride	25.0	21.1		ug/L		84	52 - 130
Methyl tert-butyl ether	25.0	22.2		ug/L		89	63 - 131
Naphthalene	25.0	25.8		ug/L		103	60 - 140
o-Xylene	25.0	24.4		ug/L		97	70 - 130
Styrene	25.0	25.0		ug/L		100	70 - 134
t-Butanol	250	230		ug/L		92	70 - 130
Tetrachloroethene	25.0	24.8		ug/L		99	70 - 130
Toluene	25.0	22.7		ug/L		91	70 - 130
trans-1,2-Dichloroethene	25.0	23.4		ug/L		93	70 - 130
trans-1,3-Dichloropropene	25.0	23.9		ug/L		96	70 - 132
Trichloroethene	25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	22.2		ug/L		89	60 - 150
Vinyl acetate	25.0	24.9		ug/L		99	48 - 140
Vinyl chloride	25.0	22.2		ug/L		89	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.5		ug/L		98	70 - 130
2-Butanone (MEK)	125	134		ug/L		107	44 - 150
4-Methyl-2-pentanone (MIBK)	125	125		ug/L		100	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238093-A-1 MS

Matrix: Water

Analysis Batch: 540219

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		25.0	26.9		ug/L		107	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	28.0		ug/L		112	60 - 149
1,1,1-Trichloroethane	ND		25.0	26.4		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.2		ug/L		109	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.9		ug/L		104	70 - 130
1,1-Dichloroethane	ND		25.0	25.7		ug/L		103	65 - 130
1,1-Dichloroethene	ND		25.0	26.1		ug/L		105	70 - 130
1,1-Dichloropropene	ND		25.0	25.1		ug/L		100	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	29.6		ug/L		118	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	29.8		ug/L		119	48 - 140
1,2-Dichlorobenzene	ND		25.0	27.2		ug/L		109	70 - 130
1,2-Dichloroethane	ND		25.0	22.7		ug/L		91	56 - 146
1,2-Dichloropropane	ND		25.0	24.1		ug/L		97	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,3-Dichloropropane	ND		25.0	24.8		ug/L		99	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.3		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	28.0		ug/L		112	69 - 138
2-Hexanone	ND		125	125		ug/L		100	10 - 150
Acetone	ND		125	129		ug/L		103	10 - 150
Acrolein	ND	F1	25.0	39.8	F1	ug/L		159	10 - 147
Acrylonitrile	ND		250	284		ug/L		114	38 - 144
Benzene	ND		25.0	24.2		ug/L		97	66 - 130
Bromoform	ND		25.0	27.2		ug/L		109	59 - 150
Bromomethane	ND		25.0	24.2		ug/L		97	62 - 131
Carbon disulfide	ND		25.0	24.5		ug/L		98	49 - 140
Carbon tetrachloride	ND		25.0	26.3		ug/L		105	60 - 150
Chlorobenzene	ND		25.0	25.4		ug/L		102	70 - 130
Bromochloromethane	ND		25.0	26.4		ug/L		106	70 - 130
Chloroethane	ND		25.0	24.3		ug/L		97	68 - 130
Chloroform	1.4		25.0	26.7		ug/L		101	70 - 130
Chloromethane	ND		25.0	22.0		ug/L		88	39 - 144
cis-1,2-Dichloroethene	3.9		25.0	28.6		ug/L		99	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.5		ug/L		110	70 - 133
Dibromochloromethane	ND		25.0	26.7		ug/L		107	70 - 148
Dibromomethane	ND		25.0	24.7		ug/L		99	70 - 130
Bromodichloromethane	ND		25.0	26.0		ug/L		104	70 - 138
Dichlorodifluoromethane	ND		25.0	20.6		ug/L		82	25 - 142
Ethylbenzene	ND		25.0	25.5		ug/L		102	70 - 130
m,p-Xylene	ND		25.0	26.3		ug/L		105	70 - 133
Methylene Chloride	ND		25.0	24.6		ug/L		98	52 - 130
Methyl tert-butyl ether	ND		25.0	25.7		ug/L		103	70 - 130
Naphthalene	0.67	J	25.0	29.5		ug/L		115	60 - 140
o-Xylene	ND		25.0	26.9		ug/L		107	70 - 133
Styrene	ND		25.0	27.1		ug/L		108	29 - 150
t-Butanol	ND		250	251		ug/L		100	70 - 130
Tetrachloroethene	2.3		25.0	28.8		ug/L		106	70 - 137
Toluene	ND		25.0	24.6		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.5		ug/L		110	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238093-A-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 540219

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		25.0	25.3		ug/L		101	70 - 138
Trichloroethene	100	E	25.0	118	E 4	ug/L		55	70 - 130
Trichlorofluoromethane	0.64		25.0	25.8		ug/L		101	60 - 150
Vinyl acetate	ND		25.0	28.4		ug/L		114	23 - 150
Vinyl chloride	ND		25.0	24.9		ug/L		100	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	25.6		ug/L		102	70 - 131
2-Butanone (MEK)	ND		125	138		ug/L		110	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		125	135		ug/L		108	52 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Lab Sample ID: 440-238093-A-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 540219

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		25.0	24.3		ug/L		97	60 - 130	10	30
1,1,1,2-Tetrachloroethane	ND		25.0	24.1		ug/L		97	60 - 149	15	20
1,1,1,1-Trichloroethane	ND		25.0	22.5		ug/L		90	70 - 130	16	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.4		ug/L		98	63 - 130	11	30
1,1,2-Trichloroethane	ND		25.0	23.0		ug/L		92	70 - 130	12	25
1,1-Dichloroethane	ND		25.0	22.4		ug/L		90	65 - 130	14	20
1,1-Dichloroethene	ND		25.0	22.2		ug/L		89	70 - 130	16	20
1,1-Dichloropropene	ND		25.0	21.5		ug/L		86	64 - 130	15	20
1,2,4-Trichlorobenzene	ND		25.0	25.7		ug/L		103	60 - 140	14	20
1,2-Dibromo-3-Chloropropane	ND		25.0	25.9		ug/L		104	48 - 140	14	30
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	70 - 130	11	20
1,2-Dichloroethane	ND		25.0	21.0		ug/L		84	56 - 146	8	20
1,2-Dichloropropane	ND		25.0	21.7		ug/L		87	69 - 130	11	20
1,3-Dichlorobenzene	ND		25.0	23.8		ug/L		95	70 - 130	11	20
1,3-Dichloropropane	ND		25.0	22.3		ug/L		89	70 - 130	10	25
1,4-Dichlorobenzene	ND		25.0	23.6		ug/L		94	70 - 130	11	20
2,2-Dichloropropane	ND		25.0	22.4		ug/L		90	69 - 138	22	25
2-Hexanone	ND		125	112		ug/L		89	10 - 150	11	35
Acetone	ND		125	116		ug/L		93	10 - 150	10	35
Acrolein	ND	F1	25.0	34.6		ug/L		139	10 - 147	14	40
Acrylonitrile	ND		250	248		ug/L		99	38 - 144	14	40
Benzene	ND		25.0	21.4		ug/L		86	66 - 130	12	20
Bromoform	ND		25.0	23.8		ug/L		95	59 - 150	13	25
Bromomethane	ND		25.0	20.9		ug/L		84	62 - 131	15	25
Carbon disulfide	ND		25.0	20.8		ug/L		83	49 - 140	16	20
Carbon tetrachloride	ND		25.0	22.6		ug/L		90	60 - 150	15	25
Chlorobenzene	ND		25.0	22.5		ug/L		90	70 - 130	12	20
Bromochloromethane	ND		25.0	23.3		ug/L		93	70 - 130	13	25
Chloroethane	ND		25.0	20.7		ug/L		83	68 - 130	16	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238093-A-1 MSD

Matrix: Water

Analysis Batch: 540219

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroform	1.4		25.0	23.3		ug/L		88	70 - 130	14	20
Chloromethane	ND		25.0	18.9		ug/L		75	39 - 144	16	25
cis-1,2-Dichloroethene	3.9		25.0	25.1		ug/L		85	70 - 130	13	20
cis-1,3-Dichloropropene	ND		25.0	24.2		ug/L		97	70 - 133	13	20
Dibromochloromethane	ND		25.0	24.0		ug/L		96	70 - 148	11	25
Dibromomethane	ND		25.0	22.0		ug/L		88	70 - 130	12	25
Bromodichloromethane	ND		25.0	23.5		ug/L		94	70 - 138	10	20
Dichlorodifluoromethane	ND		25.0	17.3		ug/L		69	25 - 142	17	30
Ethylbenzene	ND		25.0	22.1		ug/L		88	70 - 130	14	20
m,p-Xylene	ND		25.0	23.6		ug/L		94	70 - 133	11	25
Methylene Chloride	ND		25.0	21.1		ug/L		84	52 - 130	15	20
Methyl tert-butyl ether	ND		25.0	22.6		ug/L		90	70 - 130	13	25
Naphthalene	0.67	J	25.0	25.6		ug/L		100	60 - 140	14	30
o-Xylene	ND		25.0	23.5		ug/L		94	70 - 133	14	20
Styrene	ND		25.0	24.0		ug/L		96	29 - 150	12	35
t-Butanol	ND		250	219		ug/L		88	70 - 130	14	25
Tetrachloroethene	2.3		25.0	25.1		ug/L		91	70 - 137	14	20
Toluene	ND		25.0	21.8		ug/L		87	70 - 130	12	20
trans-1,2-Dichloroethene	ND		25.0	23.3		ug/L		93	70 - 130	17	20
trans-1,3-Dichloropropene	ND		25.0	22.9		ug/L		91	70 - 138	10	25
Trichloroethene	100	E	25.0	104	E 4	ug/L		-2	70 - 130	13	20
Trichlorofluoromethane	0.64		25.0	21.7		ug/L		84	60 - 150	18	25
Vinyl acetate	ND		25.0	26.0		ug/L		104	23 - 150	9	30
Vinyl chloride	ND		25.0	21.0		ug/L		84	50 - 137	17	30
1,2-Dibromoethane (EDB)	ND		25.0	23.2		ug/L		93	70 - 131	10	25
2-Butanone (MEK)	ND		125	123		ug/L		99	48 - 140	11	40
4-Methyl-2-pentanone (MIBK)	ND		125	117		ug/L		93	52 - 150	15	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132

Lab Sample ID: MB 440-540551/4

Matrix: Water

Analysis Batch: 540551

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acrolein	ND		50	2.5	ug/L			04/16/19 08:10	1
Acrylonitrile	ND		50	1.0	ug/L			04/16/19 08:10	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	103		80 - 128		04/16/19 08:10	1
4-Bromofluorobenzene (Surr)	94		80 - 120		04/16/19 08:10	1
Dibromofluoromethane (Surr)	116		76 - 132		04/16/19 08:10	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: LCS 440-540551/5

Matrix: Water

Analysis Batch: 540551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	10.0	5.17	J	ug/L		52	10 - 145		
Acrylonitrile	100	78.5		ug/L		79	48 - 140		
LCS LCS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	99		80 - 128						
4-Bromofluorobenzene (Surr)	93		80 - 120						
Dibromofluoromethane (Surr)	114		76 - 132						

Lab Sample ID: 440-238496-D-19 MS

Matrix: Water

Analysis Batch: 540551

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	21.9	J	ug/L		87	10 - 147	
Acrylonitrile	ND		250	234		ug/L		93	38 - 144	
MS MS										
Surrogate	%Recovery	Qualifier	Limits							
Toluene-d8 (Surr)	100		80 - 128							
4-Bromofluorobenzene (Surr)	92		80 - 120							
Dibromofluoromethane (Surr)	112		76 - 132							

Lab Sample ID: 440-238496-D-19 MSD

Matrix: Water

Analysis Batch: 540551

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 Limit	
Acrolein	ND		25.0	21.1	J	ug/L		84	10 - 147	4	40	
Acrylonitrile	ND		250	229		ug/L		91	38 - 144	2	40	
MSD MSD												
Surrogate	%Recovery	Qualifier	Limits									
Toluene-d8 (Surr)	97		80 - 128									
4-Bromofluorobenzene (Surr)	88		80 - 120									
Dibromofluoromethane (Surr)	114		76 - 132									

Lab Sample ID: MB 440-542176/5

Matrix: Water

Analysis Batch: 542176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,1-Dichloroethane	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,1-Dichloroethane	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,1-Dichloropropene	ND		0.50	0.25	ug/L		04/24/19 08:57	1	
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		04/24/19 08:57	1	

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: MB 440-542176/5

Matrix: Water

Analysis Batch: 542176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			04/24/19 08:57	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			04/24/19 08:57	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			04/24/19 08:57	1
2-Hexanone	ND		5.0	2.5	ug/L			04/24/19 08:57	1
Acetone	ND		20	10	ug/L			04/24/19 08:57	1
Acetonitrile	ND		20	10	ug/L			04/24/19 08:57	1
Acrolein	ND		5.0	2.5	ug/L			04/24/19 08:57	1
Acrylonitrile	ND		2.0	1.0	ug/L			04/24/19 08:57	1
Benzene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Allyl chloride	ND		1.0	0.50	ug/L			04/24/19 08:57	1
Bromoform	ND		1.0	0.40	ug/L			04/24/19 08:57	1
Bromomethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/19 08:57	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Chlorobenzene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Bromochloromethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Chloroethane	ND		1.0	0.40	ug/L			04/24/19 08:57	1
Chloroform	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Chloromethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Dibromochloromethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Dibromomethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Bromodichloromethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			04/24/19 08:57	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			04/24/19 08:57	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Iodomethane	ND		2.0	1.0	ug/L			04/24/19 08:57	1
Isobutyl alcohol	ND		25	13	ug/L			04/24/19 08:57	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/24/19 08:57	1
Methylacrylonitrile	ND		10	2.5	ug/L			04/24/19 08:57	1
Methyl methacrylate	ND		2.0	1.0	ug/L			04/24/19 08:57	1
Methylene Chloride	ND		2.0	0.88	ug/L			04/24/19 08:57	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Naphthalene	ND		1.0	0.40	ug/L			04/24/19 08:57	1
o-Xylene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Propionitrile	ND		20	10	ug/L			04/24/19 08:57	1
Styrene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
t-Butanol	ND		10	5.0	ug/L			04/24/19 08:57	1
Tetrachloroethene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Tetrahydrofuran	ND		10	5.0	ug/L			04/24/19 08:57	1
Toluene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			04/24/19 08:57	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: MB 440-542176/5

Matrix: Water

Analysis Batch: 542176

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			04/24/19 08:57	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			04/24/19 08:57	1
Trichloroethene	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			04/24/19 08:57	1
Vinyl acetate	ND		4.0	2.0	ug/L			04/24/19 08:57	1
Vinyl chloride	ND		0.50	0.25	ug/L			04/24/19 08:57	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			04/24/19 08:57	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			04/24/19 08:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			04/24/19 08:57	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					04/24/19 08:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		04/24/19 08:57	1
4-Bromofluorobenzene (Surr)	108		80 - 120		04/24/19 08:57	1
Dibromofluoromethane (Surr)	89		76 - 132		04/24/19 08:57	1

Lab Sample ID: LCS 440-542176/6

Matrix: Water

Analysis Batch: 542176

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	10.0	9.74		ug/L		97	63 - 130
1,1,1,2-Tetrachloroethane	10.0	9.99		ug/L		100	60 - 141
1,1,1-Trichloroethane	10.0	8.76		ug/L		88	70 - 130
1,1,2,2-Tetrachloroethane	10.0	10.1		ug/L		101	63 - 130
1,1,2-Trichloroethane	10.0	10.4		ug/L		104	70 - 130
1,1-Dichloroethane	10.0	8.75		ug/L		87	64 - 130
1,1-Dichloroethene	10.0	8.51		ug/L		85	70 - 130
1,1-Dichloropropene	10.0	8.75		ug/L		88	70 - 130
1,2,4-Trichlorobenzene	10.0	8.55		ug/L		85	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	8.50		ug/L		85	52 - 140
1,2-Dichlorobenzene	10.0	9.33		ug/L		93	70 - 130
1,2-Dichloroethane	10.0	8.50		ug/L		85	57 - 138
1,2-Dichloropropane	10.0	9.79		ug/L		98	67 - 130
1,3-Dichlorobenzene	10.0	9.56		ug/L		96	70 - 130
1,3-Dichloropropane	10.0	9.71		ug/L		97	70 - 130
1,4-Dichlorobenzene	10.0	9.68		ug/L		97	70 - 130
2,2-Dichloropropane	10.0	8.64		ug/L		86	68 - 141
2-Hexanone	50.0	44.6		ug/L		89	10 - 150
Acetone	50.0	40.1		ug/L		80	10 - 150
Acrolein	10.0	9.06		ug/L		91	10 - 145
Acrylonitrile	100	90.3		ug/L		90	48 - 140
Benzene	10.0	9.13		ug/L		91	68 - 130
Bromoform	10.0	10.3		ug/L		103	60 - 148
Bromomethane	10.0	8.73		ug/L		87	64 - 139
Carbon disulfide	10.0	8.47		ug/L		85	52 - 136

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: LCS 440-542176/6

Matrix: Water

Analysis Batch: 542176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	10.0	8.88		ug/L		89	60 - 150
Chlorobenzene	10.0	9.49		ug/L		95	70 - 130
Bromochloromethane	10.0	8.75		ug/L		88	70 - 130
Chloroethane	10.0	8.80		ug/L		88	64 - 135
Chloroform	10.0	8.83		ug/L		88	70 - 130
Chloromethane	10.0	8.04		ug/L		80	47 - 140
cis-1,2-Dichloroethene	10.0	9.35		ug/L		94	70 - 133
cis-1,3-Dichloropropene	10.0	10.2		ug/L		102	70 - 133
Dibromochloromethane	10.0	9.94		ug/L		99	69 - 145
Dibromomethane	10.0	9.12		ug/L		91	70 - 130
Bromodichloromethane	10.0	9.69		ug/L		97	70 - 132
Dichlorodifluoromethane	10.0	6.98		ug/L		70	29 - 150
Ethylbenzene	10.0	9.85		ug/L		98	70 - 130
m,p-Xylene	10.0	9.70		ug/L		97	70 - 130
Methylene Chloride	10.0	8.74		ug/L		87	52 - 130
Methyl tert-butyl ether	10.0	8.21		ug/L		82	63 - 131
Naphthalene	10.0	8.34		ug/L		83	60 - 140
o-Xylene	10.0	9.37		ug/L		94	70 - 130
Styrene	10.0	9.47		ug/L		95	70 - 134
t-Butanol	100	113		ug/L		113	70 - 130
Tetrachloroethene	10.0	9.66		ug/L		97	70 - 130
Toluene	10.0	9.54		ug/L		95	70 - 130
trans-1,2-Dichloroethene	10.0	8.99		ug/L		90	70 - 130
trans-1,3-Dichloropropene	10.0	9.97		ug/L		100	70 - 132
Trichloroethene	10.0	8.61		ug/L		86	70 - 130
Trichlorofluoromethane	10.0	8.44		ug/L		84	60 - 150
Vinyl acetate	10.0	8.41		ug/L		84	48 - 140
Vinyl chloride	10.0	8.74		ug/L		87	59 - 133
1,2-Dibromoethane (EDB)	10.0	9.83		ug/L		98	70 - 130
2-Butanone (MEK)	50.0	43.6		ug/L		87	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	43.7		ug/L		87	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132

Lab Sample ID: 440-238481-A-5 MS

Matrix: Water

Analysis Batch: 542176

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		250	249		ug/L		99	60 - 130
1,1,1,2-Tetrachloroethane	ND		250	259		ug/L		103	60 - 149
1,1,1-Trichloroethane	ND		250	224		ug/L		90	70 - 130
1,1,2,2-Tetrachloroethane	ND		250	253		ug/L		101	63 - 130
1,1,2-Trichloroethane	ND		250	250		ug/L		100	70 - 130
1,1-Dichloroethane	ND		250	215		ug/L		86	65 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238481-A-5 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 542176

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	ND		250	224		ug/L		90	70 - 130
1,1-Dichloropropene	ND		250	227		ug/L		91	64 - 130
1,2,4-Trichlorobenzene	ND		250	222		ug/L		89	60 - 140
1,2-Dibromo-3-Chloropropane	ND		250	221		ug/L		88	48 - 140
1,2-Dichlorobenzene	ND		250	243		ug/L		97	70 - 130
1,2-Dichloroethane	ND		250	209		ug/L		83	56 - 146
1,2-Dichloropropane	ND		250	242		ug/L		97	69 - 130
1,3-Dichlorobenzene	ND		250	254		ug/L		102	70 - 130
1,3-Dichloropropane	ND		250	245		ug/L		98	70 - 130
1,4-Dichlorobenzene	ND		250	245		ug/L		98	70 - 130
2,2-Dichloropropane	ND		250	225		ug/L		90	69 - 138
2-Hexanone	ND		1250	1110		ug/L		89	10 - 150
Acetone	ND		1250	1000		ug/L		80	10 - 150
Acrolein	ND		250	264		ug/L		105	10 - 147
Acrylonitrile	ND		2500	2210		ug/L		88	38 - 144
Benzene	ND		250	228		ug/L		91	66 - 130
Bromoform	ND		250	267		ug/L		107	59 - 150
Bromomethane	ND		250	190		ug/L		76	62 - 131
Carbon disulfide	ND		250	202		ug/L		81	49 - 140
Carbon tetrachloride	ND		250	235		ug/L		94	60 - 150
Chlorobenzene	ND		250	249		ug/L		100	70 - 130
Bromochloromethane	ND		250	224		ug/L		90	70 - 130
Chloroethane	ND		250	183		ug/L		73	68 - 130
Chloroform	42		250	263		ug/L		89	70 - 130
Chloromethane	ND		250	168		ug/L		67	39 - 144
cis-1,2-Dichloroethene	320		250	535		ug/L		86	70 - 130
cis-1,3-Dichloropropene	ND		250	260		ug/L		104	70 - 133
Dibromochloromethane	ND		250	261		ug/L		104	70 - 148
Dibromomethane	ND		250	215		ug/L		86	70 - 130
Bromodichloromethane	ND		250	253		ug/L		101	70 - 138
Dichlorodifluoromethane	ND		250	152		ug/L		61	25 - 142
Ethylbenzene	ND		250	260		ug/L		104	70 - 130
m,p-Xylene	ND		250	256		ug/L		103	70 - 133
Methylene Chloride	ND		250	207		ug/L		83	52 - 130
Methyl tert-butyl ether	ND		250	196		ug/L		78	70 - 130
Naphthalene	ND		250	206		ug/L		82	60 - 140
o-Xylene	ND		250	246		ug/L		99	70 - 133
Styrene	ND		250	262		ug/L		105	29 - 150
t-Butanol	ND		2500	2770		ug/L		111	70 - 130
Tetrachloroethene	ND		250	256		ug/L		102	70 - 137
Toluene	ND		250	246		ug/L		98	70 - 130
trans-1,2-Dichloroethene	ND		250	222		ug/L		89	70 - 130
trans-1,3-Dichloropropene	ND		250	256		ug/L		102	70 - 138
Trichloroethene	960		250	1160		ug/L		83	70 - 130
Trichlorofluoromethane	ND		250	205		ug/L		82	60 - 150
Vinyl acetate	ND		250	222		ug/L		89	23 - 150
Vinyl chloride	ND		250	188		ug/L		75	50 - 137
1,2-Dibromoethane (EDB)	ND		250	238		ug/L		95	70 - 131
2-Butanone (MEK)	ND		1250	1210		ug/L		97	48 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238481-A-5 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 542176

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	ND		1250	1100		ug/L		88	52 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	100		80 - 128						
4-Bromofluorobenzene (Surr)	105		80 - 120						
Dibromofluoromethane (Surr)	94		76 - 132						

Lab Sample ID: 440-238481-A-5 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 542176

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		250	230		ug/L		92	60 - 130	8	30
1,1,1,2-Tetrachloroethane	ND		250	249		ug/L		100	60 - 149	4	20
1,1,1-Trichloroethane	ND		250	233		ug/L		93	70 - 130	4	20
1,1,1,2,2-Tetrachloroethane	ND		250	243		ug/L		97	63 - 130	4	30
1,1,1,2-Trichloroethane	ND		250	244		ug/L		97	70 - 130	3	25
1,1-Dichloroethane	ND		250	215		ug/L		86	65 - 130	0	20
1,1-Dichloroethene	ND		250	226		ug/L		90	70 - 130	1	20
1,1-Dichloropropene	ND		250	228		ug/L		91	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		250	220		ug/L		88	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		250	205		ug/L		82	48 - 140	7	30
1,2-Dichlorobenzene	ND		250	244		ug/L		98	70 - 130	0	20
1,2-Dichloroethane	ND		250	213		ug/L		85	56 - 146	2	20
1,2-Dichloropropane	ND		250	252		ug/L		101	69 - 130	4	20
1,3-Dichlorobenzene	ND		250	269		ug/L		108	70 - 130	6	20
1,3-Dichloropropane	ND		250	234		ug/L		94	70 - 130	5	25
1,4-Dichlorobenzene	ND		250	255		ug/L		102	70 - 130	4	20
2,2-Dichloropropane	ND		250	223		ug/L		89	69 - 138	1	25
2-Hexanone	ND		1250	946		ug/L		76	10 - 150	16	35
Acetone	ND		1250	890		ug/L		71	10 - 150	12	35
Acrolein	ND		250	226		ug/L		91	10 - 147	15	40
Acrylonitrile	ND		2500	2040		ug/L		81	38 - 144	8	40
Benzene	ND		250	230		ug/L		92	66 - 130	1	20
Bromoform	ND		250	249		ug/L		100	59 - 150	7	25
Bromomethane	ND		250	191		ug/L		77	62 - 131	1	25
Carbon disulfide	ND		250	201		ug/L		80	49 - 140	1	20
Carbon tetrachloride	ND		250	242		ug/L		97	60 - 150	3	25
Chlorobenzene	ND		250	245		ug/L		98	70 - 130	2	20
Bromochloromethane	ND		250	211		ug/L		84	70 - 130	6	25
Chloroethane	ND		250	203		ug/L		81	68 - 130	10	25
Chloroform	42		250	267		ug/L		90	70 - 130	1	20
Chloromethane	ND		250	173		ug/L		69	39 - 144	3	25
cis-1,2-Dichloroethene	320		250	537		ug/L		86	70 - 130	0	20
cis-1,3-Dichloropropene	ND		250	253		ug/L		101	70 - 133	3	20
Dibromochloromethane	ND		250	248		ug/L		99	70 - 148	5	25
Dibromomethane	ND		250	212		ug/L		85	70 - 130	1	25
Bromodichloromethane	ND		250	250		ug/L		100	70 - 138	1	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238481-A-5 MSD

Matrix: Water

Analysis Batch: 542176

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
Dichlorodifluoromethane	ND		250	156		ug/L		62	25 - 142	3	30
Ethylbenzene	ND		250	257		ug/L		103	70 - 130	1	20
m,p-Xylene	ND		250	261		ug/L		105	70 - 133	2	25
Methylene Chloride	ND		250	219		ug/L		88	52 - 130	5	20
Methyl tert-butyl ether	ND		250	183		ug/L		73	70 - 130	7	25
Naphthalene	ND		250	192		ug/L		77	60 - 140	7	30
o-Xylene	ND		250	240		ug/L		96	70 - 133	3	20
Styrene	ND		250	251		ug/L		100	29 - 150	4	35
t-Butanol	ND		2500	2710		ug/L		108	70 - 130	2	25
Tetrachloroethene	ND		250	257		ug/L		103	70 - 137	0	20
Toluene	ND		250	244		ug/L		97	70 - 130	1	20
trans-1,2-Dichloroethene	ND		250	223		ug/L		89	70 - 130	0	20
trans-1,3-Dichloropropene	ND		250	251		ug/L		101	70 - 138	2	25
Trichloroethene	960		250	1150		ug/L		78	70 - 130	1	20
Trichlorofluoromethane	ND		250	215		ug/L		86	60 - 150	4	25
Vinyl acetate	ND		250	204		ug/L		82	23 - 150	8	30
Vinyl chloride	ND		250	197		ug/L		79	50 - 137	4	30
1,2-Dibromoethane (EDB)	ND		250	233		ug/L		93	70 - 131	2	25
2-Butanone (MEK)	ND		1250	1040		ug/L		83	48 - 140	15	40
4-Methyl-2-pentanone (MIBK)	ND		1250	987		ug/L		79	52 - 150	11	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	106		80 - 120
Dibromofluoromethane (Surr)	94		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-540634/1-A

Matrix: Water

Analysis Batch: 540907

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 540634

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		04/16/19 10:56	04/17/19 13:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	76		30 - 120	04/16/19 10:56	04/17/19 13:25	1

Lab Sample ID: LCS 440-540634/3-A

Matrix: Water

Analysis Batch: 540907

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 540634

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.42		ug/L		71	35 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	74		30 - 120

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-540634/4-A
Matrix: Water
Analysis Batch: 540907

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 540634

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.29		ug/L		64	35 - 120	10	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	68		30 - 120

Lab Sample ID: MB 440-540893/1-A
Matrix: Water
Analysis Batch: 541416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 540893

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		10	2.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
1,4-Naphthoquinone	ND		10	4.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
1,4-phenylenediamine	ND		60	25	ug/L		04/17/19 10:58	04/19/19 12:25	1
1-Naphthylamine	ND		15	5.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
2,3,4,6-Tetrachlorophenol	ND		15	4.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
2,6-Dichlorophenol	ND		15	2.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
2-Acetylaminofluorene	ND		10	3.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
2-Naphthylamine	ND		25	12	ug/L		04/17/19 10:58	04/19/19 12:25	1
3,3'-Dimethylbenzidine	ND		25	10	ug/L		04/17/19 10:58	04/19/19 12:25	1
3-Methylcholanthrene	ND		25	7.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
4-Aminobiphenyl	ND		25	12	ug/L		04/17/19 10:58	04/19/19 12:25	1
5-Nitro-o-toluidine	ND		10	3.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
7,12-Dimethylbenz(a)anthracene	ND		10	4.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Acetophenone	ND		15	2.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
alpha,alpha-Dimethyl phenethylamine	ND		60	34	ug/L		04/17/19 10:58	04/19/19 12:25	1
Diallylate	ND		15	3.2	ug/L		04/17/19 10:58	04/19/19 12:25	1
Dimethyl aminoazobenzene	ND		10	4.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Diphenylamine	ND		10	3.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Ethyl 4,4'-Dichlorobenzilate	ND		10	2.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
Ethyl methanesulfonate	ND		10	3.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Isodrin	ND		10	2.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
Isosafrole	ND		15	6.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Kepone	ND		100	35	ug/L		04/17/19 10:58	04/19/19 12:25	1
Methapyrilene	ND		20	5.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Methyl methanesulfonate	ND		15	2.3	ug/L		04/17/19 10:58	04/19/19 12:25	1
N-Nitrosodiethylamine	ND		10	3.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
N-Nitrosodi-n-butylamine	ND		10	3.3	ug/L		04/17/19 10:58	04/19/19 12:25	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
N-Nitrosopiperidine	ND		10	3.7	ug/L		04/17/19 10:58	04/19/19 12:25	1
N-Nitrosopyrrolidine	ND		10	3.1	ug/L		04/17/19 10:58	04/19/19 12:25	1
o,o',o''-Triethylphosphorothioate	ND		15	3.1	ug/L		04/17/19 10:58	04/19/19 12:25	1
o-Toluidine	ND		10	2.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
Pentachlorobenzene	ND		10	3.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
Phenacetin	ND		10	3.5	ug/L		04/17/19 10:58	04/19/19 12:25	1
Phorate	ND		10	5.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Pronamide	ND		15	5.0	ug/L		04/17/19 10:58	04/19/19 12:25	1
Safrole, Total	ND		10	3.7	ug/L		04/17/19 10:58	04/19/19 12:25	1

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-540893/1-A

Matrix: Water

Analysis Batch: 541416

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 540893

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	73		40 - 120	04/17/19 10:58	04/19/19 12:25	1
2-Fluorobiphenyl	72		50 - 120	04/17/19 10:58	04/19/19 12:25	1
2-Fluorophenol (Surr)	65		30 - 120	04/17/19 10:58	04/19/19 12:25	1
Nitrobenzene-d5 (Surr)	68		45 - 120	04/17/19 10:58	04/19/19 12:25	1
Phenol-d6 (Surr)	66		35 - 120	04/17/19 10:58	04/19/19 12:25	1
Terphenyl-d14 (Surr)	82		10 - 150	04/17/19 10:58	04/19/19 12:25	1

Lab Sample ID: LCS 440-540893/2-A

Matrix: Water

Analysis Batch: 541416

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 540893

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,2,4,5-Tetrachlorobenzene	100	81.3		ug/L		81	50 - 93
2,6-Dichlorophenol	100	86.2		ug/L		86	49 - 112
Diphenylamine	85.0	70.1		ug/L		83	60 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	94		40 - 120
2-Fluorobiphenyl	78		50 - 120
2-Fluorophenol (Surr)	72		30 - 120
Nitrobenzene-d5 (Surr)	76		45 - 120
Phenol-d6 (Surr)	76		35 - 120
Terphenyl-d14 (Surr)	87		10 - 150

Lab Sample ID: 440-238671-Q-4-A MS

Matrix: Water

Analysis Batch: 541416

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 540893

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,2,4,5-Tetrachlorobenzene	ND		99.5	85.4		ug/L		86	50 - 150
2,6-Dichlorophenol	ND		99.5	94.5		ug/L		95	50 - 150
Diphenylamine	ND		84.6	43.9		ug/L		52	50 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	103		40 - 120
2-Fluorobiphenyl	86		50 - 120
2-Fluorophenol (Surr)	71		30 - 120
Nitrobenzene-d5 (Surr)	83		45 - 120
Phenol-d6 (Surr)	76		35 - 120
Terphenyl-d14 (Surr)	60		10 - 150

Lab Sample ID: 440-238671-Q-4-B MSD

Matrix: Water

Analysis Batch: 541416

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 540893

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	
				Result	Qualifier					RPD	Limit
1,2,4,5-Tetrachlorobenzene	ND		99.0	75.6		ug/L		76	50 - 150	12	30
2,6-Dichlorophenol	ND		99.0	77.0		ug/L		78	50 - 150	20	30

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-238671-Q-4-B MSD

Matrix: Water

Analysis Batch: 541416

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 540893

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diphenylamine	ND		84.2	52.7		ug/L		63	50 - 150	18	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
2,4,6-Tribromophenol (Surr)	85		40 - 120								
2-Fluorobiphenyl	75		50 - 120								
2-Fluorophenol (Surr)	65		30 - 120								
Nitrobenzene-d5 (Surr)	70		45 - 120								
Phenol-d6 (Surr)	66		35 - 120								
Terphenyl-d14 (Surr)	64		10 - 150								

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 440-540261/1-A

Matrix: Water

Analysis Batch: 540672

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 540261

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
1,2-Dichlorobenzene	ND		0.50	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
1,3-Dichlorobenzene	ND		0.50	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
1,4-Dichlorobenzene	ND		0.50	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,4,5-Trichlorophenol	ND		2.0	0.30	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,4,6-Trichlorophenol	ND		1.0	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,4-Dichlorophenol	ND		2.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,4-Dimethylphenol	ND		2.0	0.50	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,4-Dinitrophenol	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,4-Dinitrotoluene	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
2,6-Dinitrotoluene	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
2-Chloronaphthalene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
2-Chlorophenol	ND		1.0	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
2-Methylnaphthalene	ND		1.0	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
2-Methylphenol	ND		2.0	0.30	ug/L		04/14/19 13:11	04/16/19 15:02	1
2-Nitroaniline	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
2-Nitrophenol	ND		2.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
3,3'-Dichlorobenzidine	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
3-Methylphenol + 4-Methylphenol	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
3-Nitroaniline	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
4-Bromophenyl phenyl ether	ND		1.0	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
4-Chloro-3-methylphenol	ND		2.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
4-Chloroaniline	ND		2.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
4-Chlorophenyl phenyl ether	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
4-Nitroaniline	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
4-Nitrophenol	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Acenaphthene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Acenaphthylene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Aniline	ND		10	0.75	ug/L		04/14/19 13:11	04/16/19 15:02	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: MB 440-540261/1-A

Matrix: Water

Analysis Batch: 540672

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 540261

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Anthracene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzidine	ND		10	5.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzo[a]anthracene	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzo[a]pyrene	ND		2.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzo[b]fluoranthene	ND		2.0	0.30	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzo[g,h,i]perylene	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzo[k]fluoranthene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzoic acid	ND		10	4.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Benzyl alcohol	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
bis(2-chloroisopropyl) ether	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Bis(2-chloroethoxy)methane	ND		0.50	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Bis(2-chloroethyl)ether	ND		0.50	0.050	ug/L		04/14/19 13:11	04/16/19 15:02	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Butyl benzyl phthalate	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Chrysene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Dibenz(a,h)anthracene	ND		0.50	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Dibenzofuran	ND		0.50	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Diethyl phthalate	ND		1.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Dimethyl phthalate	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Di-n-butyl phthalate	ND		2.0	0.50	ug/L		04/14/19 13:11	04/16/19 15:02	1
Di-n-octyl phthalate	ND		5.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Fluoranthene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Fluorene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Hexachlorobenzene	ND		1.0	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Hexachlorobutadiene	ND		2.0	0.50	ug/L		04/14/19 13:11	04/16/19 15:02	1
Hexachlorocyclopentadiene	ND		5.0	2.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Hexachloroethane	ND		3.0	0.50	ug/L		04/14/19 13:11	04/16/19 15:02	1
Indeno[1,2,3-cd]pyrene	ND		2.0	0.40	ug/L		04/14/19 13:11	04/16/19 15:02	1
Isophorone	ND		1.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Naphthalene	ND		1.0	0.050	ug/L		04/14/19 13:11	04/16/19 15:02	1
Nitrobenzene	ND		1.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
N-Nitrosodimethylamine	ND		2.0	0.30	ug/L		04/14/19 13:11	04/16/19 15:02	1
N-Nitrosodi-n-propylamine	ND		2.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
N-Nitrosodiphenylamine	ND		1.0	0.20	ug/L		04/14/19 13:11	04/16/19 15:02	1
Pentachlorophenol	ND		2.0	1.0	ug/L		04/14/19 13:11	04/16/19 15:02	1
Phenanthrene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Phenol	ND		1.0	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1
Pyrene	ND		0.50	0.10	ug/L		04/14/19 13:11	04/16/19 15:02	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	83		40 - 120	04/14/19 13:11	04/16/19 15:02	1
2-Fluorobiphenyl	66		50 - 120	04/14/19 13:11	04/16/19 15:02	1
2-Fluorophenol (Surr)	59		30 - 120	04/14/19 13:11	04/16/19 15:02	1
Nitrobenzene-d5 (Surr)	65		45 - 120	04/14/19 13:11	04/16/19 15:02	1
Phenol-d6 (Surr)	65		35 - 120	04/14/19 13:11	04/16/19 15:02	1
Terphenyl-d14 (Surr)	86		37 - 144	04/14/19 13:11	04/16/19 15:02	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 440-540261/2-A

Matrix: Water

Analysis Batch: 540672

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 540261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	15.0	10.1		ug/L		67	44 - 88
1,2-Dichlorobenzene	15.0	10.4		ug/L		69	43 - 87
1,2-Diphenylhydrazine(as Azobenzene)	15.0	14.1		ug/L		94	50 - 115
1,3-Dichlorobenzene	15.0	10.2		ug/L		68	41 - 83
1,4-Dichlorobenzene	15.0	10.1		ug/L		68	41 - 84
2,4,5-Trichlorophenol	15.0	12.4		ug/L		83	49 - 112
2,4,6-Trichlorophenol	15.0	12.4		ug/L		83	50 - 108
2,4-Dichlorophenol	15.0	11.6		ug/L		77	44 - 109
2,4-Dimethylphenol	15.0	11.5		ug/L		77	38 - 110
2,4-Dinitrophenol	30.0	25.4		ug/L		85	42 - 109
2,4-Dinitrotoluene	15.0	14.2		ug/L		95	56 - 114
2,6-Dinitrotoluene	15.0	14.5		ug/L		97	57 - 112
2-Chloronaphthalene	15.0	11.6		ug/L		77	46 - 103
2-Chlorophenol	15.0	11.1		ug/L		74	42 - 101
2-Methylnaphthalene	15.0	11.6		ug/L		78	49 - 100
2-Methylphenol	15.0	11.7		ug/L		78	31 - 120
2-Nitroaniline	15.0	13.9		ug/L		92	51 - 114
2-Nitrophenol	15.0	11.5		ug/L		76	44 - 104
3,3'-Dichlorobenzidine	15.0	ND	*	ug/L		0	10 - 106
3-Methylphenol + 4-Methylphenol	15.0	11.8		ug/L		79	40 - 117
3-Nitroaniline	15.0	5.52		ug/L		37	32 - 124
4,6-Dinitro-2-methylphenol	30.0	29.6		ug/L		99	50 - 112
4-Bromophenyl phenyl ether	15.0	13.3		ug/L		88	54 - 110
4-Chloro-3-methylphenol	15.0	12.5		ug/L		83	53 - 115
4-Chloroaniline	15.0	ND	*	ug/L		3	18 - 127
4-Chlorophenyl phenyl ether	15.0	12.9		ug/L		86	54 - 111
4-Nitroaniline	15.0	8.58		ug/L		57	39 - 123
4-Nitrophenol	30.0	26.6		ug/L		89	50 - 114
Acenaphthene	15.0	12.4		ug/L		83	55 - 105
Acenaphthylene	15.0	12.2		ug/L		81	52 - 111
Aniline	15.0	5.82	J	ug/L		39	30 - 115
Anthracene	15.0	13.7		ug/L		92	59 - 118
Benzidine	15.0	ND	*	ug/L		0	5 - 65
Benzo[a]anthracene	15.0	13.6		ug/L		91	59 - 116
Benzo[a]pyrene	15.0	14.1		ug/L		94	57 - 107
Benzo[b]fluoranthene	15.0	14.7		ug/L		98	60 - 112
Benzo[g,h,i]perylene	15.0	12.0		ug/L		80	26 - 150
Benzo[k]fluoranthene	15.0	14.8		ug/L		98	60 - 112
Benzoic acid	15.0	8.24	J	ug/L		55	21 - 142
Benzyl alcohol	15.0	12.5		ug/L		83	44 - 115
bis(2-chloroisopropyl) ether	15.0	11.4		ug/L		76	50 - 102
Bis(2-chloroethoxy)methane	15.0	11.6		ug/L		77	46 - 120
Bis(2-chloroethyl)ether	15.0	11.4		ug/L		76	50 - 101
Bis(2-ethylhexyl) phthalate	15.0	14.6		ug/L		98	52 - 121
Butyl benzyl phthalate	15.0	15.0		ug/L		100	57 - 123
Chrysene	15.0	13.7		ug/L		91	63 - 109
Dibenz(a,h)anthracene	15.0	13.1		ug/L		88	37 - 136
Dibenzofuran	15.0	12.8		ug/L		85	53 - 107

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 440-540261/2-A

Matrix: Water

Analysis Batch: 540672

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 540261

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Diethyl phthalate	15.0	14.2		ug/L		94	58 - 118
Dimethyl phthalate	15.0	14.3		ug/L		95	55 - 115
Di-n-butyl phthalate	15.0	15.0		ug/L		100	59 - 129
Di-n-octyl phthalate	15.0	15.9		ug/L		106	47 - 127
Fluoranthene	15.0	14.3		ug/L		95	60 - 124
Fluorene	15.0	13.5		ug/L		90	54 - 113
Hexachlorobenzene	15.0	13.1		ug/L		87	53 - 105
Hexachlorobutadiene	15.0	8.25		ug/L		55	37 - 78
Hexachlorocyclopentadiene	15.0	3.60	J	ug/L		24	10 - 73
Hexachloroethane	15.0	9.77		ug/L		65	37 - 78
Indeno[1,2,3-cd]pyrene	15.0	14.2		ug/L		95	30 - 150
Isophorone	15.0	12.8		ug/L		85	47 - 131
Naphthalene	15.0	10.9		ug/L		72	32 - 117
Nitrobenzene	15.0	11.1		ug/L		74	51 - 104
N-Nitrosodimethylamine	15.0	11.4		ug/L		76	46 - 104
N-Nitrosodi-n-propylamine	15.0	12.4		ug/L		83	52 - 114
N-Nitrosodiphenylamine	15.0	11.5		ug/L		76	49 - 113
Pentachlorophenol	30.0	24.7		ug/L		82	54 - 116
Phenanthrene	15.0	13.6		ug/L		91	58 - 116
Phenol	15.0	10.4		ug/L		69	28 - 118
Pyrene	15.0	15.0		ug/L		100	62 - 123

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	89		40 - 120
2-Fluorobiphenyl	75		50 - 120
2-Fluorophenol (Surr)	66		30 - 120
Nitrobenzene-d5 (Surr)	71		45 - 120
Phenol-d6 (Surr)	71		35 - 120
Terphenyl-d14 (Surr)	82		37 - 144

Lab Sample ID: LCSD 440-540261/3-A

Matrix: Water

Analysis Batch: 540672

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 540261

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,2,4-Trichlorobenzene	15.0	9.80		ug/L		65	44 - 88	3	35
1,2-Dichlorobenzene	15.0	9.88		ug/L		66	43 - 87	5	35
1,2-Diphenylhydrazine(as Azobenzene)	15.0	13.7		ug/L		91	50 - 115	3	35
1,3-Dichlorobenzene	15.0	9.66		ug/L		64	41 - 83	5	35
1,4-Dichlorobenzene	15.0	9.76		ug/L		65	41 - 84	4	35
2,4,5-Trichlorophenol	15.0	12.2		ug/L		82	49 - 112	1	35
2,4,6-Trichlorophenol	15.0	12.5		ug/L		83	50 - 108	0	35
2,4-Dichlorophenol	15.0	11.4		ug/L		76	44 - 109	2	35
2,4-Dimethylphenol	15.0	10.6		ug/L		70	38 - 110	9	35
2,4-Dinitrophenol	30.0	26.6		ug/L		89	42 - 109	5	35
2,4-Dinitrotoluene	15.0	13.6		ug/L		91	56 - 114	4	35
2,6-Dinitrotoluene	15.0	13.9		ug/L		93	57 - 112	4	35
2-Chloronaphthalene	15.0	11.6		ug/L		78	46 - 103	0	35

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCSD 440-540261/3-A

Matrix: Water

Analysis Batch: 540672

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 540261

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chlorophenol	15.0	10.7		ug/L		72	42 - 101	3	35
2-Methylnaphthalene	15.0	11.4		ug/L		76	49 - 100	2	35
2-Methylphenol	15.0	11.3		ug/L		76	31 - 120	3	35
2-Nitroaniline	15.0	13.4		ug/L		89	51 - 114	3	35
2-Nitrophenol	15.0	11.1		ug/L		74	44 - 104	3	35
3,3'-Dichlorobenzidine	15.0	10.7	*	ug/L		72	10 - 106	200	35
3-Methylphenol + 4-Methylphenol	15.0	11.6		ug/L		78	40 - 117	1	35
3-Nitroaniline	15.0	15.3	*	ug/L		102	32 - 124	94	35
4,6-Dinitro-2-methylphenol	30.0	28.5		ug/L		95	50 - 112	4	35
4-Bromophenyl phenyl ether	15.0	13.0		ug/L		87	54 - 110	2	35
4-Chloro-3-methylphenol	15.0	12.5		ug/L		83	53 - 115	0	35
4-Chloroaniline	15.0	8.53	*	ug/L		57	18 - 127	178	35
4-Chlorophenyl phenyl ether	15.0	12.7		ug/L		85	54 - 111	1	35
4-Nitroaniline	15.0	13.8	*	ug/L		92	39 - 123	47	35
4-Nitrophenol	30.0	26.1		ug/L		87	50 - 114	2	35
Acenaphthene	15.0	12.2		ug/L		81	55 - 105	1	35
Acenaphthylene	15.0	12.1		ug/L		81	52 - 111	0	35
Aniline	15.0	9.76	J *	ug/L		65	30 - 115	51	35
Anthracene	15.0	13.3		ug/L		89	59 - 118	3	35
Benzidine	15.0	ND	*	ug/L		6	5 - 65	200	35
Benzo[a]anthracene	15.0	13.2		ug/L		88	59 - 116	3	35
Benzo[a]pyrene	15.0	13.7		ug/L		91	57 - 107	3	35
Benzo[b]fluoranthene	15.0	13.7		ug/L		91	60 - 112	7	35
Benzo[g,h,i]perylene	15.0	11.6		ug/L		77	26 - 150	3	35
Benzo[k]fluoranthene	15.0	14.5		ug/L		96	60 - 112	2	35
Benzoic acid	15.0	8.25	J	ug/L		55	21 - 142	0	35
Benzyl alcohol	15.0	12.3		ug/L		82	44 - 115	1	35
bis (2-chloroisopropyl) ether	15.0	10.9		ug/L		73	50 - 102	4	35
Bis(2-chloroethoxy)methane	15.0	11.7		ug/L		78	46 - 120	1	35
Bis(2-chloroethyl)ether	15.0	11.1		ug/L		74	50 - 101	3	35
Bis(2-ethylhexyl) phthalate	15.0	14.0		ug/L		94	52 - 121	4	35
Butyl benzyl phthalate	15.0	14.5		ug/L		96	57 - 123	4	35
Chrysene	15.0	13.4		ug/L		90	63 - 109	2	35
Dibenz(a,h)anthracene	15.0	12.4		ug/L		83	37 - 136	6	35
Dibenzofuran	15.0	12.5		ug/L		83	53 - 107	2	35
Diethyl phthalate	15.0	13.7		ug/L		91	58 - 118	3	35
Dimethyl phthalate	15.0	13.8		ug/L		92	55 - 115	4	35
Di-n-butyl phthalate	15.0	14.3		ug/L		96	59 - 129	5	35
Di-n-octyl phthalate	15.0	14.5		ug/L		97	47 - 127	9	35
Fluoranthene	15.0	13.6		ug/L		91	60 - 124	5	35
Fluorene	15.0	12.9		ug/L		86	54 - 113	4	35
Hexachlorobenzene	15.0	12.7		ug/L		85	53 - 105	3	35
Hexachlorobutadiene	15.0	8.20		ug/L		55	37 - 78	1	35
Hexachlorocyclopentadiene	15.0	3.56	J	ug/L		24	10 - 73	1	35
Hexachloroethane	15.0	9.68		ug/L		65	37 - 78	1	35
Indeno[1,2,3-cd]pyrene	15.0	12.7		ug/L		85	30 - 150	11	35
Isophorone	15.0	13.0		ug/L		87	47 - 131	2	35
Naphthalene	15.0	10.6		ug/L		71	32 - 117	2	35
Nitrobenzene	15.0	10.7		ug/L		71	51 - 104	4	35

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCSD 440-540261/3-A
Matrix: Water
Analysis Batch: 540672

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 540261

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Nitrosodimethylamine	15.0	10.7		ug/L		72	46 - 104	6	35
N-Nitrosodi-n-propylamine	15.0	12.5		ug/L		83	52 - 114	0	35
N-Nitrosodiphenylamine	15.0	12.6		ug/L		84	49 - 113	9	35
Pentachlorophenol	30.0	24.4		ug/L		81	54 - 116	1	35
Phenanthrene	15.0	13.3		ug/L		89	58 - 116	2	35
Phenol	15.0	10.2		ug/L		68	28 - 118	1	35
Pyrene	15.0	14.0		ug/L		94	62 - 123	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	88		40 - 120
2-Fluorobiphenyl	76		50 - 120
2-Fluorophenol (Surr)	62		30 - 120
Nitrobenzene-d5 (Surr)	69		45 - 120
Phenol-d6 (Surr)	71		35 - 120
Terphenyl-d14 (Surr)	80		37 - 144

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-540833/1-A
Matrix: Water
Analysis Batch: 541055

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 540833

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		04/17/19 07:43	04/17/19 19:07	1
Arsenic	ND		0.010	0.0089	mg/L		04/17/19 07:43	04/17/19 19:07	1
Barium	ND		0.010	0.0050	mg/L		04/17/19 07:43	04/17/19 19:07	1
Beryllium	ND		0.0020	0.0010	mg/L		04/17/19 07:43	04/17/19 19:07	1
Chromium	ND		0.0050	0.0025	mg/L		04/17/19 07:43	04/17/19 19:07	1
Nickel	ND		0.010	0.0050	mg/L		04/17/19 07:43	04/17/19 19:07	1

Lab Sample ID: LCS 440-540833/2-A
Matrix: Water
Analysis Batch: 541055

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 540833

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	0.997		mg/L		100	80 - 120
Arsenic	1.00	0.994		mg/L		99	80 - 120
Barium	1.00	0.951		mg/L		95	80 - 120
Beryllium	0.200	0.193		mg/L		96	80 - 120
Chromium	0.500	0.483		mg/L		97	80 - 120
Nickel	1.00	0.953		mg/L		95	80 - 120

Lab Sample ID: 440-238883-H-3-B MS
Matrix: Water
Analysis Batch: 541055

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 540833

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.025		1.00	1.11		mg/L		109	75 - 125
Arsenic	0.0098	J	1.00	1.10		mg/L		109	75 - 125

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

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

Lab Sample ID: 440-238883-H-3-B MS
Matrix: Water
Analysis Batch: 541055

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 540833

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	Limits
Barium	0.034		1.00	0.995		mg/L		96	75 - 125	
Beryllium	ND		0.200	0.207		mg/L		103	75 - 125	
Chromium	ND		0.500	0.498		mg/L		100	75 - 125	
Nickel	0.051		1.00	0.980		mg/L		93	75 - 125	

Lab Sample ID: 440-238883-H-3-C MSD
Matrix: Water
Analysis Batch: 541055

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 540833

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier		Result	Qualifier				Limits	Limits	RPD	Limit
Antimony	0.025		1.00	1.10		mg/L		107	75 - 125	2	20	
Arsenic	0.0098	J	1.00	1.09		mg/L		108	75 - 125	1	20	
Barium	0.034		1.00	0.995		mg/L		96	75 - 125	0	20	
Beryllium	ND		0.200	0.205		mg/L		103	75 - 125	1	20	
Chromium	ND		0.500	0.496		mg/L		99	75 - 125	1	20	
Nickel	0.051		1.00	0.975		mg/L		92	75 - 125	1	20	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-543262/1-A
Matrix: Water
Analysis Batch: 543486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543262

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Mercury	ND		0.00020	0.00010	mg/L		04/29/19 16:27	04/30/19 13:46		1

Lab Sample ID: LCS 440-543262/2-A
Matrix: Water
Analysis Batch: 543486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543262

Analyte	Spike	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	Limits
Mercury	0.00400	0.00432		mg/L		108	80 - 120	

Lab Sample ID: 440-238536-K-25-F MS
Matrix: Water
Analysis Batch: 543486

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 543262

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	Limits
Mercury	ND		0.00400	0.00457		mg/L		114	75 - 125	

Lab Sample ID: 440-238536-K-25-G MSD
Matrix: Water
Analysis Batch: 543486

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 543262

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier		Result	Qualifier				Limits	Limits	RPD	Limit
Mercury	ND		0.00400	0.00428		mg/L		107	75 - 125	7	20	

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-540467/3
Matrix: Water
Analysis Batch: 540467

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			04/15/19 16:31	1

Lab Sample ID: LCS 440-540467/4
Matrix: Water
Analysis Batch: 540467

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	0.490		mg/L		98	80 - 120

Lab Sample ID: LCSD 440-540467/5
Matrix: Water
Analysis Batch: 540467

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Sulfide	0.500	0.523		mg/L		105	80 - 120	7	20

Lab Sample ID: 440-238496-N-19 MS
Matrix: Water
Analysis Batch: 540467

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	0.497		mg/L		99	70 - 130

Lab Sample ID: 440-238496-N-19 MSD
Matrix: Water
Analysis Batch: 540467

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	0.494		mg/L		99	70 - 130	1	30

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

GC/MS VOA

Analysis Batch: 540219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-2	Field Blank	Total/NA	Water	8260B	
440-238585-3	Trip Blank	Total/NA	Water	8260B	
MB 440-540219/4	Method Blank	Total/NA	Water	8260B	
LCS 440-540219/5	Lab Control Sample	Total/NA	Water	8260B	
440-238093-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-238093-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 540551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	8260B	
MB 440-540551/4	Method Blank	Total/NA	Water	8260B	
LCS 440-540551/5	Lab Control Sample	Total/NA	Water	8260B	
440-238496-D-19 MS	Matrix Spike	Total/NA	Water	8260B	
440-238496-D-19 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 542176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	8260B	
440-238585-3	Trip Blank	Total/NA	Water	8260B	
MB 440-542176/5	Method Blank	Total/NA	Water	8260B	
LCS 440-542176/6	Lab Control Sample	Total/NA	Water	8260B	
440-238481-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-238481-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 540261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	3520C	
MB 440-540261/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-540261/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-540261/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 540634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	3520C	
MB 440-540634/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-540634/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-540634/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 540672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-540261/1-A	Method Blank	Total/NA	Water	8270C LL	540261
LCS 440-540261/2-A	Lab Control Sample	Total/NA	Water	8270C LL	540261
LCSD 440-540261/3-A	Lab Control Sample Dup	Total/NA	Water	8270C LL	540261

Prep Batch: 540893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	3520C	
MB 440-540893/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-540893/2-A	Lab Control Sample	Total/NA	Water	3520C	

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QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

GC/MS Semi VOA (Continued)

Prep Batch: 540893 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238671-Q-4-A MS	Matrix Spike	Total/NA	Water	3520C	
440-238671-Q-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 540907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	8270C	540634
MB 440-540634/1-A	Method Blank	Total/NA	Water	8270C	540634
LCS 440-540634/3-A	Lab Control Sample	Total/NA	Water	8270C	540634
LCS 440-540634/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	540634

Analysis Batch: 541097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	8270C LL	540261

Analysis Batch: 541416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	8270C	540893
MB 440-540893/1-A	Method Blank	Total/NA	Water	8270C	540893
LCS 440-540893/2-A	Lab Control Sample	Total/NA	Water	8270C	540893
440-238671-Q-4-A MS	Matrix Spike	Total/NA	Water	8270C	540893
440-238671-Q-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	540893

Metals

Prep Batch: 540833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total Recoverable	Water	3005A	
MB 440-540833/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-540833/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-238883-H-3-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-238883-H-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 541055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total Recoverable	Water	6010B	540833
MB 440-540833/1-A	Method Blank	Total Recoverable	Water	6010B	540833
LCS 440-540833/2-A	Lab Control Sample	Total Recoverable	Water	6010B	540833
440-238883-H-3-B MS	Matrix Spike	Total Recoverable	Water	6010B	540833
440-238883-H-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	540833

Prep Batch: 543262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	7470A	
MB 440-543262/1-A	Method Blank	Total/NA	Water	7470A	
LCS 440-543262/2-A	Lab Control Sample	Total/NA	Water	7470A	
440-238536-K-25-F MS	Matrix Spike	Total/NA	Water	7470A	
440-238536-K-25-G MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 543486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	7470A	543262

Eurofins TestAmerica, Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Metals (Continued)

Analysis Batch: 543486 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-543262/1-A	Method Blank	Total/NA	Water	7470A	543262
LCS 440-543262/2-A	Lab Control Sample	Total/NA	Water	7470A	543262
440-238536-K-25-F MS	Matrix Spike	Total/NA	Water	7470A	543262
440-238536-K-25-G MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	543262

General Chemistry

Analysis Batch: 540467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-238585-1	Deep Leachate	Total/NA	Water	SM 4500 S2 D	
MB 440-540467/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-540467/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 440-540467/5	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
440-238496-N-19 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
440-238496-N-19 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Qualifiers

GC/MS VOA

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.
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
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Metals

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-238585-1

Laboratory: Eurofins 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. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19 *
Nevada	State Program	9	CA015312019-5	07-31-19
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
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.

Eurofins TestAmerica, Irvine

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 Phone: 949.261.1022 Fax:

Chain of Custody Record 208859

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-9210 (0713)

*Rejest *

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: GCA Republic Address: 1415 W. Bendoverd St City/State/Zip: S.D. CA 92127 Phone: 858-451-1136 Fax: 858-451-1087 Project Name: Republic Services Site: Sunshine Spr. Landfill PO #		Site Contact: J. Mills Lab Contact: J. Mills Date: 4-10-19 Carrier: A		COC No: 1 of 1 COCs Sampler: B. Salinas For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No: Metals are not field filtered. Sample Specific Notes:	
Project Manager: Kyle Weldons Tel/Fax: 858-451-1136 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Filtered Sample (Y/N) Performs MS/MSD (Y/N)		440-238585 Chain of Custody	
Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	
4/10/19	1100	G	WW	13	
			LAB	6	
			" "	6	
Deep Leachate					
Field Blank					
Tap Blank					
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other					
Possible Hazard Identification: Please List any EPA Hazardous Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample					
<input type="checkbox"/> Non-Hazardous <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown					
Special Instructions/QC Requirements & Comments:					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temp (°C): Obs'd: _____		Therm ID No: _____	
Relinquished by: [Signature]		Received by: Will Reiva		Date/Time: 4/10/19 1525	
Relinquished by: TA-IRV		Received by: [Signature]		Date/Time: 4/10/19 1640	
Relinquished by: [Signature]		Received in Laboratory by: [Signature]		Date/Time: 4/10/19 1640	



2-6/3.0, 1.9/2.3 #93



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-238585-1

Login Number: 238585

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Skinner, Alma D

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	

ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-244444-1

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:
7/12/2019 1:54:50 PM

Rossina Tomova, Project Manager I
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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-244444-1	Subdrain (N)	Water	06/24/19 12:15	06/24/19 18:40	
440-244444-2	Combined Subdrain	Water	06/24/19 13:35	06/24/19 18:40	
440-244444-3	PZ-2	Water	06/24/19 10:35	06/24/19 18:40	
440-244444-4	MW-6	Water	06/24/19 13:42	06/24/19 18:40	
440-244444-5	MW-14	Water	06/24/19 12:30	06/24/19 18:40	
440-244444-6	Field Blanks	Water	06/24/19 00:01	06/24/19 18:40	
440-244444-7	Trip Blanks	Water	06/24/19 00:01	06/24/19 18:40	

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Job ID: 440-244444-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-244444-1

Comments

No additional comments.

Receipt

The samples were received on 6/24/2019 6:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.4° C and 2.4° C.

GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-554673 were outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-554673 recovered outside control limits for the following analytes: 1,1,1-Trichloroethane and 2,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-554673 recovered above the upper control limit for 1,1,1-Trichloroethane and 2,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: Field Blanks (440-244444-6), Trip Blanks (440-244444-7) and (CCVIS 440-554673/2).

Method(s) 8260B: Surrogate recovery for 4-Bromofluorobenzene was outside the upper control limit for matrix spike sample (MS): (440-244872-A-1 MS). The MSD and parent sample's surrogate recovery were within limits. The MS sample has been qualified and 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

Method(s) 300.0: The following samples were diluted for Bromide and/or Fluoride due to the nature of the sample matrix: Subdrain (N) (440-244444-1), Combined Subdrain (440-244444-2), PZ-2 (440-244444-3), MW-6 (440-244444-4) and MW-14 (440-244444-5). 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: Subdrain (N) (440-244444-1), PZ-2 (440-244444-3), MW-6 (440-244444-4) and MW-14 (440-244444-5). 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 440-554637 contained Magnesium and Sodium above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL).(CCB 440-554637/49)

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) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-555026. Method 8270C-1,4-dioxane. LCS was performed in duplicate to provide precision of data.

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Job ID: 440-244444-1 (Continued)

Laboratory: Eurofins TestAmerica, Irvine (Continued)

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.

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Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-244444-1

Date Collected: 06/24/19 12:15

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 11:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Acrolein	ND		50	2.5	ug/L			06/27/19 18:42	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 18:42	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 11:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 11:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,4-Dichlorobenzene	1.1		0.50	0.25	ug/L			07/01/19 11:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 11:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 11:35	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 11:35	1
Acetone	ND		20	10	ug/L			07/01/19 11:35	1
Acetonitrile	ND		20	10	ug/L			07/01/19 11:35	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 11:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 11:35	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 11:35	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 11:35	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 11:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 11:35	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
cis-1,2-Dichloroethene	1.3		0.50	0.25	ug/L			07/01/19 11:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 11:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 11:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 11:35	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 11:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 11:35	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 11:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 11:35	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-244444-1

Date Collected: 06/24/19 12:15

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 11:35	1
Methyl tert-butyl ether	0.50		0.50	0.25	ug/L			07/01/19 11:35	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 11:35	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Propionitrile	ND		20	10	ug/L			07/01/19 11:35	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
t-Butanol	53		10	5.0	ug/L			07/01/19 11:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Tetrahydrofuran	11		10	5.0	ug/L			07/01/19 11:35	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 11:35	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 11:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 11:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 11:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 11:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 11:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 11:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Silane, fluorotrimethyl-	7.2	T J N	ug/L		2.90	420-56-4		07/01/19 11:35	1
Unknown	10	T J	ug/L		6.52			07/01/19 11:35	1
Unknown	6.2	T J	ug/L		14.88			07/01/19 11:35	1
Cyclotrisiloxane, hexamethyl-	9.1	T J N	ug/L		15.91	541-05-9		07/01/19 11:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		06/27/19 18:42	1
4-Bromofluorobenzene (Surr)	113		80 - 120		06/27/19 18:42	1
Toluene-d8 (Surr)	109		80 - 128		07/01/19 11:35	1
4-Bromofluorobenzene (Surr)	119		80 - 120		07/01/19 11:35	1
Dibromofluoromethane (Surr)	102		76 - 132		06/27/19 18:42	1
Dibromofluoromethane (Surr)	88		76 - 132		07/01/19 11:35	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	25		1.0	0.25	ug/L		06/27/19 11:54	07/01/19 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	37		30 - 120	06/27/19 11:54	07/01/19 15:39	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	6.6		5.0	2.5	mg/L			06/25/19 01:34	10
Nitrate as N	ND		1.1	0.55	mg/L			06/25/19 01:34	10
Chloride	410		100	50	mg/L			06/25/19 01:51	200
Fluoride	2.5 J		5.0	2.5	mg/L			06/25/19 01:34	10
Sulfate	1800		100	50	mg/L			06/25/19 01:51	200

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-244444-1

Date Collected: 06/24/19 12:15

Matrix: Water

Date Received: 06/24/19 18:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.050	0.025	mg/L		06/25/19 08:27	06/25/19 17:33	1
Calcium	520		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 17:33	1
Iron	83		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 17:33	1
Magnesium	230		0.020	0.010	mg/L		06/25/19 08:27	06/25/19 17:33	1
Manganese	9.9		0.020	0.015	mg/L		06/25/19 08:27	06/25/19 17:33	1
Potassium	22		0.50	0.25	mg/L		06/25/19 08:27	06/25/19 17:33	1
Sodium	330		0.50	0.26	mg/L		06/25/19 08:27	06/25/19 17:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	6.5		0.20	0.10	mg/L			06/26/19 17:12	1
Chemical Oxygen Demand	230		20	10	mg/L			06/27/19 16:48	1
Total Dissolved Solids	4800		50	25	mg/L			06/25/19 11:02	1
Total Sulfide	0.027	J	0.050	0.027	mg/L			06/26/19 17:05	1
Total Organic Carbon	88		2.0	1.0	mg/L			06/25/19 12:32	20
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	990		4.0	4.0	mg/L			06/25/19 09:34	1
Bicarbonate Alkalinity as CaCO3	990		4.0	4.0	mg/L			06/25/19 09:34	1
Carbon Dioxide, Free	310		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: Combined Subdrain

Lab Sample ID: 440-244444-2

Date Collected: 06/24/19 13:35

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 12:05	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Acrolein	ND		50	2.5	ug/L			06/29/19 06:06	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 06:06	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 12:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 12:05	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 12:05	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 12:05	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 12:05	1
Acetone	ND		20	10	ug/L			07/01/19 12:05	1
Acetonitrile	ND		20	10	ug/L			07/01/19 12:05	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 12:05	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Combined Subdrain

Lab Sample ID: 440-244444-2

Date Collected: 06/24/19 13:35

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 12:05	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 12:05	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 12:05	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 12:05	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 12:05	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
cis-1,2-Dichloroethene	0.52		0.50	0.25	ug/L			07/01/19 12:05	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 12:05	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 12:05	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 12:05	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 12:05	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 12:05	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 12:05	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 12:05	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 12:05	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 12:05	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Propionitrile	ND		20	10	ug/L			07/01/19 12:05	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
t-Butanol	7.0 J		10	5.0	ug/L			07/01/19 12:05	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 12:05	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 12:05	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 12:05	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 12:05	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 12:05	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 12:05	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 12:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 12:05	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	T J	ug/L		6.52			07/01/19 12:05	1
Cyclotrisiloxane, hexamethyl-	27	T J N	ug/L		15.90	541-05-9		07/01/19 12:05	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Combined Subdrain

Lab Sample ID: 440-244444-2

Date Collected: 06/24/19 13:35

Matrix: Water

Date Received: 06/24/19 18:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		06/29/19 06:06	1
4-Bromofluorobenzene (Surr)	96		80 - 120		06/29/19 06:06	1
Toluene-d8 (Surr)	111		80 - 128		07/01/19 12:05	1
4-Bromofluorobenzene (Surr)	118		80 - 120		07/01/19 12:05	1
Dibromofluoromethane (Surr)	102		76 - 132		06/29/19 06:06	1
Dibromofluoromethane (Surr)	87		76 - 132		07/01/19 12:05	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.2		0.99	0.25	ug/L		06/27/19 11:54	07/01/19 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	48		30 - 120	06/27/19 11:54	07/01/19 16:02	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.9	J	2.5	1.3	mg/L			06/25/19 02:08	5
Nitrate as N	3.1		0.55	0.28	mg/L			06/25/19 02:08	5
Chloride	120		100	50	mg/L			06/25/19 02:25	200
Fluoride	2.6		2.5	1.3	mg/L			06/25/19 02:08	5
Sulfate	2200		100	50	mg/L			06/25/19 02:25	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.58		0.050	0.025	mg/L		06/25/19 08:27	06/25/19 18:01	1
Calcium	330		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:01	1
Iron	1.7		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:01	1
Magnesium	290		0.020	0.010	mg/L		06/25/19 08:27	06/25/19 18:01	1
Manganese	6.5		0.020	0.015	mg/L		06/25/19 08:27	06/25/19 18:01	1
Potassium	14		0.50	0.25	mg/L		06/25/19 08:27	06/25/19 18:01	1
Sodium	180		0.50	0.26	mg/L		06/25/19 08:27	06/25/19 18:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.74		0.20	0.10	mg/L			06/26/19 17:17	1
Chemical Oxygen Demand	49		20	10	mg/L			06/27/19 16:48	1
Total Dissolved Solids	3800		20	10	mg/L			06/25/19 11:02	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:05	1
Total Organic Carbon	13		0.10	0.050	mg/L			06/25/19 12:49	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	240		4.0	4.0	mg/L			06/25/19 10:02	1
Bicarbonate Alkalinity as CaCO3	240		4.0	4.0	mg/L			06/25/19 10:02	1
Carbon Dioxide, Free	77		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: PZ-2

Lab Sample ID: 440-244444-3

Date Collected: 06/24/19 10:35

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 12:35	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: PZ-2

Lab Sample ID: 440-244444-3

Date Collected: 06/24/19 10:35

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 12:35	1
Acrolein	ND		50	2.5	ug/L			06/29/19 06:33	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 06:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 12:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 12:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 12:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 12:35	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 12:35	1
Acetone	ND		20	10	ug/L			07/01/19 12:35	1
Acetonitrile	ND		20	10	ug/L			07/01/19 12:35	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 12:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 12:35	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 12:35	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 12:35	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 12:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 12:35	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 12:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 12:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 12:35	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 12:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 12:35	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 12:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 12:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 12:35	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: PZ-2

Lab Sample ID: 440-244444-3

Date Collected: 06/24/19 10:35

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 12:35	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 12:35	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Propionitrile	ND		20	10	ug/L			07/01/19 12:35	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 12:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 12:35	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 12:35	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 12:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 12:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 12:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 12:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 12:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 12:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	T J	ug/L		6.52			07/01/19 12:35	1
Cyclotrisiloxane, hexamethyl-	22	T J N	ug/L		15.93	541-05-9		07/01/19 12:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		06/29/19 06:33	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/29/19 06:33	1
Toluene-d8 (Surr)	111		80 - 128		07/01/19 12:35	1
4-Bromofluorobenzene (Surr)	118		80 - 120		07/01/19 12:35	1
Dibromofluoromethane (Surr)	104		76 - 132		06/29/19 06:33	1
Dibromofluoromethane (Surr)	89		76 - 132		07/01/19 12:35	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	0.26	ug/L		06/27/19 11:54	07/01/19 16:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	50		30 - 120	06/27/19 11:54	07/01/19 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			06/25/19 02:42	10
Nitrate as N	ND		1.1	0.55	mg/L			06/25/19 02:42	10
Chloride	12		5.0	2.5	mg/L			06/25/19 02:42	10
Fluoride	2.5	J	5.0	2.5	mg/L			06/25/19 02:42	10
Sulfate	2400		250	130	mg/L			06/25/19 03:33	500

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.050	0.025	mg/L		06/25/19 08:27	06/25/19 18:03	1
Calcium	12		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:03	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: PZ-2

Lab Sample ID: 440-244444-3

Date Collected: 06/24/19 10:35

Matrix: Water

Date Received: 06/24/19 18:40

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.085	J	0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:03	1
Magnesium	11		0.020	0.010	mg/L		06/25/19 08:27	06/25/19 18:03	1
Manganese	0.030		0.020	0.015	mg/L		06/25/19 08:27	06/25/19 18:03	1
Potassium	3.8		0.50	0.25	mg/L		06/25/19 08:27	06/25/19 18:03	1
Sodium	1200		25	13	mg/L		06/25/19 08:27	06/25/19 18:22	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.0		0.20	0.10	mg/L			06/26/19 17:45	1
Chemical Oxygen Demand	16	J	20	10	mg/L			06/27/19 16:48	1
Total Dissolved Solids	4100		100	50	mg/L			06/25/19 11:02	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	2.2		0.10	0.050	mg/L			06/25/19 10:58	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	370		4.0	4.0	mg/L			06/25/19 10:13	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			06/25/19 10:13	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: MW-6

Lab Sample ID: 440-244444-4

Date Collected: 06/24/19 13:42

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 13:06	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Acrolein	ND		50	2.5	ug/L			06/29/19 07:00	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 07:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 13:06	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 13:06	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 13:06	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 13:06	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 13:06	1
Acetone	ND		20	10	ug/L			07/01/19 13:06	1
Acetonitrile	ND		20	10	ug/L			07/01/19 13:06	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 13:06	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 13:06	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 13:06	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: MW-6

Lab Sample ID: 440-244444-4

Date Collected: 06/24/19 13:42

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 13:06	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 13:06	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 13:06	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 13:06	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 13:06	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 13:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 13:06	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 13:06	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 13:06	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 13:06	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 13:06	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 13:06	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 13:06	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Propionitrile	ND		20	10	ug/L			07/01/19 13:06	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 13:06	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 13:06	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 13:06	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 13:06	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 13:06	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 13:06	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 13:06	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 13:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 13:06	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	TJ	ug/L		2.22			07/01/19 13:06	1
Unknown	11	TJ	ug/L		6.52			07/01/19 13:06	1
Cyclotrisiloxane, hexamethyl-	26	TJN	ug/L		15.85	541-05-9		07/01/19 13:06	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: MW-6

Lab Sample ID: 440-244444-4

Date Collected: 06/24/19 13:42

Matrix: Water

Date Received: 06/24/19 18:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		06/29/19 07:00	1
4-Bromofluorobenzene (Surr)	92		80 - 120		06/29/19 07:00	1
Toluene-d8 (Surr)	108		80 - 128		07/01/19 13:06	1
4-Bromofluorobenzene (Surr)	120		80 - 120		07/01/19 13:06	1
Dibromofluoromethane (Surr)	102		76 - 132		06/29/19 07:00	1
Dibromofluoromethane (Surr)	88		76 - 132		07/01/19 13:06	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		06/27/19 11:54	07/01/19 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	50		30 - 120	06/27/19 11:54	07/01/19 16:46	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.4	J	2.5	1.3	mg/L			06/25/19 03:50	5
Nitrate as N	ND		0.55	0.28	mg/L			06/25/19 03:50	5
Chloride	39		2.5	1.3	mg/L			06/25/19 03:50	5
Fluoride	2.1	J	2.5	1.3	mg/L			06/25/19 03:50	5
Sulfate	2200		100	50	mg/L			06/25/19 04:07	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.68		0.050	0.025	mg/L		06/25/19 08:27	06/25/19 18:06	1
Calcium	400		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:06	1
Iron	1.5		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:06	1
Magnesium	220		0.020	0.010	mg/L		06/25/19 08:27	06/25/19 18:06	1
Manganese	1.4		0.020	0.015	mg/L		06/25/19 08:27	06/25/19 18:06	1
Potassium	6.6		0.50	0.25	mg/L		06/25/19 08:27	06/25/19 18:06	1
Sodium	300		0.50	0.26	mg/L		06/25/19 08:27	06/25/19 18:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.77		0.20	0.10	mg/L			06/26/19 17:39	1
Chemical Oxygen Demand	17	J	20	10	mg/L			06/27/19 16:48	1
Total Dissolved Solids	3900		20	10	mg/L			06/25/19 11:02	1
Total Sulfide	0.045	J	0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	5.5		0.10	0.050	mg/L			06/25/19 12:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		4.0	4.0	mg/L			06/25/19 10:23	1
Bicarbonate Alkalinity as CaCO3	470		4.0	4.0	mg/L			06/25/19 10:23	1
Carbon Dioxide, Free	42		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: MW-14

Lab Sample ID: 440-244444-5

Date Collected: 06/24/19 12:30

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 15:39	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: MW-14

Lab Sample ID: 440-244444-5

Date Collected: 06/24/19 12:30

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 15:39	1
Acrolein	ND		50	2.5	ug/L			06/27/19 10:16	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 10:16	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 15:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 15:39	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 15:39	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 15:39	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 15:39	1
Acetone	ND		20	10	ug/L			07/01/19 15:39	1
Acetonitrile	ND		20	10	ug/L			07/01/19 15:39	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 15:39	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 15:39	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 15:39	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 15:39	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 15:39	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 15:39	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 15:39	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 15:39	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 15:39	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 15:39	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 15:39	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 15:39	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 15:39	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 15:39	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: MW-14

Lab Sample ID: 440-244444-5

Date Collected: 06/24/19 12:30

Matrix: Water

Date Received: 06/24/19 18:40

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			07/01/19 15:39	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 15:39	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Propionitrile	ND		20	10	ug/L			07/01/19 15:39	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 15:39	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 15:39	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 15:39	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 15:39	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 15:39	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 15:39	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 15:39	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 15:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 15:39	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		06/27/19 10:16	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/27/19 10:16	1
Toluene-d8 (Surr)	109		80 - 128		07/01/19 15:39	1
4-Bromofluorobenzene (Surr)	116		80 - 120		07/01/19 15:39	1
Dibromofluoromethane (Surr)	105		76 - 132		06/27/19 10:16	1
Dibromofluoromethane (Surr)	90		76 - 132		07/01/19 15:39	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		06/27/19 11:54	07/01/19 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	06/27/19 11:54	07/01/19 17:08	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.0	J	2.5	1.3	mg/L			06/25/19 04:24	5
Nitrate as N	0.44	J	0.55	0.28	mg/L			06/25/19 04:24	5
Chloride	65		2.5	1.3	mg/L			06/25/19 04:24	5
Fluoride	2.1	J	2.5	1.3	mg/L			06/25/19 04:24	5
Sulfate	2500		100	50	mg/L			06/25/19 04:42	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.43		0.050	0.025	mg/L		06/25/19 08:27	06/25/19 18:08	1
Calcium	470		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:08	1
Iron	0.19		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 18:08	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: MW-14

Lab Sample ID: 440-244444-5

Date Collected: 06/24/19 12:30

Matrix: Water

Date Received: 06/24/19 18:40

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	230		0.020	0.010	mg/L		06/25/19 08:27	06/25/19 18:08	1
Manganese	5.8		0.020	0.015	mg/L		06/25/19 08:27	06/25/19 18:08	1
Potassium	8.3		0.50	0.25	mg/L		06/25/19 08:27	06/25/19 18:08	1
Sodium	300		0.50	0.26	mg/L		06/25/19 08:27	06/25/19 18:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			06/26/19 17:50	1
Chemical Oxygen Demand	25		20	10	mg/L			06/27/19 16:48	1
Total Dissolved Solids	4000		20	10	mg/L			06/25/19 11:02	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	7.0		0.10	0.050	mg/L			06/25/19 12:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	420		4.0	4.0	mg/L			06/25/19 10:34	1
Bicarbonate Alkalinity as CaCO3	420		4.0	4.0	mg/L			06/25/19 10:34	1
Carbon Dioxide, Free	69		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: Field Blanks

Lab Sample ID: 440-244444-6

Date Collected: 06/24/19 00:01

Matrix: Water

Date Received: 06/24/19 18:40

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			06/26/19 15:56	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Acrolein	ND		50	2.5	ug/L			06/27/19 12:02	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 12:02	1
1,1,1-Trichloroethane	ND *		0.50	0.25	ug/L			06/26/19 15:56	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/26/19 15:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/26/19 15:56	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
2,2-Dichloropropane	ND *		1.0	0.40	ug/L			06/26/19 15:56	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/26/19 15:56	1
2-Hexanone	ND		5.0	2.5	ug/L			06/26/19 15:56	1
Acetone	ND		20	10	ug/L			06/26/19 15:56	1
Acetonitrile	ND		20	10	ug/L			06/26/19 15:56	1
Acrolein	ND		5.0	2.5	ug/L			06/26/19 15:56	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/26/19 15:56	1
Benzene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Allyl chloride	ND		1.0	0.50	ug/L			06/26/19 15:56	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Field Blanks

Lab Sample ID: 440-244444-6

Date Collected: 06/24/19 00:01

Matrix: Water

Date Received: 06/24/19 18:40

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			06/26/19 15:56	1
Bromomethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/26/19 15:56	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Chloroethane	ND		1.0	0.40	ug/L			06/26/19 15:56	1
Chloroform	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Chloromethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Dibromomethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/26/19 15:56	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/26/19 15:56	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Iodomethane	ND		2.0	1.0	ug/L			06/26/19 15:56	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/26/19 15:56	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/26/19 15:56	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/26/19 15:56	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/26/19 15:56	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Naphthalene	ND		1.0	0.40	ug/L			06/26/19 15:56	1
o-Xylene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Propionitrile	ND		20	10	ug/L			06/26/19 15:56	1
Styrene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/26/19 15:56	1
Toluene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/26/19 15:56	1
Trichloroethene	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/26/19 15:56	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/26/19 15:56	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/26/19 15:56	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/26/19 15:56	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/26/19 15:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/26/19 15:56	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	12	T J	ug/L		6.52			06/26/19 15:56	1
Unknown	32	T J	ug/L		16.55			06/26/19 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		06/27/19 12:02	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/27/19 12:02	1
Toluene-d8 (Surr)	109		80 - 128		06/26/19 15:56	1
4-Bromofluorobenzene (Surr)	111		80 - 120		06/26/19 15:56	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Field Blanks

Lab Sample ID: 440-244444-6

Date Collected: 06/24/19 00:01

Matrix: Water

Date Received: 06/24/19 18:40

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	106		76 - 132		06/27/19 12:02	1
Dibromofluoromethane (Surr)	99		76 - 132		06/26/19 15:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 12:21	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 12:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.1	T J	ug/L		5.95			07/01/19 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		07/01/19 12:21	1
4-Bromofluorobenzene (Surr)	120		80 - 120		07/01/19 12:21	1
Dibromofluoromethane (Surr)	91		76 - 132		07/01/19 12:21	1

Client Sample ID: Trip Blanks

Lab Sample ID: 440-244444-7

Date Collected: 06/24/19 00:01

Matrix: Water

Date Received: 06/24/19 18:40

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			06/26/19 16:26	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Acrolein	ND		50	2.5	ug/L			06/27/19 12:29	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 12:29	1
1,1,1-Trichloroethane	ND *		0.50	0.25	ug/L			06/26/19 16:26	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/26/19 16:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/26/19 16:26	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
2,2-Dichloropropane	ND *		1.0	0.40	ug/L			06/26/19 16:26	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/26/19 16:26	1
2-Hexanone	ND		5.0	2.5	ug/L			06/26/19 16:26	1
Acetone	ND		20	10	ug/L			06/26/19 16:26	1
Acetonitrile	ND		20	10	ug/L			06/26/19 16:26	1
Acrolein	ND		5.0	2.5	ug/L			06/26/19 16:26	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/26/19 16:26	1
Benzene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Allyl chloride	ND		1.0	0.50	ug/L			06/26/19 16:26	1
Bromoform	ND		1.0	0.40	ug/L			06/26/19 16:26	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Trip Blanks

Lab Sample ID: 440-244444-7

Date Collected: 06/24/19 00:01

Matrix: Water

Date Received: 06/24/19 18:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/26/19 16:26	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Chloroethane	ND		1.0	0.40	ug/L			06/26/19 16:26	1
Chloroform	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Chloromethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Dibromomethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/26/19 16:26	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/26/19 16:26	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Iodomethane	ND		2.0	1.0	ug/L			06/26/19 16:26	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/26/19 16:26	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/26/19 16:26	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/26/19 16:26	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/26/19 16:26	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Naphthalene	ND		1.0	0.40	ug/L			06/26/19 16:26	1
o-Xylene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Propionitrile	ND		20	10	ug/L			06/26/19 16:26	1
Styrene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/26/19 16:26	1
Toluene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/26/19 16:26	1
Trichloroethene	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/26/19 16:26	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/26/19 16:26	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/26/19 16:26	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/26/19 16:26	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/26/19 16:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/26/19 16:26	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	12	T J	ug/L		6.52			06/26/19 16:26	1
Unknown	49	T J	ug/L		15.76			06/26/19 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		06/27/19 12:29	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/27/19 12:29	1
Toluene-d8 (Surr)	111		80 - 128		06/26/19 16:26	1
4-Bromofluorobenzene (Surr)	112		80 - 120		06/26/19 16:26	1
Dibromofluoromethane (Surr)	109		76 - 132		06/27/19 12:29	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: Trip Blanks

Lab Sample ID: 440-244444-7

Date Collected: 06/24/19 00:01

Matrix: Water

Date Received: 06/24/19 18:40

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	95		76 - 132		06/26/19 16:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 12:47	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 12:47	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.3	TJ	ug/L		5.95			07/01/19 12:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		07/01/19 12:47	1
4-Bromofluorobenzene (Surr)	118		80 - 120		07/01/19 12:47	1
Dibromofluoromethane (Surr)	90		76 - 132		07/01/19 12:47	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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 = Eurofins 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

Job ID: 440-244444-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-244444-1

Date Collected: 06/24/19 12:15

Matrix: Water

Date Received: 06/24/19 18:40

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	554944	06/27/19 18:42	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 11:35	RM	TAL IRV
Total/NA	Prep	3520C			985 mL	1.0 mL	555026	06/27/19 11:54	HCK	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 15:39	JS1	TAL IRV
Total/NA	Analysis	300.0		10			554234	06/25/19 01:34	NTN	TAL IRV
Total/NA	Analysis	300.0		10			554235	06/25/19 01:34	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554235	06/25/19 01:51	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554420	06/25/19 08:27	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554637	06/25/19 17:33	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:12	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	555088	06/27/19 16:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554500	06/25/19 09:34	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	554433	06/25/19 11:02	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:05	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		20	100 mL	100 mL	554644	06/25/19 12:32	YZ	TAL IRV

Client Sample ID: Combined Subdrain

Lab Sample ID: 440-244444-2

Date Collected: 06/24/19 13:35

Matrix: Water

Date Received: 06/24/19 18:40

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	555499	07/01/19 12:05	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555324	06/29/19 06:06	GMA	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	555026	06/27/19 11:54	HCK	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 16:02	JS1	TAL IRV
Total/NA	Analysis	300.0		5			554234	06/25/19 02:08	NTN	TAL IRV
Total/NA	Analysis	300.0		5			554235	06/25/19 02:08	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554235	06/25/19 02:25	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554420	06/25/19 08:27	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554637	06/25/19 18:01	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:17	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	555088	06/27/19 16:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554500	06/25/19 10:02	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	554433	06/25/19 11:02	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:05	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554644	06/25/19 12:49	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: PZ-2

Lab Sample ID: 440-244444-3

Date Collected: 06/24/19 10:35

Matrix: Water

Date Received: 06/24/19 18:40

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	555499	07/01/19 12:35	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555324	06/29/19 06:33	GMA	TAL IRV
Total/NA	Prep	3520C			975 mL	1.0 mL	555026	06/27/19 11:54	HCK	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 16:24	JS1	TAL IRV
Total/NA	Analysis	300.0		10			554234	06/25/19 02:42	NTN	TAL IRV
Total/NA	Analysis	300.0		10			554235	06/25/19 02:42	NTN	TAL IRV
Total/NA	Analysis	300.0		500			554235	06/25/19 03:33	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554420	06/25/19 08:27	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554637	06/25/19 18:03	P1R	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554420	06/25/19 08:27	BV	TAL IRV
Total Recoverable	Analysis	6010B		50			554637	06/25/19 18:22	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:45	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	555088	06/27/19 16:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554500	06/25/19 10:13	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	554433	06/25/19 11:02	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554644	06/25/19 10:58	YZ	TAL IRV

Client Sample ID: MW-6

Lab Sample ID: 440-244444-4

Date Collected: 06/24/19 13:42

Matrix: Water

Date Received: 06/24/19 18:40

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	555499	07/01/19 13:06	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555324	06/29/19 07:00	GMA	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555026	06/27/19 11:54	HCK	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 16:46	JS1	TAL IRV
Total/NA	Analysis	300.0		5			554234	06/25/19 03:50	NTN	TAL IRV
Total/NA	Analysis	300.0		5			554235	06/25/19 03:50	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554235	06/25/19 04:07	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554420	06/25/19 08:27	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554637	06/25/19 18:06	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:39	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	555088	06/27/19 16:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554500	06/25/19 10:23	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	554433	06/25/19 11:02	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554644	06/25/19 12:00	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Client Sample ID: MW-14

Date Collected: 06/24/19 12:30

Date Received: 06/24/19 18:40

Lab Sample ID: 440-244444-5

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	555499	07/01/19 15:39	RM	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	554936	06/27/19 10:16	AYL	TAL IRV
Total/NA	Prep	3520C			985 mL	1.0 mL	555026	06/27/19 11:54	HCK	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 17:08	JS1	TAL IRV
Total/NA	Analysis	300.0		5			554234	06/25/19 04:24	NTN	TAL IRV
Total/NA	Analysis	300.0		5			554235	06/25/19 04:24	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554235	06/25/19 04:42	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554420	06/25/19 08:27	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554637	06/25/19 18:08	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:50	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2.5 mL	2.5 mL	555088	06/27/19 16:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554500	06/25/19 10:34	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	554433	06/25/19 11:02	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554644	06/25/19 12:16	YZ	TAL IRV

Client Sample ID: Field Blanks

Date Collected: 06/24/19 00:01

Date Received: 06/24/19 18:40

Lab Sample ID: 440-244444-6

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	554673	06/26/19 15:56	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	555505	07/01/19 12:21	MML	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	554936	06/27/19 12:02	AYL	TAL IRV

Client Sample ID: Trip Blanks

Date Collected: 06/24/19 00:01

Date Received: 06/24/19 18:40

Lab Sample ID: 440-244444-7

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	554673	06/26/19 16:26	TCN	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	555505	07/01/19 12:47	MML	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	554936	06/27/19 12:29	AYL	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: MB 440-554673/4

Matrix: Water

Analysis Batch: 554673

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			06/26/19 09:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			06/26/19 09:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/26/19 09:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			06/26/19 09:21	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			06/26/19 09:21	1
2-Hexanone	ND		5.0	2.5	ug/L			06/26/19 09:21	1
Acetone	ND		20	10	ug/L			06/26/19 09:21	1
Acetonitrile	ND		20	10	ug/L			06/26/19 09:21	1
Acrolein	ND		5.0	2.5	ug/L			06/26/19 09:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			06/26/19 09:21	1
Benzene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Allyl chloride	ND		1.0	0.50	ug/L			06/26/19 09:21	1
Bromoform	ND		1.0	0.40	ug/L			06/26/19 09:21	1
Bromomethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			06/26/19 09:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Chloroethane	ND		1.0	0.40	ug/L			06/26/19 09:21	1
Chloroform	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Chloromethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Dibromomethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			06/26/19 09:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			06/26/19 09:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Iodomethane	ND		2.0	1.0	ug/L			06/26/19 09:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/26/19 09:21	1
Methylacrylonitrile	ND		10	2.5	ug/L			06/26/19 09:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			06/26/19 09:21	1
Methylene Chloride	ND		2.0	0.88	ug/L			06/26/19 09:21	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			06/26/19 09:21	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: MB 440-554673/4

Matrix: Water

Analysis Batch: 554673

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Naphthalene	ND		1.0	0.40	ug/L			06/26/19 09:21	1
o-Xylene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Propionitrile	ND		20	10	ug/L			06/26/19 09:21	1
Styrene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			06/26/19 09:21	1
Toluene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			06/26/19 09:21	1
Trichloroethene	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			06/26/19 09:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			06/26/19 09:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			06/26/19 09:21	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			06/26/19 09:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			06/26/19 09:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			06/26/19 09:21	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					06/26/19 09:21	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	108		80 - 128		06/26/19 09:21	1
4-Bromofluorobenzene (Surr)	110		80 - 120		06/26/19 09:21	1
Dibromofluoromethane (Surr)	99		76 - 132		06/26/19 09:21	1

Lab Sample ID: LCS 440-554673/5

Matrix: Water

Analysis Batch: 554673

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,2,3-Trichloropropane	10.0	10.3		ug/L		103	63 - 130
1,1,1,2-Tetrachloroethane	10.0	10.8		ug/L		108	60 - 141
1,1,1-Trichloroethane	10.0	13.3	*	ug/L		133	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.42		ug/L		94	63 - 130
1,1,2-Trichloroethane	10.0	9.98		ug/L		100	70 - 130
1,1-Dichloroethane	10.0	10.3		ug/L		103	64 - 130
1,1-Dichloroethane	10.0	11.3		ug/L		113	70 - 130
1,1-Dichloropropene	10.0	12.6		ug/L		126	70 - 130
1,2,4-Trichlorobenzene	10.0	8.52		ug/L		85	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	12.2		ug/L		122	52 - 140
1,2-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130
1,2-Dichloroethane	10.0	11.7		ug/L		117	57 - 138
1,2-Dichloropropane	10.0	9.30		ug/L		93	67 - 130
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130
1,3-Dichloropropane	10.0	11.0		ug/L		110	70 - 130
1,4-Dichlorobenzene	10.0	10.0		ug/L		100	70 - 130
2,2-Dichloropropane	10.0	15.3	*	ug/L		153	68 - 141

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-554673/5

Matrix: Water

Analysis Batch: 554673

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Hexanone	50.0	41.1		ug/L		82	10 - 150
Acetone	50.0	38.1		ug/L		76	10 - 150
Acrolein	9.88	6.91		ug/L		70	10 - 145
Acrylonitrile	100	83.3		ug/L		83	48 - 140
Benzene	10.0	10.7		ug/L		107	68 - 130
Bromoform	10.0	9.19		ug/L		92	60 - 148
Bromomethane	10.0	9.26		ug/L		93	64 - 139
Carbon disulfide	10.0	11.9		ug/L		119	52 - 136
Carbon tetrachloride	10.0	13.6		ug/L		136	60 - 150
Chlorobenzene	10.0	10.3		ug/L		103	70 - 130
Bromochloromethane	10.0	9.53		ug/L		95	70 - 130
Chloroethane	10.0	9.54		ug/L		95	64 - 135
Chloroform	10.0	11.6		ug/L		116	70 - 130
Chloromethane	10.0	6.25		ug/L		63	47 - 140
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	70 - 133
cis-1,3-Dichloropropene	10.0	11.9		ug/L		119	70 - 133
Dibromochloromethane	10.0	10.3		ug/L		103	69 - 145
Dibromomethane	10.0	9.48		ug/L		95	70 - 130
Bromodichloromethane	10.0	11.6		ug/L		116	70 - 132
Dichlorodifluoromethane	10.0	12.1		ug/L		121	29 - 150
Ethylbenzene	10.0	11.8		ug/L		118	70 - 130
m,p-Xylene	10.0	11.2		ug/L		112	70 - 130
Methylene Chloride	10.0	10.1		ug/L		101	52 - 130
Methyl tert-butyl ether	10.0	11.7		ug/L		117	63 - 131
Naphthalene	10.0	8.89		ug/L		89	60 - 140
o-Xylene	10.0	11.3		ug/L		113	70 - 130
Styrene	10.0	10.6		ug/L		106	70 - 134
Tetrachloroethene	10.0	10.9		ug/L		109	70 - 130
Toluene	10.0	11.5		ug/L		115	70 - 130
trans-1,2-Dichloroethene	10.0	11.2		ug/L		112	70 - 130
trans-1,3-Dichloropropene	10.0	12.4		ug/L		124	70 - 132
Trichloroethene	10.0	9.98		ug/L		100	70 - 130
Trichlorofluoromethane	10.0	14.2		ug/L		142	60 - 150
Vinyl acetate	10.0	7.78		ug/L		78	48 - 140
Vinyl chloride	10.0	8.64		ug/L		86	59 - 133
1,2-Dibromoethane (EDB)	10.0	10.4		ug/L		104	70 - 130
2-Butanone (MEK)	50.0	50.0		ug/L		100	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	42.2		ug/L		84	59 - 149

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	110		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: 440-243938-B-2 MS

Matrix: Water

Analysis Batch: 554673

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		50.0	46.4		ug/L		93	60 - 130
1,1,1,2-Tetrachloroethane	ND		50.0	44.7		ug/L		89	60 - 149
1,1,1-Trichloroethane	ND	*	50.0	58.3		ug/L		117	70 - 130
1,1,2,2-Tetrachloroethane	ND		50.0	43.6		ug/L		87	63 - 130
1,1,2-Trichloroethane	ND		50.0	45.8		ug/L		92	70 - 130
1,1-Dichloroethane	ND		50.0	44.2		ug/L		88	65 - 130
1,1-Dichloroethene	ND		50.0	46.5		ug/L		93	70 - 130
1,1-Dichloropropene	ND		50.0	52.9		ug/L		106	64 - 130
1,2,4-Trichlorobenzene	ND		50.0	37.8		ug/L		76	60 - 140
1,2-Dibromo-3-Chloropropane	ND		50.0	48.3		ug/L		97	48 - 140
1,2-Dichlorobenzene	ND		50.0	45.9		ug/L		92	70 - 130
1,2-Dichloroethane	ND		50.0	50.9		ug/L		102	56 - 146
1,2-Dichloropropane	ND		50.0	40.9		ug/L		82	69 - 130
1,3-Dichlorobenzene	ND		50.0	46.4		ug/L		93	70 - 130
1,3-Dichloropropane	ND		50.0	49.5		ug/L		99	70 - 130
1,4-Dichlorobenzene	ND		50.0	45.7		ug/L		91	70 - 130
2,2-Dichloropropane	ND	F1 *	50.0	67.8		ug/L		136	69 - 138
2-Hexanone	ND		250	174		ug/L		69	10 - 150
Acetone	ND		250	172		ug/L		69	10 - 150
Acrolein	ND		49.4	30.6		ug/L		62	10 - 147
Acrylonitrile	ND		500	371		ug/L		74	38 - 144
Benzene	ND		50.0	45.2		ug/L		90	66 - 130
Bromoform	ND		50.0	40.0		ug/L		80	59 - 150
Bromomethane	ND		50.0	38.1		ug/L		76	62 - 131
Carbon disulfide	ND		50.0	47.4		ug/L		95	49 - 140
Carbon tetrachloride	ND		50.0	55.2		ug/L		110	60 - 150
Chlorobenzene	ND		50.0	45.7		ug/L		91	70 - 130
Bromochloromethane	ND		50.0	40.6		ug/L		81	70 - 130
Chloroethane	ND		50.0	37.3		ug/L		75	68 - 130
Chloroform	ND		50.0	49.3		ug/L		99	70 - 130
Chloromethane	ND		50.0	25.4		ug/L		51	39 - 144
cis-1,2-Dichloroethene	140	F1	50.0	169	F1	ug/L		65	70 - 130
cis-1,3-Dichloropropene	ND		50.0	51.2		ug/L		102	70 - 133
Dibromochloromethane	ND		50.0	44.9		ug/L		90	70 - 148
Dibromomethane	ND		50.0	42.2		ug/L		84	70 - 130
Bromodichloromethane	ND		50.0	50.6		ug/L		101	70 - 138
Dichlorodifluoromethane	ND		50.0	48.1		ug/L		96	25 - 142
Ethylbenzene	ND		50.0	51.8		ug/L		104	70 - 130
m,p-Xylene	ND		50.0	50.5		ug/L		101	70 - 133
Methylene Chloride	ND		50.0	41.5		ug/L		83	52 - 130
Methyl tert-butyl ether	ND		50.0	53.1		ug/L		106	70 - 130
Naphthalene	ND		50.0	39.5		ug/L		79	60 - 140
o-Xylene	ND		50.0	49.2		ug/L		98	70 - 133
Styrene	ND		50.0	47.7		ug/L		95	29 - 150
Tetrachloroethene	ND		50.0	48.3		ug/L		97	70 - 137
Toluene	ND		50.0	49.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	6.4		50.0	51.3		ug/L		90	70 - 130
trans-1,3-Dichloropropene	ND		50.0	52.3		ug/L		105	70 - 138

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: 440-243938-B-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 554673

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Trichloroethene	4.4		50.0	48.4		ug/L		88	70 - 130	
Trichlorofluoromethane	ND		50.0	58.3		ug/L		117	60 - 150	
Vinyl acetate	ND		50.0	32.9		ug/L		66	23 - 150	
Vinyl chloride	170	F1	50.0	172	F1	ug/L		9	50 - 137	
1,2-Dibromoethane (EDB)	ND		50.0	45.7		ug/L		91	70 - 131	
2-Butanone (MEK)	ND		250	206		ug/L		83	48 - 140	
4-Methyl-2-pentanone (MIBK)	ND		250	182		ug/L		73	52 - 150	
		<i>MS MS</i>								
Surrogate	%Recovery	Qualifier	Limits							
<i>Toluene-d8 (Surr)</i>	105		80 - 128							
<i>4-Bromofluorobenzene (Surr)</i>	112		80 - 120							
<i>Dibromofluoromethane (Surr)</i>	95		76 - 132							

Lab Sample ID: 440-243938-B-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 554673

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier		Result	Qualifier								
1,2,3-Trichloropropane	ND		50.0	46.8		ug/L		94	60 - 130	1	30		
1,1,1,2-Tetrachloroethane	ND		50.0	47.8		ug/L		96	60 - 149	7	20		
1,1,1-Trichloroethane	ND	*	50.0	61.0		ug/L		122	70 - 130	5	20		
1,1,2,2-Tetrachloroethane	ND		50.0	43.9		ug/L		88	63 - 130	1	30		
1,1,2-Trichloroethane	ND		50.0	46.8		ug/L		94	70 - 130	2	25		
1,1-Dichloroethane	ND		50.0	45.9		ug/L		92	65 - 130	4	20		
1,1-Dichloroethene	ND		50.0	48.5		ug/L		97	70 - 130	4	20		
1,1-Dichloropropene	ND		50.0	53.4		ug/L		107	64 - 130	1	20		
1,2,4-Trichlorobenzene	ND		50.0	37.5		ug/L		75	60 - 140	1	20		
1,2-Dibromo-3-Chloropropane	ND		50.0	51.2		ug/L		102	48 - 140	6	30		
1,2-Dichlorobenzene	ND		50.0	47.3		ug/L		95	70 - 130	3	20		
1,2-Dichloroethane	ND		50.0	52.8		ug/L		106	56 - 146	4	20		
1,2-Dichloropropane	ND		50.0	41.6		ug/L		83	69 - 130	2	20		
1,3-Dichlorobenzene	ND		50.0	48.8		ug/L		98	70 - 130	5	20		
1,3-Dichloropropane	ND		50.0	49.2		ug/L		98	70 - 130	1	25		
1,4-Dichlorobenzene	ND		50.0	46.9		ug/L		94	70 - 130	2	20		
2,2-Dichloropropane	ND	F1 *	50.0	69.5	F1	ug/L		139	69 - 138	2	25		
2-Hexanone	ND		250	185		ug/L		74	10 - 150	6	35		
Acetone	ND		250	169		ug/L		68	10 - 150	1	35		
Acrolein	ND		49.4	33.3		ug/L		67	10 - 147	8	40		
Acrylonitrile	ND		500	351		ug/L		70	38 - 144	5	40		
Benzene	ND		50.0	49.0		ug/L		98	66 - 130	8	20		
Bromoform	ND		50.0	39.7		ug/L		79	59 - 150	1	25		
Bromomethane	ND		50.0	40.5		ug/L		81	62 - 131	6	25		
Carbon disulfide	ND		50.0	50.5		ug/L		101	49 - 140	6	20		
Carbon tetrachloride	ND		50.0	58.2		ug/L		116	60 - 150	5	25		
Chlorobenzene	ND		50.0	46.3		ug/L		93	70 - 130	1	20		
Bromochloromethane	ND		50.0	42.7		ug/L		85	70 - 130	5	25		
Chloroethane	ND		50.0	41.6		ug/L		83	68 - 130	11	25		
Chloroform	ND		50.0	51.9		ug/L		104	70 - 130	5	20		

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: 440-243938-B-2 MSD

Matrix: Water

Analysis Batch: 554673

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloromethane	ND		50.0	28.0		ug/L		56	39 - 144	10	25
cis-1,2-Dichloroethene	140	F1	50.0	175		ug/L		77	70 - 130	3	20
cis-1,3-Dichloropropene	ND		50.0	52.5		ug/L		105	70 - 133	3	20
Dibromochloromethane	ND		50.0	47.0		ug/L		94	70 - 148	4	25
Dibromomethane	ND		50.0	44.9		ug/L		90	70 - 130	6	25
Bromodichloromethane	ND		50.0	51.9		ug/L		104	70 - 138	3	20
Dichlorodifluoromethane	ND		50.0	54.4		ug/L		109	25 - 142	12	30
Ethylbenzene	ND		50.0	54.0		ug/L		108	70 - 130	4	20
m,p-Xylene	ND		50.0	50.4		ug/L		101	70 - 133	0	25
Methylene Chloride	ND		50.0	45.2		ug/L		90	52 - 130	8	20
Methyl tert-butyl ether	ND		50.0	53.2		ug/L		106	70 - 130	0	25
Naphthalene	ND		50.0	40.4		ug/L		81	60 - 140	2	30
o-Xylene	ND		50.0	51.1		ug/L		102	70 - 133	4	20
Styrene	ND		50.0	48.1		ug/L		96	29 - 150	1	35
Tetrachloroethene	ND		50.0	51.9		ug/L		104	70 - 137	7	20
Toluene	ND		50.0	51.0		ug/L		102	70 - 130	3	20
trans-1,2-Dichloroethene	6.4		50.0	54.5		ug/L		96	70 - 130	6	20
trans-1,3-Dichloropropene	ND		50.0	55.2		ug/L		110	70 - 138	5	25
Trichloroethene	4.4		50.0	48.9		ug/L		89	70 - 130	1	20
Trichlorofluoromethane	ND		50.0	63.4		ug/L		127	60 - 150	8	25
Vinyl acetate	ND		50.0	31.8		ug/L		64	23 - 150	4	30
Vinyl chloride	170	F1	50.0	189	F1	ug/L		44	50 - 137	10	30
1,2-Dibromoethane (EDB)	ND		50.0	47.2		ug/L		94	70 - 131	3	25
2-Butanone (MEK)	ND		250	207		ug/L		83	48 - 140	0	40
4-Methyl-2-pentanone (MIBK)	ND		250	185		ug/L		74	52 - 150	2	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	111		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

Lab Sample ID: MB 440-554936/7

Matrix: Water

Analysis Batch: 554936

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acrolein	ND		50	2.5	ug/L			06/27/19 09:21	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 09:21	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	104		80 - 128		06/27/19 09:21	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/27/19 09:21	1
Dibromofluoromethane (Surr)	107		76 - 132		06/27/19 09:21	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-554936/8

Matrix: Water

Analysis Batch: 554936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Acrolein	9.88	5.24	J	ug/L		53	10 - 145	
Acrylonitrile	100	87.5		ug/L		88	48 - 140	
Surrogate		LCS %Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)		99		80 - 128				
4-Bromofluorobenzene (Surr)		97		80 - 120				
Dibromofluoromethane (Surr)		104		76 - 132				

Lab Sample ID: 440-244444-5 MS

Matrix: Water

Analysis Batch: 554936

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Acrolein	ND		9.88	5.50	J	ug/L		56	10 - 147	
Acrylonitrile	ND		100	88.6		ug/L		89	38 - 144	
Surrogate		MS %Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)		104		80 - 128						
4-Bromofluorobenzene (Surr)		95		80 - 120						
Dibromofluoromethane (Surr)		105		76 - 132						

Lab Sample ID: 440-244444-5 MSD

Matrix: Water

Analysis Batch: 554936

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD Limit	
Acrolein	ND		9.88	4.83	J	ug/L		49	10 - 147	13	40	
Acrylonitrile	ND		100	92.7		ug/L		93	38 - 144	5	40	
Surrogate		MSD %Recovery	MSD Qualifier	Limits								
Toluene-d8 (Surr)		100		80 - 128								
4-Bromofluorobenzene (Surr)		94		80 - 120								
Dibromofluoromethane (Surr)		107		76 - 132								

Lab Sample ID: MB 440-554944/4

Matrix: Water

Analysis Batch: 554944

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		50	1.0	ug/L		06/27/19 08:28	1	
Surrogate		MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)		109		80 - 128		06/27/19 08:28	1		
4-Bromofluorobenzene (Surr)		115		80 - 120		06/27/19 08:28	1		
Dibromofluoromethane (Surr)		102		76 - 132		06/27/19 08:28	1		

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-554944/5

Matrix: Water

Analysis Batch: 554944

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	9.88	6.39	J	ug/L		65	10 - 145
Acrylonitrile	100	77.5		ug/L		77	48 - 140
Surrogate		LCS %Recovery	LCS Qualifier	Limits			
Toluene-d8 (Surr)		103		80 - 128			
4-Bromofluorobenzene (Surr)		114		80 - 120			
Dibromofluoromethane (Surr)		107		76 - 132			

Lab Sample ID: 440-244194-B-14 MS

Matrix: Water

Analysis Batch: 554944

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		49.4	35.9	J	ug/L		73	10 - 147
Acrylonitrile	ND		500	400		ug/L		80	38 - 144
Surrogate		MS %Recovery	MS Qualifier	Limits					
Toluene-d8 (Surr)		108		80 - 128					
4-Bromofluorobenzene (Surr)		117		80 - 120					
Dibromofluoromethane (Surr)		104		76 - 132					

Lab Sample ID: 440-244194-B-14 MSD

Matrix: Water

Analysis Batch: 554944

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	Limit
Acrolein	ND		49.4	35.1	J	ug/L		71	10 - 147	2	40
Acrylonitrile	ND		500	432		ug/L		86	38 - 144	8	40
Surrogate		MSD %Recovery	MSD Qualifier	Limits							
Toluene-d8 (Surr)		106		80 - 128							
4-Bromofluorobenzene (Surr)		116		80 - 120							
Dibromofluoromethane (Surr)		103		76 - 132							

Lab Sample ID: MB 440-555324/4

Matrix: Water

Analysis Batch: 555324

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			06/28/19 21:21	1
Acrylonitrile	ND		50	1.0	ug/L			06/28/19 21:21	1
Surrogate		MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Toluene-d8 (Surr)		103		80 - 128		06/28/19 21:21	1		
4-Bromofluorobenzene (Surr)		93		80 - 120		06/28/19 21:21	1		
Dibromofluoromethane (Surr)		102		76 - 132		06/28/19 21:21	1		

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-555324/6

Matrix: Water

Analysis Batch: 555324

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acrolein	9.88	6.38	J	ug/L		65	10 - 145		
Acrylonitrile	100	93.9		ug/L		94	48 - 140		
LCS LCS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	103		80 - 128						
4-Bromofluorobenzene (Surr)	90		80 - 120						
Dibromofluoromethane (Surr)	107		76 - 132						

Lab Sample ID: 440-244359-C-2 MS

Matrix: Water

Analysis Batch: 555324

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		9.88	6.59	J	ug/L		67	10 - 147	
Acrylonitrile	ND		100	84.9		ug/L		85	38 - 144	
MS MS										
Surrogate	%Recovery	Qualifier	Limits							
Toluene-d8 (Surr)	99		80 - 128							
4-Bromofluorobenzene (Surr)	95		80 - 120							
Dibromofluoromethane (Surr)	99		76 - 132							

Lab Sample ID: 440-244359-C-2 MSD

Matrix: Water

Analysis Batch: 555324

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 Limit	
Acrolein	ND		9.88	5.79	J	ug/L		59	10 - 147	13	40	
Acrylonitrile	ND		100	88.1		ug/L		88	38 - 144	4	40	
MSD MSD												
Surrogate	%Recovery	Qualifier	Limits									
Toluene-d8 (Surr)	97		80 - 128									
4-Bromofluorobenzene (Surr)	88		80 - 120									
Dibromofluoromethane (Surr)	103		76 - 132									

Lab Sample ID: MB 440-555499/4

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,1-Dichloroethane	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,1-Dichloroethane	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,1-Dichloropropene	ND		0.50	0.25	ug/L		07/01/19 08:54	1	
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		07/01/19 08:54	1	

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: MB 440-555499/4

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 08:54	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 08:54	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 08:54	1
Acetone	ND		20	10	ug/L			07/01/19 08:54	1
Acetonitrile	ND		20	10	ug/L			07/01/19 08:54	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 08:54	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 08:54	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 08:54	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 08:54	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 08:54	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 08:54	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 08:54	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 08:54	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 08:54	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Propionitrile	ND		20	10	ug/L			07/01/19 08:54	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 08:54	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 08:54	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: MB 440-555499/4

Matrix: Water

Analysis Batch: 555499

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			07/01/19 08:54	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 08:54	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 08:54	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 08:54	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 08:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 08:54	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 08:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128		07/01/19 08:54	1
4-Bromofluorobenzene (Surr)	119		80 - 120		07/01/19 08:54	1
Dibromofluoromethane (Surr)	89		76 - 132		07/01/19 08:54	1

Lab Sample ID: LCS 440-555499/5

Matrix: Water

Analysis Batch: 555499

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	23.6		ug/L		94	63 - 130
1,1,1,2-Tetrachloroethane	25.0	22.7		ug/L		91	60 - 141
1,1,1-Trichloroethane	25.0	27.1		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.7		ug/L		95	64 - 130
1,1-Dichloroethene	25.0	26.6		ug/L		107	70 - 130
1,1-Dichloropropene	25.0	28.0		ug/L		112	70 - 130
1,2,4-Trichlorobenzene	25.0	19.1		ug/L		77	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	26.7		ug/L		107	52 - 140
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	22.0		ug/L		88	57 - 138
1,2-Dichloropropane	25.0	24.8		ug/L		99	67 - 130
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	23.4		ug/L		94	70 - 130
1,4-Dichlorobenzene	25.0	23.7		ug/L		95	70 - 130
2,2-Dichloropropane	25.0	31.7		ug/L		127	68 - 141
2-Hexanone	125	92.8		ug/L		74	10 - 150
Acetone	125	121		ug/L		97	10 - 150
Acrolein	24.7	16.1		ug/L		65	10 - 145
Acrylonitrile	250	219		ug/L		88	48 - 140
Benzene	25.0	24.9		ug/L		100	68 - 130
Bromoform	25.0	18.7		ug/L		75	60 - 148
Bromomethane	25.0	21.4		ug/L		86	64 - 139
Carbon disulfide	25.0	27.5		ug/L		110	52 - 136

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-555499/5

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	25.0	26.1		ug/L		104	60 - 150
Chlorobenzene	25.0	24.1		ug/L		96	70 - 130
Bromochloromethane	25.0	22.4		ug/L		90	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	23.6		ug/L		94	70 - 130
Chloromethane	25.0	18.0		ug/L		72	47 - 140
cis-1,2-Dichloroethene	25.0	23.9		ug/L		95	70 - 133
cis-1,3-Dichloropropene	25.0	26.3		ug/L		105	70 - 133
Dibromochloromethane	25.0	23.0		ug/L		92	69 - 145
Dibromomethane	25.0	21.1		ug/L		84	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		102	70 - 132
Dichlorodifluoromethane	25.0	26.5		ug/L		106	29 - 150
Ethylbenzene	25.0	26.0		ug/L		104	70 - 130
m,p-Xylene	25.0	26.3		ug/L		105	70 - 130
Methylene Chloride	25.0	23.4		ug/L		93	52 - 130
Methyl tert-butyl ether	25.0	25.5		ug/L		102	63 - 131
Naphthalene	25.0	24.2		ug/L		97	60 - 140
o-Xylene	25.0	25.6		ug/L		102	70 - 130
Styrene	25.0	26.1		ug/L		104	70 - 134
t-Butanol	250	241		ug/L		96	70 - 130
Tetrachloroethene	25.0	22.0		ug/L		88	70 - 130
Toluene	25.0	25.3		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	25.4		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	26.3		ug/L		105	70 - 132
Trichloroethene	25.0	24.7		ug/L		99	70 - 130
Trichlorofluoromethane	25.0	28.5		ug/L		114	60 - 150
Vinyl acetate	25.0	20.3		ug/L		81	48 - 140
Vinyl chloride	25.0	22.0		ug/L		88	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.6		ug/L		94	70 - 130
2-Butanone (MEK)	125	122		ug/L		98	44 - 150
4-Methyl-2-pentanone (MIBK)	125	94.9		ug/L		76	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Lab Sample ID: 440-244872-A-1 MS

Matrix: Water

Analysis Batch: 555499

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		25000	22500		ug/L		90	60 - 130
1,1,1,2-Tetrachloroethane	ND		25000	21900		ug/L		88	60 - 149
1,1,1-Trichloroethane	ND		25000	23900		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	ND		25000	21700		ug/L		87	63 - 130
1,1,2-Trichloroethane	ND		25000	23900		ug/L		96	70 - 130
1,1-Dichloroethane	ND		25000	21600		ug/L		86	65 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: 440-244872-A-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 555499

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	ND		25000	22100		ug/L		89	70 - 130
1,1-Dichloropropene	ND		25000	24100		ug/L		97	64 - 130
1,2,4-Trichlorobenzene	ND		25000	16300		ug/L		65	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25000	21100		ug/L		84	48 - 140
1,2-Dichlorobenzene	ND		25000	23200		ug/L		93	70 - 130
1,2-Dichloroethane	ND		25000	20900		ug/L		83	56 - 146
1,2-Dichloropropane	ND		25000	22500		ug/L		90	69 - 130
1,3-Dichlorobenzene	ND		25000	23400		ug/L		93	70 - 130
1,3-Dichloropropane	ND		25000	23900		ug/L		96	70 - 130
1,4-Dichlorobenzene	ND		25000	22500		ug/L		90	70 - 130
2,2-Dichloropropane	ND		25000	28600		ug/L		114	69 - 138
2-Hexanone	ND		125000	89100		ug/L		71	10 - 150
Acetone	ND		125000	93000		ug/L		74	10 - 150
Acrolein	ND		24700	16700		ug/L		68	10 - 147
Acrylonitrile	ND		250000	192000		ug/L		77	38 - 144
Benzene	8200		25000	31000		ug/L		91	66 - 130
Bromoform	ND		25000	16500		ug/L		66	59 - 150
Bromomethane	ND		25000	18900		ug/L		75	62 - 131
Carbon disulfide	ND		25000	22800		ug/L		91	49 - 140
Carbon tetrachloride	ND		25000	21900		ug/L		88	60 - 150
Chlorobenzene	ND		25000	23600		ug/L		94	70 - 130
Bromochloromethane	ND		25000	19800		ug/L		79	70 - 130
Chloroethane	ND		25000	21100		ug/L		84	68 - 130
Chloroform	ND		25000	22200		ug/L		89	70 - 130
Chloromethane	ND		25000	15100		ug/L		60	39 - 144
cis-1,2-Dichloroethene	ND		25000	21300		ug/L		85	70 - 130
cis-1,3-Dichloropropene	ND		25000	24700		ug/L		99	70 - 133
Dibromochloromethane	ND		25000	21200		ug/L		85	70 - 148
Dibromomethane	ND		25000	19900		ug/L		80	70 - 130
Bromodichloromethane	ND		25000	22500		ug/L		90	70 - 138
Dichlorodifluoromethane	ND		25000	20500		ug/L		82	25 - 142
Ethylbenzene	ND		25000	25600		ug/L		102	70 - 130
m,p-Xylene	2300	J	25000	27500		ug/L		101	70 - 133
Methylene Chloride	ND		25000	21700		ug/L		87	52 - 130
Methyl tert-butyl ether	130000		25000	154000	4	ug/L		87	70 - 130
Naphthalene	ND		25000	20300		ug/L		81	60 - 140
o-Xylene	1100	J	25000	26200		ug/L		100	70 - 133
Styrene	ND		25000	24600		ug/L		98	29 - 150
t-Butanol	50000		250000	270000		ug/L		88	70 - 130
Tetrachloroethene	ND		25000	20700		ug/L		83	70 - 137
Toluene	7100		25000	32100		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25000	22200		ug/L		89	70 - 130
trans-1,3-Dichloropropene	ND		25000	24600		ug/L		99	70 - 138
Trichloroethene	ND		25000	21900		ug/L		88	70 - 130
Trichlorofluoromethane	ND		25000	23700		ug/L		95	60 - 150
Vinyl acetate	ND		25000	16300		ug/L		65	23 - 150
Vinyl chloride	ND		25000	18400		ug/L		73	50 - 137
1,2-Dibromoethane (EDB)	ND		25000	22400		ug/L		89	70 - 131
2-Butanone (MEK)	ND		125000	95000		ug/L		76	48 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: 440-244872-A-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 555499

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	ND		125000	91400		ug/L		73	52 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	108		80 - 128						
4-Bromofluorobenzene (Surr)	121	X	80 - 120						
Dibromofluoromethane (Surr)	90		76 - 132						

Lab Sample ID: 440-244872-A-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 555499

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25000	22200		ug/L		89	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25000	22200		ug/L		89	60 - 149	1	20
1,1,1-Trichloroethane	ND		25000	24800		ug/L		99	70 - 130	4	20
1,1,2,2-Tetrachloroethane	ND		25000	22300		ug/L		89	63 - 130	3	30
1,1,2-Trichloroethane	ND		25000	23100		ug/L		92	70 - 130	4	25
1,1-Dichloroethane	ND		25000	22600		ug/L		90	65 - 130	4	20
1,1-Dichloroethene	ND		25000	23900		ug/L		96	70 - 130	8	20
1,1-Dichloropropene	ND		25000	25200		ug/L		101	64 - 130	4	20
1,2,4-Trichlorobenzene	ND		25000	16900		ug/L		68	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		25000	21900		ug/L		88	48 - 140	4	30
1,2-Dichlorobenzene	ND		25000	23400		ug/L		94	70 - 130	1	20
1,2-Dichloroethane	ND		25000	22100		ug/L		88	56 - 146	6	20
1,2-Dichloropropane	ND		25000	22900		ug/L		91	69 - 130	2	20
1,3-Dichlorobenzene	ND		25000	24100		ug/L		96	70 - 130	3	20
1,3-Dichloropropane	ND		25000	23600		ug/L		94	70 - 130	1	25
1,4-Dichlorobenzene	ND		25000	23300		ug/L		93	70 - 130	4	20
2,2-Dichloropropane	ND		25000	29900		ug/L		119	69 - 138	4	25
2-Hexanone	ND		125000	82600		ug/L		66	10 - 150	8	35
Acetone	ND		125000	91500		ug/L		73	10 - 150	2	35
Acrolein	ND		24700	16700		ug/L		68	10 - 147	0	40
Acrylonitrile	ND		250000	196000		ug/L		78	38 - 144	2	40
Benzene	8200		25000	31500		ug/L		93	66 - 130	2	20
Bromoform	ND		25000	15800		ug/L		63	59 - 150	4	25
Bromomethane	ND		25000	19600		ug/L		78	62 - 131	4	25
Carbon disulfide	ND		25000	24300		ug/L		97	49 - 140	6	20
Carbon tetrachloride	ND		25000	22800		ug/L		91	60 - 150	4	25
Chlorobenzene	ND		25000	23700		ug/L		95	70 - 130	0	20
Bromochloromethane	ND		25000	19800		ug/L		79	70 - 130	0	25
Chloroethane	ND		25000	21500		ug/L		86	68 - 130	2	25
Chloroform	ND		25000	22500		ug/L		90	70 - 130	1	20
Chloromethane	ND		25000	16000		ug/L		64	39 - 144	6	25
cis-1,2-Dichloroethene	ND		25000	21900		ug/L		87	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25000	25800		ug/L		103	70 - 133	4	20
Dibromochloromethane	ND		25000	20800		ug/L		83	70 - 148	2	25
Dibromomethane	ND		25000	19900		ug/L		80	70 - 130	0	25
Bromodichloromethane	ND		25000	24000		ug/L		96	70 - 138	7	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: 440-244872-A-1 MSD

Matrix: Water

Analysis Batch: 555499

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
Dichlorodifluoromethane	ND		25000	21300		ug/L		85	25 - 142	4	30
Ethylbenzene	ND		25000	26100		ug/L		104	70 - 130	2	20
m,p-Xylene	2300	J	25000	27300		ug/L		100	70 - 133	1	25
Methylene Chloride	ND		25000	22600		ug/L		91	52 - 130	4	20
Methyl tert-butyl ether	130000		25000	156000	4	ug/L		95	70 - 130	1	25
Naphthalene	ND		25000	20500		ug/L		82	60 - 140	1	30
o-Xylene	1100	J	25000	26000		ug/L		99	70 - 133	1	20
Styrene	ND		25000	24300		ug/L		97	29 - 150	1	35
t-Butanol	50000		250000	280000		ug/L		92	70 - 130	4	25
Tetrachloroethene	ND		25000	20800		ug/L		83	70 - 137	0	20
Toluene	7100		25000	32700		ug/L		102	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25000	23300		ug/L		93	70 - 130	5	20
trans-1,3-Dichloropropene	ND		25000	24300		ug/L		97	70 - 138	1	25
Trichloroethene	ND		25000	22100		ug/L		89	70 - 130	1	20
Trichlorofluoromethane	ND		25000	24700		ug/L		99	60 - 150	4	25
Vinyl acetate	ND		25000	16900		ug/L		68	23 - 150	3	30
Vinyl chloride	ND		25000	19500		ug/L		78	50 - 137	6	30
1,2-Dibromoethane (EDB)	ND		25000	22100		ug/L		88	70 - 131	1	25
2-Butanone (MEK)	ND		125000	104000		ug/L		83	48 - 140	9	40
4-Methyl-2-pentanone (MIBK)	ND		125000	89200		ug/L		71	52 - 150	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132

Lab Sample ID: MB 440-555505/5

Matrix: Water

Analysis Batch: 555505

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 09:16	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 09:16	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachloroethane	0.542	J	ug/L		12.55	67-72-1		07/01/19 09:16	1
n-Nonyl Aldehyde	2.06	J	ug/L		12.61	124-19-6		07/01/19 09:16	1
1,3,5-Trichlorobenzene	1.56		ug/L		13.29	108-70-3		07/01/19 09:16	1
Hexachlorobutadiene	0.266	J	ug/L		14.02	87-68-3		07/01/19 09:16	1
Tentatively Identified Compound	None		ug/L					07/01/19 09:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		07/01/19 09:16	1
4-Bromofluorobenzene (Surr)	118		80 - 120		07/01/19 09:16	1
Dibromofluoromethane (Surr)	91		76 - 132		07/01/19 09:16	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-555505/6

Matrix: Water

Analysis Batch: 555505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
i-Butanol	100	100		ug/L		100	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	106		80 - 128				
4-Bromofluorobenzene (Surr)	117		80 - 120				
Dibromofluoromethane (Surr)	90		76 - 132				

Lab Sample ID: 440-244098-B-11 MS

Matrix: Water

Analysis Batch: 555505

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
i-Butanol	ND		100	106		ug/L		106	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	105		80 - 128						
4-Bromofluorobenzene (Surr)	114		80 - 120						
Dibromofluoromethane (Surr)	89		76 - 132						

Lab Sample ID: 440-244098-B-11 MSD

Matrix: Water

Analysis Batch: 555505

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	Limit
i-Butanol	ND		100	104		ug/L		104	70 - 130	2	25
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	106		80 - 128								
4-Bromofluorobenzene (Surr)	117		80 - 120								
Dibromofluoromethane (Surr)	90		76 - 132								

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-555026/1-A

Matrix: Water

Analysis Batch: 555528

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 555026

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		06/27/19 11:54	07/01/19 11:37	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,4-Dioxane-d8 (Surr)	47		30 - 120	06/27/19 11:54	07/01/19 11:37	1			

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-555026/2-A
Matrix: Water
Analysis Batch: 555528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555026

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.09		ug/L		54	35 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	51		30 - 120				

Lab Sample ID: LCSD 440-555026/3-A
Matrix: Water
Analysis Batch: 555528

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555026

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.03		ug/L		51	35 - 120	6	35
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	48		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-554234/6
Matrix: Water
Analysis Batch: 554234

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			06/24/19 12:45	1

Lab Sample ID: LCS 440-554234/5
Matrix: Water
Analysis Batch: 554234

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	1.06		mg/L		93	90 - 110

Lab Sample ID: 440-244448-C-6 MS
Matrix: Water
Analysis Batch: 554234

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	1.1	J	22.6	22.2		mg/L		98	80 - 120

Lab Sample ID: 440-244448-C-6 MSD
Matrix: Water
Analysis Batch: 554234

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	1.1	J	22.6	22.2		mg/L		98	80 - 120	0	20

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-554235/6
Matrix: Water
Analysis Batch: 554235

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bromide	ND		0.50	0.25	mg/L			06/24/19 12:45	1
Chloride	ND		0.50	0.25	mg/L			06/24/19 12:45	1
Fluoride	ND		0.50	0.25	mg/L			06/24/19 12:45	1
Sulfate	ND		0.50	0.25	mg/L			06/24/19 12:45	1

Lab Sample ID: LCS 440-554235/5
Matrix: Water
Analysis Batch: 554235

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
Fluoride	5.00	4.56		mg/L		91	90 - 110
Sulfate	5.00	4.64		mg/L		93	90 - 110

Lab Sample ID: 440-244448-C-6 MS
Matrix: Water
Analysis Batch: 554235

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	37		100	133		mg/L		96	80 - 120
Fluoride	ND		100	89.1		mg/L		89	80 - 120
Sulfate	78		100	174		mg/L		96	80 - 120

Lab Sample ID: 440-244448-C-6 MSD
Matrix: Water
Analysis Batch: 554235

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	37		100	132		mg/L		96	80 - 120	1	20
Fluoride	ND		100	89.8		mg/L		90	80 - 120	1	20
Sulfate	78		100	172		mg/L		94	80 - 120	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-554420/1-A
Matrix: Water
Analysis Batch: 554637

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 554420

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	ND		0.050	0.025	mg/L		06/25/19 08:27	06/25/19 17:28	1
Calcium	ND		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 17:28	1
Iron	ND		0.10	0.050	mg/L		06/25/19 08:27	06/25/19 17:28	1
Magnesium	ND		0.020	0.010	mg/L		06/25/19 08:27	06/25/19 17:28	1
Manganese	ND		0.020	0.015	mg/L		06/25/19 08:27	06/25/19 17:28	1
Potassium	ND		0.50	0.25	mg/L		06/25/19 08:27	06/25/19 17:28	1
Sodium	ND		0.50	0.26	mg/L		06/25/19 08:27	06/25/19 17:28	1

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

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

Lab Sample ID: LCS 440-554420/2-A
 Matrix: Water
 Analysis Batch: 554637

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 554420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Boron	1.00	0.933		mg/L		93	80 - 120	
Calcium	5.00	4.46		mg/L		89	80 - 120	
Iron	1.00	0.922		mg/L		92	80 - 120	
Magnesium	5.00	4.75		mg/L		95	80 - 120	
Manganese	1.00	0.938		mg/L		94	80 - 120	
Potassium	10.0	9.49		mg/L		95	80 - 120	
Sodium	10.0	9.22		mg/L		92	80 - 120	

Lab Sample ID: 440-244444-1 MS
 Matrix: Water
 Analysis Batch: 554637

Client Sample ID: Subdrain (N)
 Prep Type: Total Recoverable
 Prep Batch: 554420

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
Boron	1.6		1.00	2.56		mg/L		100	75 - 125	
Calcium	520		5.00	497	4	mg/L		-414	75 - 125	
Iron	83		1.00	77.2	4	mg/L		-579	75 - 125	
Magnesium	230		5.00	242	4	mg/L		188	75 - 125	
Manganese	9.9		1.00	10.9	4	mg/L		99	75 - 125	
Potassium	22		10.0	31.9		mg/L		96	75 - 125	
Sodium	330		10.0	333	4	mg/L		42	75 - 125	

Lab Sample ID: 440-244444-1 MSD
 Matrix: Water
 Analysis Batch: 554637

Client Sample ID: Subdrain (N)
 Prep Type: Total Recoverable
 Prep Batch: 554420

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
									Limits		RPD	Limit
Boron	1.6		1.00	2.54		mg/L		98	75 - 125	1	20	
Calcium	520		5.00	529	4	mg/L		220	75 - 125	6	20	
Iron	83		1.00	85.1	4	mg/L		214	75 - 125	10	20	
Magnesium	230		5.00	242	4	mg/L		178	75 - 125	0	20	
Manganese	9.9		1.00	10.8	4	mg/L		92	75 - 125	1	20	
Potassium	22		10.0	32.4		mg/L		101	75 - 125	2	20	
Sodium	330		10.0	343	4	mg/L		143	75 - 125	3	20	

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-554888/39
 Matrix: Water
 Analysis Batch: 554888

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ammonia (as N)	ND		0.20	0.10	mg/L			06/26/19 14:18	1

Lab Sample ID: LCS 440-554888/44
 Matrix: Water
 Analysis Batch: 554888

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	5.10		mg/L		102	90 - 110	

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: MRL 440-554888/9
 Matrix: Water
 Analysis Batch: 554888

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	0.163	J	mg/L		82	50 - 150

Lab Sample ID: 720-93671-E-1 MS
 Matrix: Water
 Analysis Batch: 554888

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)	0.10	J	5.00	4.93		mg/L		97	90 - 110

Lab Sample ID: 720-93671-E-1 MSD
 Matrix: Water
 Analysis Batch: 554888

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)	0.10	J	5.00	4.91		mg/L		96	90 - 110	0	15

Method: 410.4 - COD

Lab Sample ID: MB 440-555088/3
 Matrix: Water
 Analysis Batch: 555088

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			06/27/19 16:47	1

Lab Sample ID: LCS 440-555088/4
 Matrix: Water
 Analysis Batch: 555088

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	195		mg/L		97	90 - 110

Lab Sample ID: 440-244521-A-1 MS
 Matrix: Water
 Analysis Batch: 555088

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	84		200	255		mg/L		85	70 - 120

Lab Sample ID: 440-244521-A-1 MSD
 Matrix: Water
 Analysis Batch: 555088

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	84		200	266		mg/L		91	70 - 120	4	15

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-244521-A-1 DU
 Matrix: Water
 Analysis Batch: 555088

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	84		88.6		mg/L		5	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-554500/3
 Matrix: Water
 Analysis Batch: 554500

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			06/25/19 07:13	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/25/19 07:13	1

Lab Sample ID: LCS 440-554500/2
 Matrix: Water
 Analysis Batch: 554500

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	98.8	99.3		mg/L		100	80 - 120

Lab Sample ID: 440-244439-P-8 DU
 Matrix: Water
 Analysis Batch: 554500

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	32		32.2		mg/L		0.9	20
Bicarbonate Alkalinity as CaCO3	32		32.2		mg/L		0.9	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-554433/1
 Matrix: Water
 Analysis Batch: 554433

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			06/25/19 11:02	1

Lab Sample ID: LCS 440-554433/2
 Matrix: Water
 Analysis Batch: 554433

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	994		mg/L		99	90 - 110

Lab Sample ID: 440-244369-C-1 DU
 Matrix: Water
 Analysis Batch: 554433

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	1400		1450		mg/L		1	5

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-556920/1
Matrix: Water
Analysis Batch: 556920

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			07/09/19 14:00	1

Lab Sample ID: 440-244444-1 DU
Matrix: Water
Analysis Batch: 556920

Client Sample ID: Subdrain (N)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	310		313		mg/L		0	20

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-554867/3
Matrix: Water
Analysis Batch: 554867

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			06/26/19 17:05	1

Lab Sample ID: LCS 440-554867/4
Matrix: Water
Analysis Batch: 554867

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	0.490		mg/L		98	80 - 120

Lab Sample ID: 440-244444-1 MS
Matrix: Water
Analysis Batch: 554867

Client Sample ID: Subdrain (N)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Sulfide	0.027	J	0.500	0.545		mg/L		104	70 - 130

Lab Sample ID: 440-244444-1 MSD
Matrix: Water
Analysis Batch: 554867

Client Sample ID: Subdrain (N)
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	0.027	J	0.500	0.407		mg/L		76	70 - 130	29	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-554644/6
Matrix: Water
Analysis Batch: 554644

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			06/25/19 08:39	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-554644/5
Matrix: Water
Analysis Batch: 554644

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	9.49		mg/L		95	85 - 115

Lab Sample ID: MRL 440-554644/4
Matrix: Water
Analysis Batch: 554644

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	0.113		mg/L		113	50 - 150

Lab Sample ID: 440-244451-L-1 MS
Matrix: Water
Analysis Batch: 554644

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	0.34		10.0	9.46		mg/L		91	85 - 115

Lab Sample ID: 440-244451-L-1 MSD
Matrix: Water
Analysis Batch: 554644

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	0.34		10.0	9.60		mg/L		93	85 - 115	2	20

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

GC/MS VOA

Analysis Batch: 554673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-6	Field Blanks	Total/NA	Water	8260B	
440-244444-7	Trip Blanks	Total/NA	Water	8260B	
MB 440-554673/4	Method Blank	Total/NA	Water	8260B	
LCS 440-554673/5	Lab Control Sample	Total/NA	Water	8260B	
440-243938-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-243938-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 554936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-5	MW-14	Total/NA	Water	8260B	
440-244444-6	Field Blanks	Total/NA	Water	8260B	
440-244444-7	Trip Blanks	Total/NA	Water	8260B	
MB 440-554936/7	Method Blank	Total/NA	Water	8260B	
LCS 440-554936/8	Lab Control Sample	Total/NA	Water	8260B	
440-244444-5 MS	MW-14	Total/NA	Water	8260B	
440-244444-5 MSD	MW-14	Total/NA	Water	8260B	

Analysis Batch: 554944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	8260B	
MB 440-554944/4	Method Blank	Total/NA	Water	8260B	
LCS 440-554944/5	Lab Control Sample	Total/NA	Water	8260B	
440-244194-B-14 MS	Matrix Spike	Total/NA	Water	8260B	
440-244194-B-14 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-2	Combined Subdrain	Total/NA	Water	8260B	
440-244444-3	PZ-2	Total/NA	Water	8260B	
440-244444-4	MW-6	Total/NA	Water	8260B	
MB 440-555324/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555324/6	Lab Control Sample	Total/NA	Water	8260B	
440-244359-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-244359-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	8260B	
440-244444-2	Combined Subdrain	Total/NA	Water	8260B	
440-244444-3	PZ-2	Total/NA	Water	8260B	
440-244444-4	MW-6	Total/NA	Water	8260B	
440-244444-5	MW-14	Total/NA	Water	8260B	
MB 440-555499/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555499/5	Lab Control Sample	Total/NA	Water	8260B	
440-244872-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-244872-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-6 - RA	Field Blanks	Total/NA	Water	8260B	
440-244444-7 - RA	Trip Blanks	Total/NA	Water	8260B	



QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

GC/MS VOA (Continued)

Analysis Batch: 555505 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-555505/5	Method Blank	Total/NA	Water	8260B	
LCS 440-555505/6	Lab Control Sample	Total/NA	Water	8260B	
440-244098-B-11 MS	Matrix Spike	Total/NA	Water	8260B	
440-244098-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 555026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	3520C	
440-244444-2	Combined Subdrain	Total/NA	Water	3520C	
440-244444-3	PZ-2	Total/NA	Water	3520C	
440-244444-4	MW-6	Total/NA	Water	3520C	
440-244444-5	MW-14	Total/NA	Water	3520C	
MB 440-555026/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-555026/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-555026/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 555528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	8270C	555026
440-244444-2	Combined Subdrain	Total/NA	Water	8270C	555026
440-244444-3	PZ-2	Total/NA	Water	8270C	555026
440-244444-4	MW-6	Total/NA	Water	8270C	555026
440-244444-5	MW-14	Total/NA	Water	8270C	555026
MB 440-555026/1-A	Method Blank	Total/NA	Water	8270C	555026
LCS 440-555026/2-A	Lab Control Sample	Total/NA	Water	8270C	555026
LCSD 440-555026/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	555026

HPLC/IC

Analysis Batch: 554234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	300.0	
440-244444-2	Combined Subdrain	Total/NA	Water	300.0	
440-244444-3	PZ-2	Total/NA	Water	300.0	
440-244444-4	MW-6	Total/NA	Water	300.0	
440-244444-5	MW-14	Total/NA	Water	300.0	
MB 440-554234/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554234/5	Lab Control Sample	Total/NA	Water	300.0	
440-244448-C-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-244448-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 554235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	300.0	
440-244444-1	Subdrain (N)	Total/NA	Water	300.0	
440-244444-2	Combined Subdrain	Total/NA	Water	300.0	
440-244444-2	Combined Subdrain	Total/NA	Water	300.0	
440-244444-3	PZ-2	Total/NA	Water	300.0	
440-244444-3	PZ-2	Total/NA	Water	300.0	
440-244444-4	MW-6	Total/NA	Water	300.0	

Eurofins TestAmerica, Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

HPLC/IC (Continued)

Analysis Batch: 554235 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-4	MW-6	Total/NA	Water	300.0	
440-244444-5	MW-14	Total/NA	Water	300.0	
440-244444-5	MW-14	Total/NA	Water	300.0	
MB 440-554235/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554235/5	Lab Control Sample	Total/NA	Water	300.0	
440-244448-C-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-244448-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 554420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total Recoverable	Water	3005A	
440-244444-2	Combined Subdrain	Total Recoverable	Water	3005A	
440-244444-3	PZ-2	Total Recoverable	Water	3005A	
440-244444-4	MW-6	Total Recoverable	Water	3005A	
440-244444-5	MW-14	Total Recoverable	Water	3005A	
MB 440-554420/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-554420/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-244444-1 MS	Subdrain (N)	Total Recoverable	Water	3005A	
440-244444-1 MSD	Subdrain (N)	Total Recoverable	Water	3005A	

Analysis Batch: 554637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total Recoverable	Water	6010B	554420
440-244444-2	Combined Subdrain	Total Recoverable	Water	6010B	554420
440-244444-3	PZ-2	Total Recoverable	Water	6010B	554420
440-244444-3	PZ-2	Total Recoverable	Water	6010B	554420
440-244444-4	MW-6	Total Recoverable	Water	6010B	554420
440-244444-5	MW-14	Total Recoverable	Water	6010B	554420
MB 440-554420/1-A	Method Blank	Total Recoverable	Water	6010B	554420
LCS 440-554420/2-A	Lab Control Sample	Total Recoverable	Water	6010B	554420
440-244444-1 MS	Subdrain (N)	Total Recoverable	Water	6010B	554420
440-244444-1 MSD	Subdrain (N)	Total Recoverable	Water	6010B	554420

General Chemistry

Analysis Batch: 554433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	SM 2540C	
440-244444-2	Combined Subdrain	Total/NA	Water	SM 2540C	
440-244444-3	PZ-2	Total/NA	Water	SM 2540C	
440-244444-4	MW-6	Total/NA	Water	SM 2540C	
440-244444-5	MW-14	Total/NA	Water	SM 2540C	
MB 440-554433/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-554433/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-244369-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 554500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	SM 2320B	
440-244444-2	Combined Subdrain	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

General Chemistry (Continued)

Analysis Batch: 554500 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-3	PZ-2	Total/NA	Water	SM 2320B	
440-244444-4	MW-6	Total/NA	Water	SM 2320B	
440-244444-5	MW-14	Total/NA	Water	SM 2320B	
MB 440-554500/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-554500/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-244439-P-8 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 554644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	SM 5310C	
440-244444-2	Combined Subdrain	Total/NA	Water	SM 5310C	
440-244444-3	PZ-2	Total/NA	Water	SM 5310C	
440-244444-4	MW-6	Total/NA	Water	SM 5310C	
440-244444-5	MW-14	Total/NA	Water	SM 5310C	
MB 440-554644/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-554644/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-554644/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-244451-L-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-244451-L-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 554867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	
440-244444-2	Combined Subdrain	Total/NA	Water	SM 4500 S2 D	
440-244444-3	PZ-2	Total/NA	Water	SM 4500 S2 D	
440-244444-4	MW-6	Total/NA	Water	SM 4500 S2 D	
440-244444-5	MW-14	Total/NA	Water	SM 4500 S2 D	
MB 440-554867/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-554867/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-244444-1 MS	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	
440-244444-1 MSD	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 554888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	350.1	
440-244444-2	Combined Subdrain	Total/NA	Water	350.1	
440-244444-3	PZ-2	Total/NA	Water	350.1	
440-244444-4	MW-6	Total/NA	Water	350.1	
440-244444-5	MW-14	Total/NA	Water	350.1	
MB 440-554888/39	Method Blank	Total/NA	Water	350.1	
LCS 440-554888/44	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-554888/9	Lab Control Sample	Total/NA	Water	350.1	
720-93671-E-1 MS	Matrix Spike	Total/NA	Water	350.1	
720-93671-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 555088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	410.4	
440-244444-2	Combined Subdrain	Total/NA	Water	410.4	
440-244444-3	PZ-2	Total/NA	Water	410.4	
440-244444-4	MW-6	Total/NA	Water	410.4	



QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

General Chemistry (Continued)

Analysis Batch: 555088 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-5	MW-14	Total/NA	Water	410.4	
MB 440-555088/3	Method Blank	Total/NA	Water	410.4	
LCS 440-555088/4	Lab Control Sample	Total/NA	Water	410.4	
440-244521-A-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-244521-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	
440-244521-A-1 DU	Duplicate	Total/NA	Water	410.4	

Analysis Batch: 556920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244444-1	Subdrain (N)	Total/NA	Water	SM 4500 CO2 C	
440-244444-2	Combined Subdrain	Total/NA	Water	SM 4500 CO2 C	
440-244444-3	PZ-2	Total/NA	Water	SM 4500 CO2 C	
440-244444-4	MW-6	Total/NA	Water	SM 4500 CO2 C	
440-244444-5	MW-14	Total/NA	Water	SM 4500 CO2 C	
MB 440-556920/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-244444-1 DU	Subdrain (N)	Total/NA	Water	SM 4500 CO2 C	

Definitions/Glossary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD 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.
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.
X	Surrogate is outside control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

HPLC/IC

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

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244444-1

Laboratory: Eurofins 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	06-30-20
Arizona	State Program	9	AZ0671	10-14-19
California	LA Cty Sanitation Districts	9	10256	06-30-20
California	State Program	9	CA ELAP 2706	06-30-19 *
Guam	State Program	9	Cert. No. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19 *
Nevada	State Program	9	CA015312019-5	07-31-19 *
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
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.

Eurofins TestAmerica, Irvine

Regulatory Program: DW NPDES RCRA Other:

Client Contact: **11115 W. Beckwith Rd**
 Company Name: **Coca-Cola Assoc.**
 Address: **One Westchase Blvd**
 City/State/Zip: **Smyrna, GA 30080**
 Phone: **858-451-1136**
 Fax: **858-451-1087**
 Project Name: **Public Source**
 Site: **Summerville Gas Landfill**
 P.O.#

Project Manager: **Kyle Wehman**
 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: **J. Mills** Date: **6-24-19**
 Lab Contact: **R. Tomova** Carrier: **J**
 Perform MS/MSD (Y/N)
 Filtered Sample (Y/N)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EA 8268-B-Vol's	EA 8270	EA 8271	EA 3002 - Ammonia	EA 3004 - CAD	EA 3005 - NO3-N	EA 3006 - Sulfate	EA 3007 - Total Phos	EA 3008 - Total Solids	EA 3009 - TSS	EA 3010 - TDS	EA 3011 - TAC	EA 3012 - Hardness	EA 3013 - Sulfide	EA 3014 - COD	EA 3015 - Chloride	EA 3016 - Nitrate	EA 3017 - Nitrite	EA 3018 - Cyanide	EA 3019 - Fluoride	EA 3020 - Silica	EA 3021 - Boron	EA 3022 - Cadmium	EA 3023 - Chromium	EA 3024 - Copper	EA 3025 - Lead	EA 3026 - Manganese	EA 3027 - Nickel	EA 3028 - Selenium	EA 3029 - Silver	EA 3030 - Vanadium	EA 3031 - Zinc	EA 3032 - Barium	EA 3033 - Bismuth	EA 3034 - Cobalt	EA 3035 - Iron	EA 3036 - Molybdenum	EA 3037 - Potassium	EA 3038 - Sodium	EA 3039 - Strontium	EA 3040 - Tin	EA 3041 - Tungsten	EA 3042 - Vanadium	EA 3043 - Zirconium	EA 3044 - Antimony	EA 3045 - Arsenic	EA 3046 - Barium	EA 3047 - Bismuth	EA 3048 - Cadmium	EA 3049 - Chromium	EA 3050 - Cobalt	EA 3051 - Copper	EA 3052 - Lead	EA 3053 - Manganese	EA 3054 - Nickel	EA 3055 - Silver	EA 3056 - Sodium	EA 3057 - Strontium	EA 3058 - Tin	EA 3059 - Tungsten	EA 3060 - Vanadium	EA 3061 - Zinc	EA 3062 - Barium	EA 3063 - Bismuth	EA 3064 - Cadmium	EA 3065 - Chromium	EA 3066 - Cobalt	EA 3067 - Copper	EA 3068 - Lead	EA 3069 - Manganese	EA 3070 - Nickel	EA 3071 - Silver	EA 3072 - Sodium	EA 3073 - Strontium	EA 3074 - Tin	EA 3075 - Tungsten	EA 3076 - Vanadium	EA 3077 - Zinc	EA 3078 - Barium	EA 3079 - Bismuth	EA 3080 - Cadmium	EA 3081 - Chromium	EA 3082 - Cobalt	EA 3083 - Copper	EA 3084 - Lead	EA 3085 - Manganese	EA 3086 - Nickel	EA 3087 - Silver	EA 3088 - Sodium	EA 3089 - Strontium	EA 3090 - Tin	EA 3091 - Tungsten	EA 3092 - Vanadium	EA 3093 - Zinc	EA 3094 - Barium	EA 3095 - Bismuth	EA 3096 - Cadmium	EA 3097 - Chromium	EA 3098 - Cobalt	EA 3099 - Copper	EA 3100 - Lead	EA 3101 - Manganese	EA 3102 - Nickel	EA 3103 - Silver	EA 3104 - Sodium	EA 3105 - Strontium	EA 3106 - Tin	EA 3107 - Tungsten	EA 3108 - Vanadium	EA 3109 - Zinc	EA 3110 - Barium	EA 3111 - Bismuth	EA 3112 - Cadmium	EA 3113 - Chromium	EA 3114 - Cobalt	EA 3115 - Copper	EA 3116 - Lead	EA 3117 - Manganese	EA 3118 - Nickel	EA 3119 - Silver	EA 3120 - Sodium	EA 3121 - Strontium	EA 3122 - Tin	EA 3123 - Tungsten	EA 3124 - Vanadium	EA 3125 - Zinc	EA 3126 - Barium	EA 3127 - Bismuth	EA 3128 - Cadmium	EA 3129 - Chromium	EA 3130 - Cobalt	EA 3131 - Copper	EA 3132 - Lead	EA 3133 - Manganese	EA 3134 - Nickel	EA 3135 - Silver	EA 3136 - Sodium	EA 3137 - Strontium	EA 3138 - Tin	EA 3139 - Tungsten	EA 3140 - Vanadium	EA 3141 - Zinc	EA 3142 - Barium	EA 3143 - Bismuth	EA 3144 - Cadmium	EA 3145 - Chromium	EA 3146 - Cobalt	EA 3147 - Copper	EA 3148 - Lead	EA 3149 - Manganese	EA 3150 - Nickel	EA 3151 - Silver	EA 3152 - Sodium	EA 3153 - Strontium	EA 3154 - Tin	EA 3155 - Tungsten	EA 3156 - Vanadium	EA 3157 - Zinc	EA 3158 - Barium	EA 3159 - Bismuth	EA 3160 - Cadmium	EA 3161 - Chromium	EA 3162 - Cobalt	EA 3163 - Copper	EA 3164 - Lead	EA 3165 - Manganese	EA 3166 - Nickel	EA 3167 - Silver	EA 3168 - Sodium	EA 3169 - Strontium	EA 3170 - Tin	EA 3171 - Tungsten	EA 3172 - Vanadium	EA 3173 - Zinc	EA 3174 - Barium	EA 3175 - Bismuth	EA 3176 - Cadmium	EA 3177 - Chromium	EA 3178 - Cobalt	EA 3179 - Copper	EA 3180 - Lead	EA 3181 - Manganese	EA 3182 - Nickel	EA 3183 - Silver	EA 3184 - Sodium	EA 3185 - Strontium	EA 3186 - Tin	EA 3187 - Tungsten	EA 3188 - Vanadium	EA 3189 - Zinc	EA 3190 - Barium	EA 3191 - Bismuth	EA 3192 - Cadmium	EA 3193 - Chromium	EA 3194 - Cobalt	EA 3195 - Copper	EA 3196 - Lead	EA 3197 - Manganese	EA 3198 - Nickel	EA 3199 - Silver	EA 3200 - Sodium	EA 3201 - Strontium	EA 3202 - Tin	EA 3203 - Tungsten	EA 3204 - Vanadium	EA 3205 - Zinc	EA 3206 - Barium	EA 3207 - Bismuth	EA 3208 - Cadmium	EA 3209 - Chromium	EA 3210 - Cobalt	EA 3211 - Copper	EA 3212 - Lead	EA 3213 - Manganese	EA 3214 - Nickel	EA 3215 - Silver	EA 3216 - Sodium	EA 3217 - Strontium	EA 3218 - Tin	EA 3219 - Tungsten	EA 3220 - Vanadium	EA 3221 - Zinc	EA 3222 - Barium	EA 3223 - Bismuth	EA 3224 - Cadmium	EA 3225 - Chromium	EA 3226 - Cobalt	EA 3227 - Copper	EA 3228 - Lead	EA 3229 - Manganese	EA 3230 - Nickel	EA 3231 - Silver	EA 3232 - Sodium	EA 3233 - Strontium	EA 3234 - Tin	EA 3235 - Tungsten	EA 3236 - Vanadium	EA 3237 - Zinc	EA 3238 - Barium	EA 3239 - Bismuth	EA 3240 - Cadmium	EA 3241 - Chromium	EA 3242 - Cobalt	EA 3243 - Copper	EA 3244 - Lead	EA 3245 - Manganese	EA 3246 - Nickel	EA 3247 - Silver	EA 3248 - Sodium	EA 3249 - Strontium	EA 3250 - Tin	EA 3251 - Tungsten	EA 3252 - Vanadium	EA 3253 - Zinc	EA 3254 - Barium	EA 3255 - Bismuth	EA 3256 - Cadmium	EA 3257 - Chromium	EA 3258 - Cobalt	EA 3259 - Copper	EA 3260 - Lead	EA 3261 - Manganese	EA 3262 - Nickel	EA 3263 - Silver	EA 3264 - Sodium	EA 3265 - Strontium	EA 3266 - Tin	EA 3267 - Tungsten	EA 3268 - Vanadium	EA 3269 - Zinc	EA 3270 - Barium	EA 3271 - Bismuth	EA 3272 - Cadmium	EA 3273 - Chromium	EA 3274 - Cobalt	EA 3275 - Copper	EA 3276 - Lead	EA 3277 - Manganese	EA 3278 - Nickel	EA 3279 - Silver	EA 3280 - Sodium	EA 3281 - Strontium	EA 3282 - Tin	EA 3283 - Tungsten	EA 3284 - Vanadium	EA 3285 - Zinc	EA 3286 - Barium	EA 3287 - Bismuth	EA 3288 - Cadmium	EA 3289 - Chromium	EA 3290 - Cobalt	EA 3291 - Copper	EA 3292 - Lead	EA 3293 - Manganese	EA 3294 - Nickel	EA 3295 - Silver	EA 3296 - Sodium	EA 3297 - Strontium	EA 3298 - Tin	EA 3299 - Tungsten	EA 3300 - Vanadium	EA 3301 - Zinc	EA 3302 - Barium	EA 3303 - Bismuth	EA 3304 - Cadmium	EA 3305 - Chromium	EA 3306 - Cobalt	EA 3307 - Copper	EA 3308 - Lead	EA 3309 - Manganese	EA 3310 - Nickel	EA 3311 - Silver	EA 3312 - Sodium	EA 3313 - Strontium	EA 3314 - Tin	EA 3315 - Tungsten	EA 3316 - Vanadium	EA 3317 - Zinc	EA 3318 - Barium	EA 3319 - Bismuth	EA 3320 - Cadmium	EA 3321 - Chromium	EA 3322 - Cobalt	EA 3323 - Copper	EA 3324 - Lead	EA 3325 - Manganese	EA 3326 - Nickel	EA 3327 - Silver	EA 3328 - Sodium	EA 3329 - Strontium	EA 3330 - Tin	EA 3331 - Tungsten	EA 3332 - Vanadium	EA 3333 - Zinc	EA 3334 - Barium	EA 3335 - Bismuth	EA 3336 - Cadmium	EA 3337 - Chromium	EA 3338 - Cobalt	EA 3339 - Copper	EA 3340 - Lead	EA 3341 - Manganese	EA 3342 - Nickel	EA 3343 - Silver	EA 3344 - Sodium	EA 3345 - Strontium	EA 3346 - Tin	EA 3347 - Tungsten	EA 3348 - Vanadium	EA 3349 - Zinc	EA 3350 - Barium	EA 3351 - Bismuth	EA 3352 - Cadmium	EA 3353 - Chromium	EA 3354 - Cobalt	EA 3355 - Copper	EA 3356 - Lead	EA 3357 - Manganese	EA 3358 - Nickel	EA 3359 - Silver	EA 3360 - Sodium	EA 3361 - Strontium	EA 3362 - Tin	EA 3363 - Tungsten	EA 3364 - Vanadium	EA 3365 - Zinc	EA 3366 - Barium	EA 3367 - Bismuth	EA 3368 - Cadmium	EA 3369 - Chromium	EA 3370 - Cobalt	EA 3371 - Copper	EA 3372 - Lead	EA 3373 - Manganese	EA 3374 - Nickel	EA 3375 - Silver	EA 3376 - Sodium	EA 3377 - Strontium	EA 3378 - Tin	EA 3379 - Tungsten	EA 3380 - Vanadium	EA 3381 - Zinc	EA 3382 - Barium	EA 3383 - Bismuth	EA 3384 - Cadmium	EA 3385 - Chromium	EA 3386 - Cobalt	EA 3387 - Copper	EA 3388 - Lead	EA 3389 - Manganese	EA 3390 - Nickel	EA 3391 - Silver	EA 3392 - Sodium	EA 3393 - Strontium	EA 3394 - Tin	EA 3395 - Tungsten	EA 3396 - Vanadium	EA 3397 - Zinc	EA 3398 - Barium	EA 3399 - Bismuth	EA 3400 - Cadmium	EA 3401 - Chromium	EA 3402 - Cobalt	EA 3403 - Copper	EA 3404 - Lead	EA 3405 - Manganese	EA 3406 - Nickel	EA 3407 - Silver	EA 3408 - Sodium	EA 3409 - Strontium	EA 3410 - Tin	EA 3411 - Tungsten	EA 3412 - Vanadium	EA 3413 - Zinc	EA 3414 - Barium	EA 3415 - Bismuth	EA 3416 - Cadmium	EA 3417 - Chromium	EA 3418 - Cobalt	EA 3419 - Copper	EA 3420 - Lead	EA 3421 - Manganese	EA 3422 - Nickel	EA 3423 - Silver	EA 3424 - Sodium	EA 3425 - Strontium	EA 3426 - Tin	EA 3427 - Tungsten	EA 3428 - Vanadium	EA 3429 - Zinc	EA 3430 - Barium	EA 3431 - Bismuth	EA 3432 - Cadmium	EA 3433 - Chromium	EA 3434 - Cobalt	EA 3435 - Copper	EA 3436 - Lead	EA 3437 - Manganese	EA 3438 - Nickel	EA 3439 - Silver	EA 3440 - Sodium	EA 3441 - Strontium	EA 3442 - Tin	EA 3443 - Tungsten	EA 3444 - Vanadium	EA 3445 - Zinc	EA 3446 - Barium	EA 3447 - Bismuth	EA 3448 - Cadmium	EA 3449 - Chromium	EA 3450 - Cobalt	EA 3451 - Copper	EA 3452 - Lead	EA 3453 - Manganese	EA 3454 - Nickel	EA 3455 - Silver	EA 3456 - Sodium	EA 3457 - Strontium	EA 3458 - Tin	EA 3459 - Tungsten	EA 3460 - Vanadium	EA 3461 - Zinc	EA 3462 - Barium	EA 3463 - Bismuth	EA 3464 - Cadmium	EA 3465 - Chromium	EA 3466 - Cobalt	EA 3467 - Copper	EA 3468 - Lead	EA 3469 - Manganese	EA 3470 - Nickel	EA 3471 - Silver	EA 3472 - Sodium	EA 3473 - Strontium	EA 3474 - Tin	EA 3475 - Tungsten	EA 3476 - Vanadium	EA 3477 - Zinc	EA 3478 - Barium	EA 3479 - Bismuth	EA 3480 - Cadmium	EA 3481 - Chromium	EA 3482 - Cobalt	EA 3483 - Copper	EA 3484 - Lead	EA 3485 - Manganese	EA 3486 - Nickel	EA 3487 - Silver	EA 3488 - Sodium	EA 3489 - Strontium	EA 3490 - Tin	EA 3491 - Tungsten	EA 3492 - Vanadium	EA 3493 - Zinc	EA 3494 - Barium	EA 3495 - Bismuth	EA 3496 - Cadmium	EA 3497 - Chromium	EA 3498 - Cobalt	EA 3499 - Copper	EA 3500 - Lead	EA 3501 - Manganese	EA 3502 - Nickel	EA 3503 - Silver	EA 3504 - Sodium	EA 3505 - Strontium	EA 3506 - Tin	EA 3507 - Tungsten	EA 3508 - Vanadium	EA 3509 - Zinc	EA 3510 - Barium	EA 3511 - Bismuth	EA 3512 - Cadmium	EA 3513 - Chromium	EA 3514 - Cobalt	EA 3515 - Copper	EA 3516 - Lead	EA 3517 - Manganese	EA 3518 - Nickel	EA 3519 - Silver	EA 3520 - Sodium	EA 3521 - Strontium	EA 3522 - Tin	EA 3523 - Tungsten	EA 3524 - Vanadium	EA 3525 - Zinc	EA 3526 - Barium	EA 3527 - Bismuth	EA 3528 - Cadmium	EA 3529 - Chromium	EA 3530 - Cobalt	EA 3531 - Copper	EA 3532 - Lead	EA 3533 - Manganese	EA 3534 - Nickel	EA 3535 - Silver	EA 3536 - Sodium	EA 3537 - Strontium	EA 3538 - Tin	EA 3539 - Tungsten	EA 3540 - Vanadium	EA 3541 - Zinc	EA 3542 - Barium	EA 3543 - Bismuth	EA 3544 - Cadmium	EA 3545 - Chromium	EA 3546 - Cobalt	EA 3547 - Copper	EA 3548 - Lead	EA 3549 - Manganese	EA 3550 - Nickel	EA 3551 - Silver	EA 3552 - Sodium	EA 3553 - Strontium	EA 3554 - Tin	EA 3555 - Tungsten	EA 3556 - Vanadium	EA 3557 - Zinc	EA 3558 - Barium	EA 3559 - Bismuth	EA 3560 - Cadmium	EA 3561 - Chromium	EA 3562 - Cobalt	EA 3563 - Copper	EA 3564 - Lead	EA 3565 - Manganese	EA 3566 - Nickel	EA 3567 - Silver	EA 3568 - Sodium	EA 3569 - Strontium	EA 3570 - Tin	EA 3571 - Tungsten	EA 3572 - Vanadium	EA 3573 - Zinc	EA 3574 - Barium	EA 3575 - Bismuth	EA 3576 - Cadmium	EA 3577 - Chromium	EA 3578 - Cobalt	EA 3579 - Copper	EA 3580 - Lead	EA 3581 - Manganese	EA 3582 - Nickel	EA 3583 - Silver	EA 3584 - Sodium	EA 3585 - Strontium	EA 3586 - Tin	EA 3587 - Tungsten	EA 3588 - Vanadium	EA 3589 - Zinc	EA 3590 - Barium	EA 3591 - Bismuth	EA 3592 - Cadmium	EA 3593 - Chromium	EA 3594 - Cobalt	EA 3595 - Copper	EA 3596 - Lead	EA 3597 - Manganese	EA 3598 - Nickel	EA 3599 - Silver	EA 3600 - Sodium	EA 3601 - Strontium	EA 3602 - Tin	EA 3603 - Tungsten	EA 3604 - Vanadium	EA 3605 - Zinc	EA 3606 - Barium	EA 3607 - Bismuth	EA 3608 - Cadmium	EA 3609 - Chromium	EA 3610 - Cobalt	EA 3611 - Copper	EA 3612 - Lead	EA 3613 - Manganese	EA 3614 - Nickel	EA 3615 - Silver	EA 3616 - Sodium	EA 3617 - Strontium	EA 3618 - Tin	EA 3619 - Tungsten	EA 3620 - Vanadium	EA 3621 - Zinc	EA 3622 - Barium	EA 3623 - Bismuth	EA 3624 - Cadmium	EA 3625 - Chromium	EA 3626 - Cobalt	EA 3627 - Copper	EA 3628 - Lead	EA 3629 - Manganese	EA 3630 - Nickel	EA 3631 - Silver	EA 3632 - Sodium	EA 3633 - Strontium	EA 3634 - Tin	EA 3635 - Tungsten	EA 3636 - Vanadium	EA 3637 - Zinc	EA 3638 - Barium	EA 3639 - Bismuth	EA 3640 - Cadmium	EA 3641 - Chromium	EA 3642 - Cobalt	EA 3643 - Copper	EA 3644 - Lead	EA 3645 - Manganese	EA 3646 - Nickel	EA 3647 - Silver	EA 3648 - Sodium	EA 3649 - Strontium	EA 3650 - Tin	EA 3651 - Tungsten	EA 3652 - Vanadium	EA 3653 - Zinc	EA 3654 - Barium	EA 3655 - Bismuth	EA 3656 - Cadmium	EA 3657 - Chromium	EA 3658 - Cobalt	EA 3659 - Copper	EA 3660 - Lead	EA 3661 - Manganese	EA 3662 - Nickel	EA 3663 - Silver	EA 3664 - Sodium	EA 3665 - Strontium	EA 3666 - Tin	EA 3667 - Tungsten	EA 3668 - Vanadium	EA 3669 - Zinc	EA 3670 - Barium	EA 3671 - Bismuth	EA 3672 - Cadmium	EA 3673 - Chromium	EA 3674 - Cobalt	EA 3675 - Copper	EA 3676 - Lead	EA 3677 - Manganese	EA 3678 - Nickel	EA 3679 - Silver	EA 3680 - Sodium	EA 3681 - Strontium	EA 3682 - Tin	EA 3683 - Tungsten	EA 3684 - Vanadium	EA 3685 - Zinc	EA 3686 - Barium	EA 3687 - Bismuth	EA 3688 - Cadmium	EA 3689 - Chromium	EA 3690 - Cobalt	EA 3691 - Copper	EA 3692 - Lead	EA 3693 - Manganese	EA 3694 - Nickel	EA 3695 - Silver	EA 3696 - Sodium	EA 3697 - Strontium	EA 3698 - Tin	EA 3699 - Tungsten	EA 3700 - Vanadium	EA 3701 - Zinc	EA 3702 - Barium	EA 3703 - Bismuth	EA 3704 - Cadmium	EA 3705 - Chromium	EA 3706 - Cobalt	EA 3707 - Copper	EA 3708 - Lead	EA 3709 - Manganese	EA 3710 - Nickel	EA 3711 - Silver	EA 3712 - Sodium	EA 3713 - Strontium	EA 3714 - Tin	EA 3715 - Tungsten	EA 3716 - Vanadium	EA 3717 - Zinc	EA 3718 - Barium	EA 3719 - Bismuth	EA 3720 - Cadmium	EA 3721 - Chromium	EA 3722 - Cobalt	EA 3723 - Copper	EA 3724 - Lead	EA 3725 - Manganese	EA 3726 - Nickel	EA 3727 - Silver	EA 3728 - Sodium	EA 3729 - Strontium	EA 3730 - Tin	EA 3731 - Tungsten	EA 3732 - Vanadium	EA 3733 - Zinc	EA 3734 - Barium	EA 3735 - Bismuth	EA 3736 - Cadmium	EA 3737 - Chromium	EA 3738 - Cobalt	EA 3739 - Copper	EA 3740 - Lead	EA 3741 - Manganese	EA 3742 - Nickel	EA 3743 - Silver	EA 3744 - Sodium	EA 3745 - Strontium	EA 3746 - Tin	EA 3747 - Tungsten	EA 3748 - Vanadium	EA 3749 - Zinc	EA 3750 - Barium	EA 3751 - Bismuth	EA 3752 - Cadmium	EA 3753 - Chromium	EA 3754 - Cobalt	EA 3755 - Copper	EA 3756 - Lead	EA 3757 - Manganese	EA 3758 - Nickel	EA 3759 - Silver	EA 3760 - Sodium	EA 3761 - Strontium	EA 3762 - Tin	EA 3763 - Tungsten	EA 3764 - Vanadium	EA 3765 - Zinc	EA 3766 - Barium	EA 3767 - Bismuth	EA 3768 - Cadmium	EA 3769 - Chromium	EA 3770 - Cobalt	EA 3771 - Copper	EA 3772 - Lead	EA 3773 - Manganese	EA 3774 - Nickel	EA 3775 - Silver	EA 3776 - Sodium	EA 3777 - Strontium	EA 3778 - Tin	EA 3779 - Tungsten	EA 3780 - Vanadium	EA 3781 - Zinc	EA 3782 - Barium	EA 3783 - Bismuth	EA 3784 - Cadmium	EA 3785 - Chromium	EA 3786 - Cobalt	EA 3787 - Copper	EA 3788 - Lead	EA 3789 - Manganese	EA 3790 - Nickel	EA 3791 - Silver	EA 3792 - Sodium	EA 3793 - Strontium</
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Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-244444-1

Login Number: 244444

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Skinner, Alma D

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	

ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-244538-1

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:
7/12/2019 2:23:08 PM

Rossina Tomova, Project Manager I
(949)260-3276

rossina.tomova@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-244538-1	DW-1	Water	06/25/19 10:15	06/25/19 14:15	
440-244538-2	DW-2	Water	06/25/19 11:12	06/25/19 14:15	
440-244538-3	DW-3	Water	06/25/19 09:05	06/25/19 14:15	
440-244538-4	PZ-4	Water	06/25/19 13:28	06/25/19 14:15	
440-244538-5	Duplicate	Water	06/25/19 00:01	06/25/19 14:15	
440-244538-6	DW-5	Water	06/25/19 14:05	06/25/19 14:15	
440-244538-7	CM-9R3	Water	06/25/19 11:40	06/25/19 14:15	
440-244538-8	CM-10R	Water	06/25/19 12:50	06/25/19 14:15	
440-244538-9	CM-11R	Water	06/25/19 09:30	06/25/19 14:15	
440-244538-10	Field Blank	Water	06/25/19 00:01	06/25/19 14:15	
440-244538-11	Trip Blank	Water	06/25/19 00:01	06/25/19 14:15	

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Job ID: 440-244538-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-244538-1

Comments

No additional comments.

Receipt

The samples were received on 6/25/2019 2:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.2° C, 3.4° C, 3.7° C and 4.5° C.

GC/MS VOA

Method(s) 8260B: Surrogate recovery for 4-Bromofluorobenzene was outside the upper control limit for matrix spike sample (MS): (440-244872-A-1 MS). The MSD and parent sample's surrogate recovery were within limits. The MS sample has been qualified and reported.

Method(s) 8260B: Surrogate recovery for 4-Bromofluorobenzene for the following sample was outside the upper control limit: PZ-4 (440-244538-4). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Surrogate 4-Bromofluorobenzene recovery was above the acceptance limits for the following matrix spike duplicate (MSD) sample: (440-244506-E-6 MSD). The MS and parent sample's surrogate recoveries were within limits. The MSD sample has been qualified and reported. Matrix interference was suspected.

Method(s) 8260B: Surrogate recovery for 4-Bromofluorobenzene for the following sample were outside the upper control limits: CM-11R (440-244538-9). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-555711 recovered above the upper control limit for 2,2-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: CM-10R (440-244538-8), CM-11R (440-244538-9), Field Blank (440-244538-10), Trip Blank (440-244538-11) and (CCVIS 440-555711/2).

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: Duplicate (440-244538-5), CM-9R3 (440-244538-7), CM-10R (440-244538-8) and CM-11R (440-244538-9). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Bromide and/or Fluoride due to the nature of the sample matrix: DW-1 (440-244538-1) and DW-2 (440-244538-2). 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 (440-244538-5), CM-9R3 (440-244538-7), CM-10R (440-244538-8) and CM-11R (440-244538-9). 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: DW-1 (440-244538-1) and DW-2 (440-244538-2). 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 440-554903 contained Sodium above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL): (CCB 440-554903/32) and (CCB 440-554903/42)

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Job ID: 440-244538-1 (Continued)

Laboratory: Eurofins TestAmerica, Irvine (Continued)

Method(s) 6010B: The method blank for preparation batch 440-554626 and analytical batch 440-554903 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or 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) SM 5310C: The % RSD between two replicate runs for the following samples exceeded 10%. Samples were re-analyzed and % RSD was more than 10%. Samples matrix interference is suspected. (440-244520-L-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C/8270-1,4-Dioxane: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-555227. LCS was performed in duplicate to provide precision of data.

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 Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-1

Lab Sample ID: 440-244538-1

Date Collected: 06/25/19 10:15

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 16:09	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Acrolein	ND		50	2.5	ug/L			06/27/19 13:07	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 13:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 16:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 16:09	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 16:09	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 16:09	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 16:09	1
Acetone	ND		20	10	ug/L			07/01/19 16:09	1
Acetonitrile	ND		20	10	ug/L			07/01/19 16:09	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 16:09	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 16:09	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 16:09	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 16:09	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 16:09	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 16:09	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 16:09	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 16:09	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 16:09	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 16:09	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 16:09	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 16:09	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 16:09	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-1

Lab Sample ID: 440-244538-1

Date Collected: 06/25/19 10:15

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 16:09	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 16:09	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Propionitrile	ND		20	10	ug/L			07/01/19 16:09	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 16:09	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 16:09	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 16:09	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 16:09	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 16:09	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 16:09	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 16:09	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 16:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 16:09	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		06/27/19 13:07	1
4-Bromofluorobenzene (Surr)	114		80 - 120		06/27/19 13:07	1
Toluene-d8 (Surr)	110		80 - 128		07/01/19 16:09	1
4-Bromofluorobenzene (Surr)	116		80 - 120		07/01/19 16:09	1
Dibromofluoromethane (Surr)	102		76 - 132		06/27/19 13:07	1
Dibromofluoromethane (Surr)	91		76 - 132		07/01/19 16:09	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.1	0.26	ug/L		06/28/19 10:57	07/01/19 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120	06/28/19 10:57	07/01/19 17:30	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			06/25/19 22:45	10
Nitrate as N	ND		1.1	0.55	mg/L			06/25/19 22:45	10
Chloride	14		5.0	2.5	mg/L			06/25/19 22:45	10
Fluoride	3.8	J	5.0	2.5	mg/L			06/25/19 22:45	10
Sulfate	1600		100	50	mg/L			06/25/19 23:02	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:13	1
Calcium	2.4		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:13	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-1

Lab Sample ID: 440-244538-1

Date Collected: 06/25/19 10:15

Matrix: Water

Date Received: 06/25/19 14:15

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	J B	0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:13	1
Magnesium	1.5		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:13	1
Manganese	ND		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:13	1
Potassium	1.7		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:13	1
Sodium	1000		2.5	1.3	mg/L		06/26/19 06:55	06/27/19 10:31	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.8		0.20	0.10	mg/L			06/26/19 15:38	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	3200		50	25	mg/L			06/28/19 08:35	1
Total Sulfide	0.28		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	2.8		0.10	0.050	mg/L			06/26/19 09:50	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	540		4.0	4.0	mg/L			06/26/19 05:40	1
Bicarbonate Alkalinity as CaCO3	430		4.0	4.0	mg/L			06/26/19 05:40	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: DW-2

Lab Sample ID: 440-244538-2

Date Collected: 06/25/19 11:12

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 16:40	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Acrolein	ND		50	2.5	ug/L			06/27/19 13:38	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 13:38	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 16:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 16:40	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 16:40	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 16:40	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 16:40	1
Acetone	ND		20	10	ug/L			07/01/19 16:40	1
Acetonitrile	ND		20	10	ug/L			07/01/19 16:40	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 16:40	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 16:40	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 16:40	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-2

Lab Sample ID: 440-244538-2

Date Collected: 06/25/19 11:12

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 16:40	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 16:40	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 16:40	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 16:40	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 16:40	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 16:40	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 16:40	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 16:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 16:40	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 16:40	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 16:40	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 16:40	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 16:40	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Propionitrile	ND		20	10	ug/L			07/01/19 16:40	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 16:40	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 16:40	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 16:40	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 16:40	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 16:40	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 16:40	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 16:40	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 16:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 16:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		06/27/19 13:38	1
4-Bromofluorobenzene (Surr)	113		80 - 120		06/27/19 13:38	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-2

Lab Sample ID: 440-244538-2

Date Collected: 06/25/19 11:12

Matrix: Water

Date Received: 06/25/19 14:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		07/01/19 16:40	1
4-Bromofluorobenzene (Surr)	119		80 - 120		07/01/19 16:40	1
Dibromofluoromethane (Surr)	106		76 - 132		06/27/19 13:38	1
Dibromofluoromethane (Surr)	92		76 - 132		07/01/19 16:40	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	0.26	ug/L		06/28/19 10:57	07/01/19 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	69		30 - 120	06/28/19 10:57	07/01/19 17:52	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/25/19 23:19	2
Nitrate as N	ND		0.22	0.11	mg/L			06/25/19 23:19	2
Chloride	10		1.0	0.50	mg/L			06/25/19 23:19	2
Fluoride	1.0		1.0	0.50	mg/L			06/25/19 23:19	2
Sulfate	890		50	25	mg/L			06/25/19 23:36	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		06/26/19 06:55	06/26/19 18:29	1
Calcium	47		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:29	1
Iron	0.63		0.10	0.050	mg/L		06/28/19 09:22	06/28/19 20:33	1
Magnesium	32		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:29	1
Manganese	0.066		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:29	1
Potassium	3.3		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:29	1
Sodium	440		0.50	0.26	mg/L		06/26/19 06:55	06/26/19 18:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.8		0.20	0.10	mg/L			06/26/19 15:44	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	1800		20	10	mg/L			06/28/19 08:35	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	1.4		0.10	0.050	mg/L			06/26/19 10:04	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	390		4.0	4.0	mg/L			06/26/19 06:03	1
Bicarbonate Alkalinity as CaCO3	390		4.0	4.0	mg/L			06/26/19 06:03	1
Carbon Dioxide, Free	11		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: DW-3

Lab Sample ID: 440-244538-3

Date Collected: 06/25/19 09:05

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 17:10	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-3

Lab Sample ID: 440-244538-3

Date Collected: 06/25/19 09:05

Matrix: Water

Date Received: 06/25/19 14:15

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			06/27/19 14:08	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 14:08	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 17:10	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 17:10	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 17:10	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 17:10	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 17:10	1
Acetone	ND		20	10	ug/L			07/01/19 17:10	1
Acetonitrile	ND		20	10	ug/L			07/01/19 17:10	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 17:10	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 17:10	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 17:10	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 17:10	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 17:10	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 17:10	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 17:10	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 17:10	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 17:10	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 17:10	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 17:10	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 17:10	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 17:10	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 17:10	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 17:10	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-3

Lab Sample ID: 440-244538-3

Date Collected: 06/25/19 09:05

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 17:10	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Propionitrile	ND		20	10	ug/L			07/01/19 17:10	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 17:10	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 17:10	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 17:10	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 17:10	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 17:10	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 17:10	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 17:10	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 17:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 17:10	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		06/27/19 14:08	1
4-Bromofluorobenzene (Surr)	117		80 - 120		06/27/19 14:08	1
Toluene-d8 (Surr)	109		80 - 128		07/01/19 17:10	1
4-Bromofluorobenzene (Surr)	120		80 - 120		07/01/19 17:10	1
Dibromofluoromethane (Surr)	103		76 - 132		06/27/19 14:08	1
Dibromofluoromethane (Surr)	90		76 - 132		07/01/19 17:10	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		06/28/19 10:57	07/01/19 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	75		30 - 120	06/28/19 10:57	07/01/19 18:14	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			06/25/19 23:53	1
Nitrate as N	ND		0.11	0.055	mg/L			06/25/19 23:53	1
Chloride	14		0.50	0.25	mg/L			06/25/19 23:53	1
Fluoride	0.47	J	0.50	0.25	mg/L			06/25/19 23:53	1
Sulfate	1100		25	13	mg/L			06/26/19 00:10	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.052		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:32	1
Calcium	270		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:32	1
Iron	0.57		0.10	0.050	mg/L		06/28/19 09:22	06/28/19 20:49	1
Magnesium	98		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:32	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-3

Lab Sample ID: 440-244538-3

Date Collected: 06/25/19 09:05

Matrix: Water

Date Received: 06/25/19 14:15

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.062		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:32	1
Potassium	8.1		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:32	1
Sodium	61		0.50	0.26	mg/L		06/26/19 06:55	06/26/19 18:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.68		0.20	0.10	mg/L			06/26/19 16:29	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	2000		10	5.0	mg/L			06/28/19 08:35	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	0.33		0.10	0.050	mg/L			06/28/19 09:21	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	160		4.0	4.0	mg/L			06/26/19 06:10	1
Bicarbonate Alkalinity as CaCO3	160		4.0	4.0	mg/L			06/26/19 06:10	1
Carbon Dioxide, Free	19		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: PZ-4

Lab Sample ID: 440-244538-4

Date Collected: 06/25/19 13:28

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 17:40	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Acrolein	ND		50	2.5	ug/L			06/27/19 14:38	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 14:38	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 17:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 17:40	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 17:40	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 17:40	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 17:40	1
Acetone	ND		20	10	ug/L			07/01/19 17:40	1
Acetonitrile	ND		20	10	ug/L			07/01/19 17:40	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 17:40	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 17:40	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 17:40	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 17:40	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: PZ-4

Lab Sample ID: 440-244538-4

Date Collected: 06/25/19 13:28

Matrix: Water

Date Received: 06/25/19 14:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 17:40	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 17:40	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 17:40	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 17:40	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 17:40	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 17:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 17:40	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 17:40	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 17:40	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 17:40	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 17:40	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Propionitrile	ND		20	10	ug/L			07/01/19 17:40	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 17:40	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 17:40	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 17:40	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 17:40	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 17:40	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 17:40	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 17:40	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 17:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 17:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 17:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		06/27/19 14:38	1
4-Bromofluorobenzene (Surr)	114		80 - 120		06/27/19 14:38	1
Toluene-d8 (Surr)	108		80 - 128		07/01/19 17:40	1
4-Bromofluorobenzene (Surr)	121 X		80 - 120		07/01/19 17:40	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: PZ-4

Lab Sample ID: 440-244538-4

Date Collected: 06/25/19 13:28

Matrix: Water

Date Received: 06/25/19 14:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	102		76 - 132		06/27/19 14:38	1
Dibromofluoromethane (Surr)	90		76 - 132		07/01/19 17:40	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		06/28/19 10:57	07/01/19 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	59		30 - 120	06/28/19 10:57	07/01/19 18:36	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			06/26/19 00:27	1
Nitrate as N	ND		0.11	0.055	mg/L			06/26/19 00:27	1
Chloride	8.0		0.50	0.25	mg/L			06/26/19 00:27	1
Fluoride	1.0		0.50	0.25	mg/L			06/26/19 00:27	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	510		25	13	mg/L			06/26/19 01:19	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.17		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:34	1
Calcium	130		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:34	1
Iron	1.3	B	0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:34	1
Magnesium	77		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:34	1
Manganese	0.18		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:34	1
Potassium	4.2		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:34	1
Sodium	83		0.50	0.26	mg/L		06/26/19 06:55	06/26/19 18:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.6		0.20	0.10	mg/L			06/26/19 16:35	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	1200		10	5.0	mg/L			06/28/19 08:35	1
Total Sulfide	0.074		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	1.2		0.10	0.050	mg/L			06/26/19 10:33	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		4.0	4.0	mg/L			06/26/19 06:20	1
Bicarbonate Alkalinity as CaCO3	340		4.0	4.0	mg/L			06/26/19 06:20	1
Carbon Dioxide, Free	40		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: Duplicate

Lab Sample ID: 440-244538-5

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 18:11	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Duplicate

Lab Sample ID: 440-244538-5

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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			06/27/19 15:09	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 15:09	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 18:11	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 18:11	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 18:11	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 18:11	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 18:11	1
Acetone	ND		20	10	ug/L			07/01/19 18:11	1
Acetonitrile	ND		20	10	ug/L			07/01/19 18:11	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 18:11	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 18:11	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 18:11	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 18:11	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 18:11	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 18:11	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 18:11	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 18:11	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 18:11	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 18:11	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 18:11	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 18:11	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 18:11	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 18:11	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 18:11	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Duplicate

Lab Sample ID: 440-244538-5

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 18:11	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Propionitrile	ND		20	10	ug/L			07/01/19 18:11	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 18:11	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 18:11	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 18:11	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 18:11	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 18:11	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 18:11	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 18:11	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 18:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 18:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		06/27/19 15:09	1
4-Bromofluorobenzene (Surr)	116		80 - 120		06/27/19 15:09	1
Toluene-d8 (Surr)	108		80 - 128		07/01/19 18:11	1
4-Bromofluorobenzene (Surr)	118		80 - 120		07/01/19 18:11	1
Dibromofluoromethane (Surr)	104		76 - 132		06/27/19 15:09	1
Dibromofluoromethane (Surr)	90		76 - 132		07/01/19 18:11	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		06/28/19 10:57	07/01/19 18:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	56		30 - 120	06/28/19 10:57	07/01/19 18:58	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			06/25/19 23:18	10
Nitrate as N	ND		1.1	0.55	mg/L			06/25/19 23:18	10
Chloride	11		5.0	2.5	mg/L			06/25/19 23:18	10
Fluoride	ND		5.0	2.5	mg/L			06/25/19 23:18	10
Sulfate	2500		100	50	mg/L			06/25/19 23:34	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:36	1
Calcium	270		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:36	1
Iron	0.30		0.10	0.050	mg/L		06/28/19 09:22	06/28/19 20:51	1
Magnesium	170		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:36	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Duplicate

Lab Sample ID: 440-244538-5

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4.1		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:36	1
Potassium	11		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:36	1
Sodium	520		2.5	1.3	mg/L		06/26/19 06:55	06/27/19 10:42	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.0		0.20	0.10	mg/L			06/26/19 16:40	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	4000		50	25	mg/L			06/28/19 08:35	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	4.8		0.10	0.050	mg/L			06/26/19 10:50	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	30		4.0	4.0	mg/L			06/26/19 06:26	1
Bicarbonate Alkalinity as CaCO3	30		4.0	4.0	mg/L			06/26/19 06:26	1
Carbon Dioxide, Free	63		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: DW-5

Lab Sample ID: 440-244538-6

Date Collected: 06/25/19 14:05

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 18:41	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Acrolein	ND		50	2.5	ug/L			06/27/19 15:39	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 15:39	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 18:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 18:41	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 18:41	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 18:41	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 18:41	1
Acetone	ND		20	10	ug/L			07/01/19 18:41	1
Acetonitrile	ND		20	10	ug/L			07/01/19 18:41	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 18:41	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 18:41	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Allyl chloride	1.8		1.0	0.50	ug/L			07/01/19 18:41	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 18:41	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-5

Lab Sample ID: 440-244538-6

Date Collected: 06/25/19 14:05

Matrix: Water

Date Received: 06/25/19 14:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 18:41	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 18:41	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 18:41	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 18:41	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 18:41	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 18:41	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 18:41	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 18:41	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 18:41	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 18:41	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 18:41	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Propionitrile	ND		20	10	ug/L			07/01/19 18:41	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 18:41	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 18:41	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 18:41	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 18:41	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 18:41	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 18:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 18:41	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 18:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 18:41	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.1	T J	ug/L		2.88			07/01/19 18:41	1
Butane, 2,3-dimethyl-	9.9	T J N	ug/L		5.09	79-29-8		07/01/19 18:41	1
Benzene, (2-methylpropyl)-	7.2	T J N	ug/L		12.23	538-93-2		07/01/19 18:41	1
1H-Indene, 2,3-dihydro-1,1-dimethyl-	5.4	T J N	ug/L		13.50	4912-92-9		07/01/19 18:41	1
Benzene, 1,2,3,5-tetramethyl-	21	T J N	ug/L		13.67	527-53-7		07/01/19 18:41	1
Benzene, 1-methyl-4-(1-methylethyl)-	6.4	T J N	ug/L		14.05	99-87-6		07/01/19 18:41	1
Unknown	10	T J	ug/L		14.37			07/01/19 18:41	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-5

Lab Sample ID: 440-244538-6

Date Collected: 06/25/19 14:05

Matrix: Water

Date Received: 06/25/19 14:15

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, pentamethyl-	6.3	T J N	ug/L		14.77	700-12-9		07/01/19 18:41	1
1H-Indene, 2,3-dihydro-1,2-dimethyl-	8.2	T J N	ug/L		15.13	17057-82-8		07/01/19 18:41	1
Unknown	5.7	T J	ug/L		15.33			07/01/19 18:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128					06/27/19 15:39	1
4-Bromofluorobenzene (Surr)	112		80 - 120					06/27/19 15:39	1
Toluene-d8 (Surr)	108		80 - 128					07/01/19 18:41	1
4-Bromofluorobenzene (Surr)	116		80 - 120					07/01/19 18:41	1
Dibromofluoromethane (Surr)	101		76 - 132					06/27/19 15:39	1
Dibromofluoromethane (Surr)	92		76 - 132					07/01/19 18:41	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		06/28/19 10:57	07/01/19 19:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	65		30 - 120				06/28/19 10:57	07/01/19 19:20	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			06/25/19 23:50	1
Nitrate as N	0.060	J	0.11	0.055	mg/L			06/25/19 23:50	1
Chloride	19		2.5	1.3	mg/L			06/26/19 00:47	5
Fluoride	3.5		0.50	0.25	mg/L			06/25/19 23:50	1
Sulfate	1.1		0.50	0.25	mg/L			06/25/19 23:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:39	1
Calcium	4.7		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:39	1
Iron	0.14		0.10	0.050	mg/L		06/28/19 09:22	06/28/19 20:54	1
Magnesium	0.89		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:39	1
Manganese	0.11		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:39	1
Potassium	1.1		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:39	1
Sodium	360		0.50	0.26	mg/L		06/26/19 06:55	06/26/19 18:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.24		0.20	0.10	mg/L			06/26/19 16:46	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	1100		10	5.0	mg/L			06/28/19 08:35	1
Total Sulfide	0.10		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	9.9		0.50	0.25	mg/L			06/28/19 11:25	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	950		4.0	4.0	mg/L			06/26/19 06:42	1
Bicarbonate Alkalinity as CaCO3	920		4.0	4.0	mg/L			06/26/19 06:42	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-244538-7

Date Collected: 06/25/19 11:40

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 19:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Acrolein	ND		50	2.5	ug/L			06/27/19 16:10	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 16:10	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 19:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 19:12	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 19:12	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 19:12	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 19:12	1
Acetone	ND		20	10	ug/L			07/01/19 19:12	1
Acetonitrile	ND		20	10	ug/L			07/01/19 19:12	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 19:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 19:12	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 19:12	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 19:12	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 19:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 19:12	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 19:12	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 19:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 19:12	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 19:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 19:12	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 19:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 19:12	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-244538-7

Date Collected: 06/25/19 11:40

Matrix: Water

Date Received: 06/25/19 14:15

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			07/01/19 19:12	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 19:12	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Propionitrile	ND		20	10	ug/L			07/01/19 19:12	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 19:12	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 19:12	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 19:12	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 19:12	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 19:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 19:12	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 19:12	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 19:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 19:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/01/19 19:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		06/27/19 16:10	1
4-Bromofluorobenzene (Surr)	115		80 - 120		06/27/19 16:10	1
Toluene-d8 (Surr)	109		80 - 128		07/01/19 19:12	1
4-Bromofluorobenzene (Surr)	119		80 - 120		07/01/19 19:12	1
Dibromofluoromethane (Surr)	99		76 - 132		06/27/19 16:10	1
Dibromofluoromethane (Surr)	91		76 - 132		07/01/19 19:12	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		06/28/19 10:57	07/01/19 19:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	41		30 - 120	06/28/19 10:57	07/01/19 19:42	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			06/26/19 00:22	10
Nitrate as N	ND		1.1	0.55	mg/L			06/26/19 00:22	10
Chloride	13		5.0	2.5	mg/L			06/26/19 00:22	10
Fluoride	3.4	J	5.0	2.5	mg/L			06/26/19 00:22	10
Sulfate	2400		100	50	mg/L			06/26/19 00:38	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:41	1
Calcium	310		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:41	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-9R3

Lab Sample ID: 440-244538-7

Date Collected: 06/25/19 11:40

Matrix: Water

Date Received: 06/25/19 14:15

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.2	B	0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:41	1
Magnesium	200		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:41	1
Manganese	2.2		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:41	1
Potassium	11		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:41	1
Sodium	490		2.5	1.3	mg/L		06/26/19 06:55	06/27/19 10:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	4.8		0.20	0.10	mg/L			06/26/19 16:51	1
Chemical Oxygen Demand	10	J	20	10	mg/L			07/09/19 13:48	1
Total Dissolved Solids	4100		50	25	mg/L			06/28/19 08:35	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:06	1
Total Organic Carbon	6.0		0.10	0.050	mg/L			06/26/19 11:22	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	180		4.0	4.0	mg/L			06/26/19 06:50	1
Bicarbonate Alkalinity as CaCO3	180		4.0	4.0	mg/L			06/26/19 06:50	1
Carbon Dioxide, Free	55		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: CM-10R

Lab Sample ID: 440-244538-8

Date Collected: 06/25/19 12:50

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 10:55	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Acrolein	ND		50	2.5	ug/L			06/27/19 16:40	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 16:40	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/02/19 10:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/02/19 10:55	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/02/19 10:55	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/02/19 10:55	1
2-Hexanone	ND		5.0	2.5	ug/L			07/02/19 10:55	1
Acetone	ND		20	10	ug/L			07/02/19 10:55	1
Acetonitrile	ND		20	10	ug/L			07/02/19 10:55	1
Acrolein	ND		5.0	2.5	ug/L			07/02/19 10:55	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/02/19 10:55	1
Benzene	ND		0.50	0.25	ug/L			07/02/19 10:55	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-10R

Lab Sample ID: 440-244538-8

Date Collected: 06/25/19 12:50

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 10:55	1
Bromoform	ND		1.0	0.40	ug/L			07/02/19 10:55	1
Bromomethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/02/19 10:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Chloroethane	ND		1.0	0.40	ug/L			07/02/19 10:55	1
Chloroform	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Chloromethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Dibromomethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/02/19 10:55	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 10:55	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Iodomethane	ND		2.0	1.0	ug/L			07/02/19 10:55	1
Isobutyl alcohol	ND		25	13	ug/L			07/02/19 10:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/02/19 10:55	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/02/19 10:55	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 10:55	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/02/19 10:55	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Naphthalene	ND		1.0	0.40	ug/L			07/02/19 10:55	1
o-Xylene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Propionitrile	ND		20	10	ug/L			07/02/19 10:55	1
Styrene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
t-Butanol	ND		10	5.0	ug/L			07/02/19 10:55	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/02/19 10:55	1
Toluene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/02/19 10:55	1
Trichloroethene	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/02/19 10:55	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/02/19 10:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/02/19 10:55	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/02/19 10:55	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/02/19 10:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/02/19 10:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	TJ	ug/L		6.52			07/02/19 10:55	1
Unknown	31	TJ	ug/L		15.77			07/02/19 10:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		06/27/19 16:40	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-10R

Lab Sample ID: 440-244538-8

Date Collected: 06/25/19 12:50

Matrix: Water

Date Received: 06/25/19 14:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		80 - 120		06/27/19 16:40	1
Toluene-d8 (Surr)	110		80 - 128		07/02/19 10:55	1
4-Bromofluorobenzene (Surr)	120		80 - 120		07/02/19 10:55	1
Dibromofluoromethane (Surr)	101		76 - 132		06/27/19 16:40	1
Dibromofluoromethane (Surr)	92		76 - 132		07/02/19 10:55	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.25	ug/L		06/28/19 10:57	07/01/19 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	59		30 - 120	06/28/19 10:57	07/01/19 20:04	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/26/19 00:55	2
Nitrate as N	ND		0.22	0.11	mg/L			06/26/19 00:55	2
Chloride	9.0		1.0	0.50	mg/L			06/26/19 00:55	2
Fluoride	1.5		1.0	0.50	mg/L			06/26/19 00:55	2
Sulfate	1500		50	25	mg/L			06/26/19 01:11	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.93		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:48	1
Calcium	260		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:48	1
Iron	1.9 B		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:48	1
Magnesium	180		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:48	1
Manganese	0.50		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:48	1
Potassium	11		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:48	1
Sodium	190		0.50	0.26	mg/L		06/26/19 06:55	06/26/19 18:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	9.1		0.20	0.10	mg/L			06/26/19 17:01	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 16:56	1
Total Dissolved Solids	2700		20	10	mg/L			06/28/19 08:35	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:07	1
Total Organic Carbon	3.1		0.10	0.050	mg/L			06/26/19 11:38	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	390		4.0	4.0	mg/L			06/26/19 07:03	1
Bicarbonate Alkalinity as CaCO3	390		4.0	4.0	mg/L			06/26/19 07:03	1
Carbon Dioxide, Free	44		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: CM-11R

Lab Sample ID: 440-244538-9

Date Collected: 06/25/19 09:30

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 13:28	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-11R

Lab Sample ID: 440-244538-9

Date Collected: 06/25/19 09:30

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 13:28	1
Acrolein	ND		50	2.5	ug/L			06/27/19 17:10	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 17:10	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/02/19 13:28	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/02/19 13:28	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/02/19 13:28	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/02/19 13:28	1
2-Hexanone	ND		5.0	2.5	ug/L			07/02/19 13:28	1
Acetone	ND		20	10	ug/L			07/02/19 13:28	1
Acetonitrile	ND		20	10	ug/L			07/02/19 13:28	1
Acrolein	ND		5.0	2.5	ug/L			07/02/19 13:28	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/02/19 13:28	1
Benzene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Allyl chloride	ND		1.0	0.50	ug/L			07/02/19 13:28	1
Bromoform	ND		1.0	0.40	ug/L			07/02/19 13:28	1
Bromomethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/02/19 13:28	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Chloroethane	ND		1.0	0.40	ug/L			07/02/19 13:28	1
Chloroform	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Chloromethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Dibromomethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/02/19 13:28	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 13:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Iodomethane	ND		2.0	1.0	ug/L			07/02/19 13:28	1
Isobutyl alcohol	ND		25	13	ug/L			07/02/19 13:28	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/02/19 13:28	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/02/19 13:28	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 13:28	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/02/19 13:28	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-11R

Lab Sample ID: 440-244538-9

Date Collected: 06/25/19 09:30

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 13:28	1
Naphthalene	ND		1.0	0.40	ug/L			07/02/19 13:28	1
o-Xylene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Propionitrile	ND		20	10	ug/L			07/02/19 13:28	1
Styrene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
t-Butanol	ND		10	5.0	ug/L			07/02/19 13:28	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/02/19 13:28	1
Toluene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/02/19 13:28	1
Trichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/02/19 13:28	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/02/19 13:28	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/02/19 13:28	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/02/19 13:28	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/02/19 13:28	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/02/19 13:28	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	T J	ug/L		6.52			07/02/19 13:28	1
Unknown	9.4	T J	ug/L		15.63			07/02/19 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		06/27/19 17:10	1
4-Bromofluorobenzene (Surr)	111		80 - 120		06/27/19 17:10	1
Toluene-d8 (Surr)	111		80 - 128		07/02/19 13:28	1
4-Bromofluorobenzene (Surr)	122	X	80 - 120		07/02/19 13:28	1
Dibromofluoromethane (Surr)	99		76 - 132		06/27/19 17:10	1
Dibromofluoromethane (Surr)	90		76 - 132		07/02/19 13:28	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		06/28/19 10:57	07/01/19 20:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	59		30 - 120	06/28/19 10:57	07/01/19 20:26	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			06/26/19 01:27	10
Nitrate as N	ND		1.1	0.55	mg/L			06/26/19 01:27	10
Chloride	11		5.0	2.5	mg/L			06/26/19 01:27	10
Fluoride	ND		5.0	2.5	mg/L			06/26/19 01:27	10
Sulfate	2500		100	50	mg/L			06/26/19 01:43	200

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		06/26/19 06:55	06/26/19 18:50	1
Calcium	270		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:50	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-11R

Lab Sample ID: 440-244538-9

Date Collected: 06/25/19 09:30

Matrix: Water

Date Received: 06/25/19 14:15

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.58		0.10	0.050	mg/L		06/28/19 09:23	06/28/19 20:56	1
Magnesium	170		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:50	1
Manganese	4.1		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:50	1
Potassium	11		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:50	1
Sodium	550		2.5	1.3	mg/L		06/26/19 06:55	06/27/19 10:46	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.3		0.20	0.10	mg/L			06/26/19 17:07	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 16:57	1
Total Dissolved Solids	4000		50	25	mg/L			06/28/19 08:35	1
Total Sulfide	ND		0.050	0.027	mg/L			06/26/19 17:07	1
Total Organic Carbon	4.8		0.10	0.050	mg/L			06/26/19 11:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	27		4.0	4.0	mg/L			06/26/19 07:20	1
Bicarbonate Alkalinity as CaCO3	27		4.0	4.0	mg/L			06/26/19 07:20	1
Carbon Dioxide, Free	56		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: Field Blank

Lab Sample ID: 440-244538-10

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 13:58	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Acrolein	ND		50	2.5	ug/L			06/27/19 17:41	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 17:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/02/19 13:58	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/02/19 13:58	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/02/19 13:58	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/02/19 13:58	1
2-Hexanone	ND		5.0	2.5	ug/L			07/02/19 13:58	1
Acetone	ND		20	10	ug/L			07/02/19 13:58	1
Acetonitrile	ND		20	10	ug/L			07/02/19 13:58	1
Acrolein	ND		5.0	2.5	ug/L			07/02/19 13:58	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/02/19 13:58	1
Benzene	ND		0.50	0.25	ug/L			07/02/19 13:58	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244538-10

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 13:58	1
Bromoform	ND		1.0	0.40	ug/L			07/02/19 13:58	1
Bromomethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/02/19 13:58	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Chloroethane	ND		1.0	0.40	ug/L			07/02/19 13:58	1
Chloroform	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Chloromethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Dibromomethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/02/19 13:58	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 13:58	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Iodomethane	ND		2.0	1.0	ug/L			07/02/19 13:58	1
Isobutyl alcohol	ND		25	13	ug/L			07/02/19 13:58	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/02/19 13:58	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/02/19 13:58	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 13:58	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/02/19 13:58	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Naphthalene	ND		1.0	0.40	ug/L			07/02/19 13:58	1
o-Xylene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Propionitrile	ND		20	10	ug/L			07/02/19 13:58	1
Styrene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
t-Butanol	ND		10	5.0	ug/L			07/02/19 13:58	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/02/19 13:58	1
Toluene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/02/19 13:58	1
Trichloroethene	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/02/19 13:58	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/02/19 13:58	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/02/19 13:58	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/02/19 13:58	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/02/19 13:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/02/19 13:58	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	TJ	ug/L		6.52			07/02/19 13:58	1
Unknown	21	TJ	ug/L		16.61			07/02/19 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		06/27/19 17:41	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244538-10

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		80 - 120		06/27/19 17:41	1
Toluene-d8 (Surr)	110		80 - 128		07/02/19 13:58	1
4-Bromofluorobenzene (Surr)	118		80 - 120		07/02/19 13:58	1
Dibromofluoromethane (Surr)	104		76 - 132		06/27/19 17:41	1
Dibromofluoromethane (Surr)	92		76 - 132		07/02/19 13:58	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244538-11

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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			07/02/19 14:29	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Acrolein	ND		50	2.5	ug/L			06/27/19 18:11	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 18:11	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/02/19 14:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/02/19 14:29	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/02/19 14:29	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/02/19 14:29	1
2-Hexanone	ND		5.0	2.5	ug/L			07/02/19 14:29	1
Acetone	ND		20	10	ug/L			07/02/19 14:29	1
Acetonitrile	ND		20	10	ug/L			07/02/19 14:29	1
Acrolein	ND		5.0	2.5	ug/L			07/02/19 14:29	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/02/19 14:29	1
Benzene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Allyl chloride	ND		1.0	0.50	ug/L			07/02/19 14:29	1
Bromoform	ND		1.0	0.40	ug/L			07/02/19 14:29	1
Bromomethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/02/19 14:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Chloroethane	ND		1.0	0.40	ug/L			07/02/19 14:29	1
Chloroform	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Chloromethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 14:29	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244538-11

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Dibromomethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/02/19 14:29	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 14:29	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Iodomethane	ND		2.0	1.0	ug/L			07/02/19 14:29	1
Isobutyl alcohol	ND		25	13	ug/L			07/02/19 14:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/02/19 14:29	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/02/19 14:29	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 14:29	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/02/19 14:29	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Naphthalene	ND		1.0	0.40	ug/L			07/02/19 14:29	1
o-Xylene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Propionitrile	ND		20	10	ug/L			07/02/19 14:29	1
Styrene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
t-Butanol	ND		10	5.0	ug/L			07/02/19 14:29	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/02/19 14:29	1
Toluene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/02/19 14:29	1
Trichloroethene	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/02/19 14:29	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/02/19 14:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/02/19 14:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/02/19 14:29	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/02/19 14:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/02/19 14:29	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	T J	ug/L		6.52			07/02/19 14:29	1
Unknown	29	T J	ug/L		15.78			07/02/19 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	112		80 - 128		06/27/19 18:11	1
4-Bromofluorobenzene (Surr)	114		80 - 120		06/27/19 18:11	1
Toluene-d8 (Surr)	107		80 - 128		07/02/19 14:29	1
4-Bromofluorobenzene (Surr)	120		80 - 120		07/02/19 14:29	1
Dibromofluoromethane (Surr)	103		76 - 132		06/27/19 18:11	1
Dibromofluoromethane (Surr)	93		76 - 132		07/02/19 14:29	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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 = Eurofins 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

Job ID: 440-244538-1

Client Sample ID: DW-1

Lab Sample ID: 440-244538-1

Date Collected: 06/25/19 10:15

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 13:07	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 16:09	RM	TAL IRV
Total/NA	Prep	3520C			945 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 17:30	JS1	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554440	06/25/19 22:45	NTN	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554441	06/25/19 22:45	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554441	06/25/19 23:02	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		5			555034	06/27/19 10:31	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:13	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 15:38	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 05:40	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 09:50	YZ	TAL IRV

Client Sample ID: DW-2

Lab Sample ID: 440-244538-2

Date Collected: 06/25/19 11:12

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 13:38	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 16:40	RM	TAL IRV
Total/NA	Prep	3520C			975 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 17:52	JS1	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554440	06/25/19 23:19	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554441	06/25/19 23:19	NTN	TAL IRV
Total/NA	Analysis	300.0		100			554441	06/25/19 23:36	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:29	P1R	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555193	06/28/19 09:22	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555385	06/28/19 20:33	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 15:44	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 06:03	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 10:04	YZ	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-3

Lab Sample ID: 440-244538-3

Date Collected: 06/25/19 09:05

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 14:08	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 17:10	RM	TAL IRV
Total/NA	Prep	3520C			1000 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 18:14	JS1	TAL IRV
Total/NA	Analysis	300.0		1			554440	06/25/19 23:53	NTN	TAL IRV
Total/NA	Analysis	300.0		1			554441	06/25/19 23:53	NTN	TAL IRV
Total/NA	Analysis	300.0		50			554441	06/26/19 00:10	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:32	P1R	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555193	06/28/19 09:22	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555385	06/28/19 20:49	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 16:29	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 06:10	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	555426	06/28/19 09:21	YZ	TAL IRV

Client Sample ID: PZ-4

Lab Sample ID: 440-244538-4

Date Collected: 06/25/19 13:28

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 14:38	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 17:40	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 18:36	JS1	TAL IRV
Total/NA	Analysis	300.0		1			554440	06/26/19 00:27	NTN	TAL IRV
Total/NA	Analysis	300.0		1			554441	06/26/19 00:27	NTN	TAL IRV
Total/NA	Analysis	300.0	DL	50			554441	06/26/19 01:19	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:34	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 16:35	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 06:20	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 10:33	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Duplicate

Lab Sample ID: 440-244538-5

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 15:09	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 18:11	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 18:58	JS1	TAL IRV
Total/NA	Analysis	300.0		10			554445	06/25/19 23:18	NTN	TAL IRV
Total/NA	Analysis	300.0		10			554446	06/25/19 23:18	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554446	06/25/19 23:34	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		5			555034	06/27/19 10:42	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:36	P1R	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555193	06/28/19 09:22	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555385	06/28/19 20:51	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 16:40	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 06:26	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 10:50	YZ	TAL IRV

Client Sample ID: DW-5

Lab Sample ID: 440-244538-6

Date Collected: 06/25/19 14:05

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 15:39	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 18:41	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 19:20	JS1	TAL IRV
Total/NA	Analysis	300.0		5			554444	06/26/19 00:47	NTN	TAL IRV
Total/NA	Analysis	300.0		1			554445	06/25/19 23:50	NTN	TAL IRV
Total/NA	Analysis	300.0		1			554446	06/25/19 23:50	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:39	P1R	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555193	06/28/19 09:22	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555385	06/28/19 20:54	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 16:46	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 06:42	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: DW-5

Lab Sample ID: 440-244538-6

Date Collected: 06/25/19 14:05

Matrix: Water

Date Received: 06/25/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	555426	06/28/19 11:25	YZ	TAL IRV

Client Sample ID: CM-9R3

Lab Sample ID: 440-244538-7

Date Collected: 06/25/19 11:40

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 16:10	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555499	07/01/19 19:12	RM	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 19:42	JS1	TAL IRV
Total/NA	Analysis	300.0		10			554445	06/26/19 00:22	NTN	TAL IRV
Total/NA	Analysis	300.0		10			554446	06/26/19 00:22	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554446	06/26/19 00:38	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		5			555034	06/27/19 10:44	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:41	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 16:51	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556699	07/09/19 13:48	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 06:50	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:06	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 11:22	YZ	TAL IRV

Client Sample ID: CM-10R

Lab Sample ID: 440-244538-8

Date Collected: 06/25/19 12:50

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 16:40	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555711	07/02/19 10:55	RM	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 20:04	JS1	TAL IRV
Total/NA	Analysis	300.0		2			554445	06/26/19 00:55	NTN	TAL IRV
Total/NA	Analysis	300.0		2			554446	06/26/19 00:55	NTN	TAL IRV
Total/NA	Analysis	300.0		100			554446	06/26/19 01:11	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:48	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:01	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:56	KYP	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: CM-10R

Lab Sample ID: 440-244538-8

Date Collected: 06/25/19 12:50

Matrix: Water

Date Received: 06/25/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 07:03	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:07	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 11:38	YZ	TAL IRV

Client Sample ID: CM-11R

Lab Sample ID: 440-244538-9

Date Collected: 06/25/19 09:30

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 17:10	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555711	07/02/19 13:28	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 20:26	JS1	TAL IRV
Total/NA	Analysis	300.0		10			554445	06/26/19 01:27	NTN	TAL IRV
Total/NA	Analysis	300.0		10			554446	06/26/19 01:27	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554446	06/26/19 01:43	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		5			555034	06/27/19 10:46	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554626	06/26/19 06:55	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			554903	06/26/19 18:50	P1R	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555193	06/28/19 09:23	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555385	06/28/19 20:56	VS	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8.0 mL	554888	06/26/19 17:07	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:57	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554689	06/26/19 07:20	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	555178	06/28/19 08:35	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	554867	06/26/19 17:07	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	554919	06/26/19 11:54	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-244538-10

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 17:41	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555711	07/02/19 13:58	RM	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244538-11

Date Collected: 06/25/19 00:01

Matrix: Water

Date Received: 06/25/19 14:15

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	554944	06/27/19 18:11	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555711	07/02/19 14:29	RM	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: MB 440-554944/4
Matrix: Water
Analysis Batch: 554944

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acrolein	ND		50	2.5	ug/L			06/27/19 08:28	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 08:28	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Toluene-d8 (Surr)	109		80 - 128				06/27/19 08:28	1	
4-Bromofluorobenzene (Surr)	115		80 - 120				06/27/19 08:28	1	
Dibromofluoromethane (Surr)	102		76 - 132				06/27/19 08:28	1	

Lab Sample ID: LCS 440-554944/5
Matrix: Water
Analysis Batch: 554944

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

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acrolein	9.88	6.39	J	ug/L		65	10 - 145
Acrylonitrile	100	77.5		ug/L		77	48 - 140
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	103		80 - 128				
4-Bromofluorobenzene (Surr)	114		80 - 120				
Dibromofluoromethane (Surr)	107		76 - 132				

Lab Sample ID: 440-244194-B-14 MS
Matrix: Water
Analysis Batch: 554944

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

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Acrolein	ND		49.4	35.9	J	ug/L		73	10 - 147
Acrylonitrile	ND		500	400		ug/L		80	38 - 144
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	108		80 - 128						
4-Bromofluorobenzene (Surr)	117		80 - 120						
Dibromofluoromethane (Surr)	104		76 - 132						

Lab Sample ID: 440-244194-B-14 MSD
Matrix: Water
Analysis Batch: 554944

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

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Acrolein	ND		49.4	35.1	J	ug/L		71	10 - 147	2	40
Acrylonitrile	ND		500	432		ug/L		86	38 - 144	8	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	106		80 - 128								
4-Bromofluorobenzene (Surr)	116		80 - 120								
Dibromofluoromethane (Surr)	103		76 - 132								

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: MB 440-555499/4

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/01/19 08:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/01/19 08:54	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/01/19 08:54	1
2-Hexanone	ND		5.0	2.5	ug/L			07/01/19 08:54	1
Acetone	ND		20	10	ug/L			07/01/19 08:54	1
Acetonitrile	ND		20	10	ug/L			07/01/19 08:54	1
Acrolein	ND		5.0	2.5	ug/L			07/01/19 08:54	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Benzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Allyl chloride	ND		1.0	0.50	ug/L			07/01/19 08:54	1
Bromoform	ND		1.0	0.40	ug/L			07/01/19 08:54	1
Bromomethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/01/19 08:54	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Chloroethane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
Chloroform	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Chloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Dibromomethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/01/19 08:54	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Iodomethane	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Isobutyl alcohol	ND		25	13	ug/L			07/01/19 08:54	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/01/19 08:54	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/01/19 08:54	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/01/19 08:54	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/01/19 08:54	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: MB 440-555499/4

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Naphthalene	ND		1.0	0.40	ug/L			07/01/19 08:54	1
o-Xylene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Propionitrile	ND		20	10	ug/L			07/01/19 08:54	1
Styrene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
t-Butanol	ND		10	5.0	ug/L			07/01/19 08:54	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/01/19 08:54	1
Toluene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/01/19 08:54	1
Trichloroethene	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/01/19 08:54	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/01/19 08:54	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/01/19 08:54	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/01/19 08:54	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/01/19 08:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/01/19 08:54	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					07/01/19 08:54	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	111		80 - 128		07/01/19 08:54	1
4-Bromofluorobenzene (Surr)	119		80 - 120		07/01/19 08:54	1
Dibromofluoromethane (Surr)	89		76 - 132		07/01/19 08:54	1

Lab Sample ID: LCS 440-555499/5

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	22.7		ug/L		91	60 - 141
1,1,1-Trichloroethane	25.0	27.1		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.7		ug/L		95	64 - 130
1,1-Dichloroethane	25.0	26.6		ug/L		107	70 - 130
1,1-Dichloropropene	25.0	28.0		ug/L		112	70 - 130
1,2,4-Trichlorobenzene	25.0	19.1		ug/L		77	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	26.7		ug/L		107	52 - 140
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	22.0		ug/L		88	57 - 138
1,2-Dichloropropane	25.0	24.8		ug/L		99	67 - 130
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	23.4		ug/L		94	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: LCS 440-555499/5

Matrix: Water

Analysis Batch: 555499

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	23.7		ug/L		95	70 - 130
2,2-Dichloropropane	25.0	31.7		ug/L		127	68 - 141
2-Hexanone	125	92.8		ug/L		74	10 - 150
Acetone	125	121		ug/L		97	10 - 150
Acrolein	24.7	16.1		ug/L		65	10 - 145
Acrylonitrile	25.0	219		ug/L		88	48 - 140
Benzene	25.0	24.9		ug/L		100	68 - 130
Bromoform	25.0	18.7		ug/L		75	60 - 148
Bromomethane	25.0	21.4		ug/L		86	64 - 139
Carbon disulfide	25.0	27.5		ug/L		110	52 - 136
Carbon tetrachloride	25.0	26.1		ug/L		104	60 - 150
Chlorobenzene	25.0	24.1		ug/L		96	70 - 130
Bromochloromethane	25.0	22.4		ug/L		90	70 - 130
Chloroethane	25.0	23.7		ug/L		95	64 - 135
Chloroform	25.0	23.6		ug/L		94	70 - 130
Chloromethane	25.0	18.0		ug/L		72	47 - 140
cis-1,2-Dichloroethene	25.0	23.9		ug/L		95	70 - 133
cis-1,3-Dichloropropene	25.0	26.3		ug/L		105	70 - 133
Dibromochloromethane	25.0	23.0		ug/L		92	69 - 145
Dibromomethane	25.0	21.1		ug/L		84	70 - 130
Bromodichloromethane	25.0	25.4		ug/L		102	70 - 132
Dichlorodifluoromethane	25.0	26.5		ug/L		106	29 - 150
Ethylbenzene	25.0	26.0		ug/L		104	70 - 130
m,p-Xylene	25.0	26.3		ug/L		105	70 - 130
Methylene Chloride	25.0	23.4		ug/L		93	52 - 130
Methyl tert-butyl ether	25.0	25.5		ug/L		102	63 - 131
Naphthalene	25.0	24.2		ug/L		97	60 - 140
o-Xylene	25.0	25.6		ug/L		102	70 - 130
Styrene	25.0	26.1		ug/L		104	70 - 134
t-Butanol	250	241		ug/L		96	70 - 130
Tetrachloroethene	25.0	22.0		ug/L		88	70 - 130
Toluene	25.0	25.3		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	25.4		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	26.3		ug/L		105	70 - 132
Trichloroethene	25.0	24.7		ug/L		99	70 - 130
Trichlorofluoromethane	25.0	28.5		ug/L		114	60 - 150
Vinyl acetate	25.0	20.3		ug/L		81	48 - 140
Vinyl chloride	25.0	22.0		ug/L		88	59 - 133
1,2-Dibromoethane (EDB)	25.0	23.6		ug/L		94	70 - 130
2-Butanone (MEK)	125	122		ug/L		98	44 - 150
4-Methyl-2-pentanone (MIBK)	125	94.9		ug/L		76	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244872-A-1 MS

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		25000	22500		ug/L		90	60 - 130
1,1,1,2-Tetrachloroethane	ND		25000	21900		ug/L		88	60 - 149
1,1,1-Trichloroethane	ND		25000	23900		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	ND		25000	21700		ug/L		87	63 - 130
1,1,2-Trichloroethane	ND		25000	23900		ug/L		96	70 - 130
1,1-Dichloroethane	ND		25000	21600		ug/L		86	65 - 130
1,1-Dichloroethene	ND		25000	22100		ug/L		89	70 - 130
1,1-Dichloropropene	ND		25000	24100		ug/L		97	64 - 130
1,2,4-Trichlorobenzene	ND		25000	16300		ug/L		65	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25000	21100		ug/L		84	48 - 140
1,2-Dichlorobenzene	ND		25000	23200		ug/L		93	70 - 130
1,2-Dichloroethane	ND		25000	20900		ug/L		83	56 - 146
1,2-Dichloropropane	ND		25000	22500		ug/L		90	69 - 130
1,3-Dichlorobenzene	ND		25000	23400		ug/L		93	70 - 130
1,3-Dichloropropane	ND		25000	23900		ug/L		96	70 - 130
1,4-Dichlorobenzene	ND		25000	22500		ug/L		90	70 - 130
2,2-Dichloropropane	ND		25000	28600		ug/L		114	69 - 138
2-Hexanone	ND		125000	89100		ug/L		71	10 - 150
Acetone	ND		125000	93000		ug/L		74	10 - 150
Acrolein	ND		24700	16700		ug/L		68	10 - 147
Acrylonitrile	ND		250000	192000		ug/L		77	38 - 144
Benzene	8200		25000	31000		ug/L		91	66 - 130
Bromoform	ND		25000	16500		ug/L		66	59 - 150
Bromomethane	ND		25000	18900		ug/L		75	62 - 131
Carbon disulfide	ND		25000	22800		ug/L		91	49 - 140
Carbon tetrachloride	ND		25000	21900		ug/L		88	60 - 150
Chlorobenzene	ND		25000	23600		ug/L		94	70 - 130
Bromochloromethane	ND		25000	19800		ug/L		79	70 - 130
Chloroethane	ND		25000	21100		ug/L		84	68 - 130
Chloroform	ND		25000	22200		ug/L		89	70 - 130
Chloromethane	ND		25000	15100		ug/L		60	39 - 144
cis-1,2-Dichloroethene	ND		25000	21300		ug/L		85	70 - 130
cis-1,3-Dichloropropene	ND		25000	24700		ug/L		99	70 - 133
Dibromochloromethane	ND		25000	21200		ug/L		85	70 - 148
Dibromomethane	ND		25000	19900		ug/L		80	70 - 130
Bromodichloromethane	ND		25000	22500		ug/L		90	70 - 138
Dichlorodifluoromethane	ND		25000	20500		ug/L		82	25 - 142
Ethylbenzene	ND		25000	25600		ug/L		102	70 - 130
m,p-Xylene	2300	J	25000	27500		ug/L		101	70 - 133
Methylene Chloride	ND		25000	21700		ug/L		87	52 - 130
Methyl tert-butyl ether	130000		25000	154000	4	ug/L		87	70 - 130
Naphthalene	ND		25000	20300		ug/L		81	60 - 140
o-Xylene	1100	J	25000	26200		ug/L		100	70 - 133
Styrene	ND		25000	24600		ug/L		98	29 - 150
t-Butanol	50000		250000	270000		ug/L		88	70 - 130
Tetrachloroethene	ND		25000	20700		ug/L		83	70 - 137
Toluene	7100		25000	32100		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25000	22200		ug/L		89	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244872-A-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 555499

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits	
	Result	Qualifier		Result	Qualifier					
trans-1,3-Dichloropropene	ND		25000	24600		ug/L		99	70 - 138	
Trichloroethene	ND		25000	21900		ug/L		88	70 - 130	
Trichlorofluoromethane	ND		25000	23700		ug/L		95	60 - 150	
Vinyl acetate	ND		25000	16300		ug/L		65	23 - 150	
Vinyl chloride	ND		25000	18400		ug/L		73	50 - 137	
1,2-Dibromoethane (EDB)	ND		25000	22400		ug/L		89	70 - 131	
2-Butanone (MEK)	ND		125000	95000		ug/L		76	48 - 140	
4-Methyl-2-pentanone (MIBK)	ND		125000	91400		ug/L		73	52 - 150	
Surrogate	MS MS		Limits							
	%Recovery	Qualifier								
Toluene-d8 (Surr)	108		80 - 128							
4-Bromofluorobenzene (Surr)	121	X	80 - 120							
Dibromofluoromethane (Surr)	90		76 - 132							

Lab Sample ID: 440-244872-A-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 555499

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
1,2,3-Trichloropropane	ND		25000	22200		ug/L		89	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25000	22200		ug/L		89	60 - 149	1	20
1,1,1,1-Trichloroethane	ND		25000	24800		ug/L		99	70 - 130	4	20
1,1,2,2-Tetrachloroethane	ND		25000	22300		ug/L		89	63 - 130	3	30
1,1,2-Trichloroethane	ND		25000	23100		ug/L		92	70 - 130	4	25
1,1-Dichloroethane	ND		25000	22600		ug/L		90	65 - 130	4	20
1,1-Dichloroethene	ND		25000	23900		ug/L		96	70 - 130	8	20
1,1-Dichloropropene	ND		25000	25200		ug/L		101	64 - 130	4	20
1,2,4-Trichlorobenzene	ND		25000	16900		ug/L		68	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		25000	21900		ug/L		88	48 - 140	4	30
1,2-Dichlorobenzene	ND		25000	23400		ug/L		94	70 - 130	1	20
1,2-Dichloroethane	ND		25000	22100		ug/L		88	56 - 146	6	20
1,2-Dichloropropane	ND		25000	22900		ug/L		91	69 - 130	2	20
1,3-Dichlorobenzene	ND		25000	24100		ug/L		96	70 - 130	3	20
1,3-Dichloropropane	ND		25000	23600		ug/L		94	70 - 130	1	25
1,4-Dichlorobenzene	ND		25000	23300		ug/L		93	70 - 130	4	20
2,2-Dichloropropane	ND		25000	29900		ug/L		119	69 - 138	4	25
2-Hexanone	ND		125000	82600		ug/L		66	10 - 150	8	35
Acetone	ND		125000	91500		ug/L		73	10 - 150	2	35
Acrolein	ND		24700	16700		ug/L		68	10 - 147	0	40
Acrylonitrile	ND		250000	196000		ug/L		78	38 - 144	2	40
Benzene	8200		25000	31500		ug/L		93	66 - 130	2	20
Bromoform	ND		25000	15800		ug/L		63	59 - 150	4	25
Bromomethane	ND		25000	19600		ug/L		78	62 - 131	4	25
Carbon disulfide	ND		25000	24300		ug/L		97	49 - 140	6	20
Carbon tetrachloride	ND		25000	22800		ug/L		91	60 - 150	4	25
Chlorobenzene	ND		25000	23700		ug/L		95	70 - 130	0	20
Bromochloromethane	ND		25000	19800		ug/L		79	70 - 130	0	25
Chloroethane	ND		25000	21500		ug/L		86	68 - 130	2	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244872-A-1 MSD

Matrix: Water

Analysis Batch: 555499

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroform	ND		25000	22500		ug/L		90	70 - 130	1	20
Chloromethane	ND		25000	16000		ug/L		64	39 - 144	6	25
cis-1,2-Dichloroethene	ND		25000	21900		ug/L		87	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25000	25800		ug/L		103	70 - 133	4	20
Dibromochloromethane	ND		25000	20800		ug/L		83	70 - 148	2	25
Dibromomethane	ND		25000	19900		ug/L		80	70 - 130	0	25
Bromodichloromethane	ND		25000	24000		ug/L		96	70 - 138	7	20
Dichlorodifluoromethane	ND		25000	21300		ug/L		85	25 - 142	4	30
Ethylbenzene	ND		25000	26100		ug/L		104	70 - 130	2	20
m,p-Xylene	2300	J	25000	27300		ug/L		100	70 - 133	1	25
Methylene Chloride	ND		25000	22600		ug/L		91	52 - 130	4	20
Methyl tert-butyl ether	130000		25000	156000	4	ug/L		95	70 - 130	1	25
Naphthalene	ND		25000	20500		ug/L		82	60 - 140	1	30
o-Xylene	1100	J	25000	26000		ug/L		99	70 - 133	1	20
Styrene	ND		25000	24300		ug/L		97	29 - 150	1	35
t-Butanol	50000		250000	280000		ug/L		92	70 - 130	4	25
Tetrachloroethene	ND		25000	20800		ug/L		83	70 - 137	0	20
Toluene	7100		25000	32700		ug/L		102	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25000	23300		ug/L		93	70 - 130	5	20
trans-1,3-Dichloropropene	ND		25000	24300		ug/L		97	70 - 138	1	25
Trichloroethene	ND		25000	22100		ug/L		89	70 - 130	1	20
Trichlorofluoromethane	ND		25000	24700		ug/L		99	60 - 150	4	25
Vinyl acetate	ND		25000	16900		ug/L		68	23 - 150	3	30
Vinyl chloride	ND		25000	19500		ug/L		78	50 - 137	6	30
1,2-Dibromoethane (EDB)	ND		25000	22100		ug/L		88	70 - 131	1	25
2-Butanone (MEK)	ND		125000	104000		ug/L		83	48 - 140	9	40
4-Methyl-2-pentanone (MIBK)	ND		125000	89200		ug/L		71	52 - 150	3	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132

Lab Sample ID: MB 440-555711/4

Matrix: Water

Analysis Batch: 555711

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/02/19 08:24	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/02/19 08:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/02/19 08:24	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: MB 440-555711/4

Matrix: Water

Analysis Batch: 555711

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/02/19 08:24	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/02/19 08:24	1
2-Hexanone	ND		5.0	2.5	ug/L			07/02/19 08:24	1
Acetone	ND		20	10	ug/L			07/02/19 08:24	1
Acetonitrile	ND		20	10	ug/L			07/02/19 08:24	1
Acrolein	ND		5.0	2.5	ug/L			07/02/19 08:24	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/02/19 08:24	1
Benzene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Allyl chloride	ND		1.0	0.50	ug/L			07/02/19 08:24	1
Bromoform	ND		1.0	0.40	ug/L			07/02/19 08:24	1
Bromomethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/02/19 08:24	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Chloroethane	ND		1.0	0.40	ug/L			07/02/19 08:24	1
Chloroform	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Chloromethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Dibromomethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/02/19 08:24	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 08:24	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Iodomethane	ND		2.0	1.0	ug/L			07/02/19 08:24	1
Isobutyl alcohol	ND		25	13	ug/L			07/02/19 08:24	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/02/19 08:24	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/02/19 08:24	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/02/19 08:24	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/02/19 08:24	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Naphthalene	ND		1.0	0.40	ug/L			07/02/19 08:24	1
o-Xylene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Propionitrile	ND		20	10	ug/L			07/02/19 08:24	1
Styrene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
t-Butanol	ND		10	5.0	ug/L			07/02/19 08:24	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/02/19 08:24	1
Toluene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/02/19 08:24	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: MB 440-555711/4

Matrix: Water

Analysis Batch: 555711

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			07/02/19 08:24	1
Trichloroethene	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/02/19 08:24	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/02/19 08:24	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/02/19 08:24	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/02/19 08:24	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/02/19 08:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/02/19 08:24	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclotrisiloxane, hexamethyl-	34.2	T J N	ug/L		16.22	541-05-9		07/02/19 08:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		07/02/19 08:24	1
4-Bromofluorobenzene (Surr)	120		80 - 120		07/02/19 08:24	1
Dibromofluoromethane (Surr)	91		76 - 132		07/02/19 08:24	1

Lab Sample ID: LCS 440-555711/5

Matrix: Water

Analysis Batch: 555711

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	22.3		ug/L		89	63 - 130
1,1,1,2-Tetrachloroethane	25.0	23.4		ug/L		94	60 - 141
1,1,1-Trichloroethane	25.0	28.0		ug/L		112	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.0		ug/L		88	63 - 130
1,1,2-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
1,1-Dichloroethane	25.0	23.2		ug/L		93	64 - 130
1,1-Dichloroethene	25.0	26.1		ug/L		104	70 - 130
1,1-Dichloropropene	25.0	26.9		ug/L		108	70 - 130
1,2,4-Trichlorobenzene	25.0	18.0		ug/L		72	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.3		ug/L		97	52 - 140
1,2-Dichlorobenzene	25.0	24.4		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	23.3		ug/L		93	57 - 138
1,2-Dichloropropane	25.0	22.7		ug/L		91	67 - 130
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	24.4		ug/L		98	70 - 130
1,4-Dichlorobenzene	25.0	23.8		ug/L		95	70 - 130
2,2-Dichloropropane	25.0	31.6		ug/L		126	68 - 141
2-Hexanone	125	87.2		ug/L		70	10 - 150
Acetone	125	107		ug/L		86	10 - 150
Acrolein	24.7	14.7		ug/L		59	10 - 145
Acrylonitrile	250	193		ug/L		77	48 - 140
Benzene	25.0	23.7		ug/L		95	68 - 130
Bromoform	25.0	17.9		ug/L		72	60 - 148
Bromomethane	25.0	20.5		ug/L		82	64 - 139
Carbon disulfide	25.0	26.3		ug/L		105	52 - 136
Carbon tetrachloride	25.0	26.4		ug/L		106	60 - 150

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: LCS 440-555711/5

Matrix: Water

Analysis Batch: 555711

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	25.0	24.5		ug/L		98	70 - 130
Bromochloromethane	25.0	20.9		ug/L		84	70 - 130
Chloroethane	25.0	21.6		ug/L		87	64 - 135
Chloroform	25.0	23.7		ug/L		95	70 - 130
Chloromethane	25.0	16.1		ug/L		65	47 - 140
cis-1,2-Dichloroethene	25.0	22.6		ug/L		90	70 - 133
cis-1,3-Dichloropropene	25.0	26.2		ug/L		105	70 - 133
Dibromochloromethane	25.0	22.9		ug/L		92	69 - 145
Dibromomethane	25.0	20.9		ug/L		84	70 - 130
Bromodichloromethane	25.0	24.9		ug/L		100	70 - 132
Dichlorodifluoromethane	25.0	24.2		ug/L		97	29 - 150
Ethylbenzene	25.0	26.5		ug/L		106	70 - 130
m,p-Xylene	25.0	26.5		ug/L		106	70 - 130
Methylene Chloride	25.0	22.9		ug/L		92	52 - 130
Methyl tert-butyl ether	25.0	25.6		ug/L		102	63 - 131
Naphthalene	25.0	22.8		ug/L		91	60 - 140
o-Xylene	25.0	26.4		ug/L		106	70 - 130
Styrene	25.0	26.3		ug/L		105	70 - 134
t-Butanol	250	250		ug/L		100	70 - 130
Tetrachloroethene	25.0	22.3		ug/L		89	70 - 130
Toluene	25.0	25.3		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	24.3		ug/L		97	70 - 130
trans-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 132
Trichloroethene	25.0	23.3		ug/L		93	70 - 130
Trichlorofluoromethane	25.0	29.4		ug/L		118	60 - 150
Vinyl acetate	25.0	18.7		ug/L		75	48 - 140
Vinyl chloride	25.0	20.4		ug/L		82	59 - 133
1,2-Dibromoethane (EDB)	25.0	22.9		ug/L		91	70 - 130
2-Butanone (MEK)	125	105		ug/L		84	44 - 150
4-Methyl-2-pentanone (MIBK)	125	91.1		ug/L		73	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Lab Sample ID: 440-244506-E-6 MS

Matrix: Water

Analysis Batch: 555711

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		50.0	46.1		ug/L		92	60 - 130
1,1,1,2-Tetrachloroethane	ND		50.0	44.5		ug/L		89	60 - 149
1,1,1-Trichloroethane	ND		50.0	53.1		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	ND		50.0	44.7		ug/L		89	63 - 130
1,1,2-Trichloroethane	ND		50.0	45.8		ug/L		92	70 - 130
1,1-Dichloroethane	ND		50.0	44.3		ug/L		89	65 - 130
1,1-Dichloroethene	ND		50.0	48.2		ug/L		96	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244506-E-6 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 555711

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		50.0	51.6		ug/L		103	64 - 130
1,2,4-Trichlorobenzene	ND		50.0	33.5		ug/L		67	60 - 140
1,2-Dibromo-3-Chloropropane	ND		50.0	43.0		ug/L		86	48 - 140
1,2-Dichlorobenzene	ND		50.0	46.5		ug/L		93	70 - 130
1,2-Dichloroethane	ND		50.0	45.0		ug/L		90	56 - 146
1,2-Dichloropropane	ND		50.0	43.2		ug/L		86	69 - 130
1,3-Dichlorobenzene	ND		50.0	47.9		ug/L		96	70 - 130
1,3-Dichloropropane	ND		50.0	47.5		ug/L		95	70 - 130
1,4-Dichlorobenzene	ND		50.0	44.9		ug/L		90	70 - 130
2,2-Dichloropropane	ND		50.0	62.8		ug/L		126	69 - 138
2-Hexanone	ND		250	180		ug/L		72	10 - 150
Acetone	ND		250	190		ug/L		76	10 - 150
Acrolein	ND		49.4	31.8		ug/L		64	10 - 147
Acrylonitrile	ND		500	372		ug/L		74	38 - 144
Benzene	ND		50.0	46.7		ug/L		93	66 - 130
Bromoform	ND		50.0	33.3		ug/L		67	59 - 150
Bromomethane	ND		50.0	36.6		ug/L		73	62 - 131
Carbon disulfide	ND		50.0	48.7		ug/L		97	49 - 140
Carbon tetrachloride	ND		50.0	50.9		ug/L		102	60 - 150
Chlorobenzene	ND		50.0	46.6		ug/L		93	70 - 130
Bromochloromethane	ND		50.0	40.0		ug/L		80	70 - 130
Chloroethane	ND		50.0	41.6		ug/L		83	68 - 130
Chloroform	ND		50.0	46.9		ug/L		94	70 - 130
Chloromethane	ND		50.0	28.4		ug/L		57	39 - 144
cis-1,2-Dichloroethene	ND		50.0	43.1		ug/L		86	70 - 130
cis-1,3-Dichloropropene	ND		50.0	50.2		ug/L		100	70 - 133
Dibromochloromethane	ND		50.0	41.9		ug/L		84	70 - 148
Dibromomethane	ND		50.0	40.1		ug/L		80	70 - 130
Bromodichloromethane	ND		50.0	47.5		ug/L		95	70 - 138
Dichlorodifluoromethane	ND		50.0	40.5		ug/L		81	25 - 142
Ethylbenzene	ND		50.0	51.4		ug/L		103	70 - 130
m,p-Xylene	ND		50.0	49.3		ug/L		99	70 - 133
Methylene Chloride	ND		50.0	44.2		ug/L		88	52 - 130
Methyl tert-butyl ether	11		50.0	57.7		ug/L		94	70 - 130
Naphthalene	ND		50.0	43.8		ug/L		88	60 - 140
o-Xylene	ND		50.0	49.9		ug/L		100	70 - 133
Styrene	ND		50.0	48.4		ug/L		97	29 - 150
t-Butanol	ND		500	454		ug/L		91	70 - 130
Tetrachloroethene	ND		50.0	43.6		ug/L		87	70 - 137
Toluene	ND		50.0	51.2		ug/L		102	70 - 130
trans-1,2-Dichloroethene	ND		50.0	46.9		ug/L		94	70 - 130
trans-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	70 - 138
Trichloroethene	ND		50.0	46.4		ug/L		93	70 - 130
Trichlorofluoromethane	ND		50.0	55.9		ug/L		112	60 - 150
Vinyl acetate	ND		50.0	33.5		ug/L		67	23 - 150
Vinyl chloride	ND		50.0	34.5		ug/L		69	50 - 137
1,2-Dibromoethane (EDB)	ND		50.0	44.8		ug/L		90	70 - 131
2-Butanone (MEK)	ND		250	187		ug/L		75	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		250	185		ug/L		74	52 - 150

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	107		80 - 128
4-Bromofluorobenzene (Surr)	118		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Lab Sample ID: 440-244506-E-6 MSD
 Matrix: Water
 Analysis Batch: 555711

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,2,3-Trichloropropane	ND		50.0	43.4		ug/L		87	60 - 130	6	30
1,1,1,2-Tetrachloroethane	ND		50.0	44.7		ug/L		89	60 - 149	0	20
1,1,1-Trichloroethane	ND		50.0	53.9		ug/L		108	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		50.0	43.8		ug/L		88	63 - 130	2	30
1,1,2-Trichloroethane	ND		50.0	47.4		ug/L		95	70 - 130	3	25
1,1-Dichloroethane	ND		50.0	45.9		ug/L		92	65 - 130	4	20
1,1-Dichloroethene	ND		50.0	48.9		ug/L		98	70 - 130	1	20
1,1-Dichloropropene	ND		50.0	51.8		ug/L		104	64 - 130	0	20
1,2,4-Trichlorobenzene	ND		50.0	34.6		ug/L		69	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		50.0	47.2		ug/L		94	48 - 140	9	30
1,2-Dichlorobenzene	ND		50.0	47.7		ug/L		95	70 - 130	3	20
1,2-Dichloroethane	ND		50.0	46.4		ug/L		93	56 - 146	3	20
1,2-Dichloropropane	ND		50.0	44.7		ug/L		89	69 - 130	3	20
1,3-Dichlorobenzene	ND		50.0	48.8		ug/L		98	70 - 130	2	20
1,3-Dichloropropane	ND		50.0	48.7		ug/L		97	70 - 130	2	25
1,4-Dichlorobenzene	ND		50.0	46.4		ug/L		93	70 - 130	3	20
2,2-Dichloropropane	ND		50.0	62.8		ug/L		126	69 - 138	0	25
2-Hexanone	ND		250	173		ug/L		69	10 - 150	4	35
Acetone	ND		250	188		ug/L		75	10 - 150	1	35
Acrolein	ND		49.4	32.5		ug/L		66	10 - 147	2	40
Acrylonitrile	ND		500	378		ug/L		76	38 - 144	2	40
Benzene	ND		50.0	46.7		ug/L		93	66 - 130	0	20
Bromoform	ND		50.0	32.7		ug/L		65	59 - 150	2	25
Bromomethane	ND		50.0	36.8		ug/L		74	62 - 131	0	25
Carbon disulfide	ND		50.0	48.2		ug/L		96	49 - 140	1	20
Carbon tetrachloride	ND		50.0	52.5		ug/L		105	60 - 150	3	25
Chlorobenzene	ND		50.0	47.4		ug/L		95	70 - 130	2	20
Bromochloromethane	ND		50.0	41.8		ug/L		84	70 - 130	4	25
Chloroethane	ND		50.0	42.1		ug/L		84	68 - 130	1	25
Chloroform	ND		50.0	47.0		ug/L		94	70 - 130	0	20
Chloromethane	ND		50.0	28.5		ug/L		57	39 - 144	0	25
cis-1,2-Dichloroethene	ND		50.0	44.0		ug/L		88	70 - 130	2	20
cis-1,3-Dichloropropene	ND		50.0	49.6		ug/L		99	70 - 133	1	20
Dibromochloromethane	ND		50.0	42.5		ug/L		85	70 - 148	1	25
Dibromomethane	ND		50.0	40.8		ug/L		82	70 - 130	2	25
Bromodichloromethane	ND		50.0	45.7		ug/L		91	70 - 138	4	20
Dichlorodifluoromethane	ND		50.0	42.7		ug/L		85	25 - 142	5	30
Ethylbenzene	ND		50.0	51.3		ug/L		103	70 - 130	0	20
m,p-Xylene	ND		50.0	50.6		ug/L		101	70 - 133	3	25
Methylene Chloride	ND		50.0	43.9		ug/L		88	52 - 130	1	20
Methyl tert-butyl ether	11		50.0	60.5		ug/L		99	70 - 130	5	25
Naphthalene	ND		50.0	43.5		ug/L		87	60 - 140	1	30

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244506-E-6 MSD

Matrix: Water

Analysis Batch: 555711

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
o-Xylene	ND		50.0	50.1		ug/L		100	70 - 133	1	20
Styrene	ND		50.0	48.7		ug/L		97	29 - 150	1	35
t-Butanol	ND		500	476		ug/L		95	70 - 130	5	25
Tetrachloroethene	ND		50.0	43.7		ug/L		87	70 - 137	0	20
Toluene	ND		50.0	51.3		ug/L		103	70 - 130	0	20
trans-1,2-Dichloroethene	ND		50.0	45.9		ug/L		92	70 - 130	2	20
trans-1,3-Dichloropropene	ND		50.0	50.6		ug/L		101	70 - 138	0	25
Trichloroethene	ND		50.0	45.9		ug/L		92	70 - 130	1	20
Trichlorofluoromethane	ND		50.0	55.6		ug/L		111	60 - 150	1	25
Vinyl acetate	ND		50.0	33.6		ug/L		67	23 - 150	0	30
Vinyl chloride	ND		50.0	36.4		ug/L		73	50 - 137	6	30
1,2-Dibromoethane (EDB)	ND		50.0	43.2		ug/L		86	70 - 131	4	25
2-Butanone (MEK)	ND		250	201		ug/L		80	48 - 140	7	40
4-Methyl-2-pentanone (MIBK)	ND		250	179		ug/L		72	52 - 150	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	121	X	80 - 120
Dibromofluoromethane (Surr)	93		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-555227/1-A

Matrix: Water

Analysis Batch: 555528

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 555227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		06/28/19 10:57	07/01/19 13:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		30 - 120	06/28/19 10:57	07/01/19 13:27	1

Lab Sample ID: LCS 440-555227/3-A

Matrix: Water

Analysis Batch: 555528

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 555227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.29		ug/L		64	35 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	63		30 - 120

Lab Sample ID: LCSD 440-555227/4-A

Matrix: Water

Analysis Batch: 555528

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 555227

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.11		ug/L		55	35 - 120	15	35

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-555227/4-A
 Matrix: Water
 Analysis Batch: 555528

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 555227

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	55		30 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-554440/6
 Matrix: Water
 Analysis Batch: 554440

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			06/25/19 13:11	1

Lab Sample ID: LCS 440-554440/5
 Matrix: Water
 Analysis Batch: 554440

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	1.06		mg/L		94	90 - 110

Lab Sample ID: 440-244538-4 MS
 Matrix: Water
 Analysis Batch: 554440

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
Nitrate as N	ND		1.13	1.01		mg/L		89	80 - 120

Lab Sample ID: 440-244538-4 MSD
 Matrix: Water
 Analysis Batch: 554440

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	Limit
Nitrate as N	ND		1.13	0.995		mg/L		88	80 - 120	1	20

Lab Sample ID: MB 440-554441/6
 Matrix: Water
 Analysis Batch: 554441

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			06/25/19 13:11	1
Chloride	ND		0.50	0.25	mg/L			06/25/19 13:11	1
Fluoride	ND		0.50	0.25	mg/L			06/25/19 13:11	1
Sulfate	ND		0.50	0.25	mg/L			06/25/19 13:11	1

Lab Sample ID: LCS 440-554441/5
 Matrix: Water
 Analysis Batch: 554441

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	4.66		mg/L		93	90 - 110
Chloride	5.00	4.60		mg/L		92	90 - 110
Fluoride	5.00	4.53		mg/L		91	90 - 110

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-554441/5

Matrix: Water

Analysis Batch: 554441

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.65		mg/L		93	90 - 110

Lab Sample ID: 440-244538-4 MS

Matrix: Water

Analysis Batch: 554441

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
Bromide	ND		5.00	4.61		mg/L		92	80 - 120
Chloride	8.0		5.00	12.9		mg/L		99	80 - 120
Fluoride	1.0		5.00	5.43		mg/L		88	80 - 120
Sulfate	720	E	5.00	728	E 4	mg/L		81	80 - 120

Lab Sample ID: 440-244538-4 MSD

Matrix: Water

Analysis Batch: 554441

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	Limit
Bromide	ND		5.00	4.54		mg/L		91	80 - 120	2	20
Chloride	8.0		5.00	12.8		mg/L		97	80 - 120	0	20
Fluoride	1.0		5.00	5.42		mg/L		88	80 - 120	0	20
Sulfate	720	E	5.00	728	E 4	mg/L		91	80 - 120	0	20

Lab Sample ID: MB 440-554444/6

Matrix: Water

Analysis Batch: 554444

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			06/25/19 13:20	1

Lab Sample ID: LCS 440-554444/5

Matrix: Water

Analysis Batch: 554444

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	4.78		mg/L		96	90 - 110

Lab Sample ID: 440-244551-A-1 MS

Matrix: Water

Analysis Batch: 554444

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	93	E	5.00	98.9	E 4	mg/L		119	80 - 120

Lab Sample ID: 440-244551-A-1 MSD

Matrix: Water

Analysis Batch: 554444

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	Limit
Chloride	93	E	5.00	99.0	E 4	mg/L		121	80 - 120	0	20

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-554445/6
Matrix: Water
Analysis Batch: 554445

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			06/25/19 13:07	1

Lab Sample ID: LCS 440-554445/5
Matrix: Water
Analysis Batch: 554445

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	1.12		mg/L		99	90 - 110

Lab Sample ID: 440-244520-H-2 MS
Matrix: Water
Analysis Batch: 554445

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	4.1		1.13	5.32	E	mg/L		109	80 - 120

Lab Sample ID: 440-244520-H-2 MSD
Matrix: Water
Analysis Batch: 554445

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	Limit
Nitrate as N	4.1		1.13	5.33	E	mg/L		110	80 - 120	0	20

Lab Sample ID: MB 440-554446/6
Matrix: Water
Analysis Batch: 554446

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			06/25/19 13:07	1
Chloride	ND		0.50	0.25	mg/L			06/25/19 13:07	1
Fluoride	ND		0.50	0.25	mg/L			06/25/19 13:07	1
Sulfate	ND		0.50	0.25	mg/L			06/25/19 13:07	1

Lab Sample ID: LCS 440-554446/5
Matrix: Water
Analysis Batch: 554446

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	4.85		mg/L		97	90 - 110
Chloride	5.00	5.15		mg/L		103	90 - 110
Fluoride	5.00	4.91		mg/L		98	90 - 110
Sulfate	5.00	4.77		mg/L		95	90 - 110

Lab Sample ID: 440-244520-H-2 MS
Matrix: Water
Analysis Batch: 554446

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	0.26	J	5.00	4.83		mg/L		91	80 - 120
Chloride	120	E	5.00	126	E 4	mg/L		116	80 - 120

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-244520-H-2 MS

Matrix: Water

Analysis Batch: 554446

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
Fluoride	0.38	J	5.00	4.97		mg/L		92	80 - 120
Sulfate	190	E	5.00	199	E 4	mg/L		116	80 - 120

Lab Sample ID: 440-244520-H-2 MSD

Matrix: Water

Analysis Batch: 554446

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.	RPD
	Result	Qualifier		Result	Qualifier					
Bromide	0.26	J	5.00	4.83		mg/L		91	80 - 120	0
Chloride	120	E	5.00	126	E 4	mg/L		119	80 - 120	0
Fluoride	0.38	J	5.00	4.96		mg/L		92	80 - 120	0
Sulfate	190	E	5.00	200	E 4	mg/L		126	80 - 120	0

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-554626/1-A

Matrix: Water

Analysis Batch: 554903

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 554626

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	ND		0.050	0.025	mg/L		06/26/19 06:55	06/26/19 18:09	1
Calcium	ND		0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:09	1
Iron	0.0650	J	0.10	0.050	mg/L		06/26/19 06:55	06/26/19 18:09	1
Magnesium	ND		0.020	0.010	mg/L		06/26/19 06:55	06/26/19 18:09	1
Manganese	ND		0.020	0.015	mg/L		06/26/19 06:55	06/26/19 18:09	1
Potassium	ND		0.50	0.25	mg/L		06/26/19 06:55	06/26/19 18:09	1
Sodium	ND		0.50	0.26	mg/L		06/26/19 06:55	06/26/19 18:09	1

Lab Sample ID: LCS 440-554626/2-A

Matrix: Water

Analysis Batch: 554903

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 554626

Analyte	Spike	LCS		Unit	D	%Rec	%Rec.
		Result	Qualifier				
Boron	1.00	0.941		mg/L		94	80 - 120
Calcium	5.00	4.52		mg/L		90	80 - 120
Iron	1.00	0.929		mg/L		93	80 - 120
Magnesium	5.00	4.77		mg/L		95	80 - 120
Manganese	1.00	0.954		mg/L		95	80 - 120
Potassium	10.0	9.47		mg/L		95	80 - 120
Sodium	10.0	9.42		mg/L		94	80 - 120

Lab Sample ID: 440-244538-1 MS

Matrix: Water

Analysis Batch: 554903

Client Sample ID: DW-1

Prep Type: Total Recoverable

Prep Batch: 554626

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
Boron	2.0		1.00	2.92		mg/L		91	75 - 125
Calcium	2.4		5.00	7.07		mg/L		94	75 - 125
Iron	0.050	J B	1.00	1.00		mg/L		100	75 - 125
Magnesium	1.5		5.00	5.76		mg/L		86	75 - 125

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244538-1 MS
Matrix: Water
Analysis Batch: 554903

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 554626

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	ND		1.00	0.941		mg/L		94	75 - 125
Potassium	1.7		10.0	11.2		mg/L		95	75 - 125

Lab Sample ID: 440-244538-1 MS
Matrix: Water
Analysis Batch: 555034

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 554626

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	1000		10.0	1010	4	mg/L		-215	75 - 125

Lab Sample ID: 440-244538-1 MSD
Matrix: Water
Analysis Batch: 554903

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 554626

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.0		1.00	3.05		mg/L		104	75 - 125	4	20
Calcium	2.4		5.00	7.45		mg/L		102	75 - 125	5	20
Iron	0.050	J B	1.00	1.04		mg/L		104	75 - 125	4	20
Magnesium	1.5		5.00	5.99		mg/L		90	75 - 125	4	20
Manganese	ND		1.00	0.979		mg/L		98	75 - 125	4	20
Potassium	1.7		10.0	11.7		mg/L		100	75 - 125	5	20

Lab Sample ID: 440-244538-1 MSD
Matrix: Water
Analysis Batch: 555034

Client Sample ID: DW-1
Prep Type: Total Recoverable
Prep Batch: 554626

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	1000		10.0	1040	4	mg/L		130	75 - 125	3	20

Lab Sample ID: MB 440-555193/1-A
Matrix: Water
Analysis Batch: 555385

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 555193

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		06/28/19 09:22	06/28/19 20:26	1

Lab Sample ID: LCS 440-555193/2-A
Matrix: Water
Analysis Batch: 555385

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 555193

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: 440-244538-2 MS
Matrix: Water
Analysis Batch: 555385

Client Sample ID: DW-2
Prep Type: Total Recoverable
Prep Batch: 555193

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.63		1.00	1.40		mg/L		77	75 - 125

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

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

Lab Sample ID: 440-244538-2 MSD
 Matrix: Water
 Analysis Batch: 555385

Client Sample ID: DW-2
 Prep Type: Total Recoverable
 Prep Batch: 555193

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.63		1.00	1.43		mg/L		79	75 - 125	2	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-554888/39
 Matrix: Water
 Analysis Batch: 554888

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			06/26/19 14:18	1

Lab Sample ID: LCS 440-554888/44
 Matrix: Water
 Analysis Batch: 554888

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	5.10		mg/L		102	90 - 110

Lab Sample ID: MRL 440-554888/9
 Matrix: Water
 Analysis Batch: 554888

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	0.163	J	mg/L		82	50 - 150

Lab Sample ID: 720-93671-E-1 MS
 Matrix: Water
 Analysis Batch: 554888

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)	0.10	J	5.00	4.93		mg/L		97	90 - 110

Lab Sample ID: 720-93671-E-1 MSD
 Matrix: Water
 Analysis Batch: 554888

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)	0.10	J	5.00	4.91		mg/L		96	90 - 110	0	15

Method: 410.4 - COD

Lab Sample ID: MB 440-556699/3
 Matrix: Water
 Analysis Batch: 556699

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			07/09/19 13:46	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 440-556699/4
Matrix: Water
Analysis Batch: 556699

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: 440-244594-I-2 MS
Matrix: Water
Analysis Batch: 556699

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	20		200	198		mg/L		89	70 - 120

Lab Sample ID: 440-244594-I-2 MSD
Matrix: Water
Analysis Batch: 556699

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	20		200	210		mg/L		95	70 - 120	6	15

Lab Sample ID: MB 440-556734/3
Matrix: Water
Analysis Batch: 556734

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			07/09/19 16:56	1

Lab Sample ID: LCS 440-556734/4
Matrix: Water
Analysis Batch: 556734

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	193		mg/L		96	90 - 110

Lab Sample ID: 440-244616-A-5 MS
Matrix: Water
Analysis Batch: 556734

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	43		200	234		mg/L		96	70 - 120

Lab Sample ID: 440-244616-A-5 MSD
Matrix: Water
Analysis Batch: 556734

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	43		200	237		mg/L		97	70 - 120	1	15

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-554689/3
Matrix: Water
Analysis Batch: 554689

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			06/26/19 05:29	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/26/19 05:29	1

Lab Sample ID: LCS 440-554689/2
Matrix: Water
Analysis Batch: 554689

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	98.8	99.0		mg/L		100	80 - 120

Lab Sample ID: 440-244538-1 DU
Matrix: Water
Analysis Batch: 554689

Client Sample ID: DW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	540		537		mg/L		0.1	20
Bicarbonate Alkalinity as CaCO3	430		434		mg/L		0.2	20

Lab Sample ID: 440-244538-8 DU
Matrix: Water
Analysis Batch: 554689

Client Sample ID: CM-10R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	390		410		mg/L		4	20
Bicarbonate Alkalinity as CaCO3	390		410		mg/L		4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-555178/1
Matrix: Water
Analysis Batch: 555178

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			06/28/19 08:35	1

Lab Sample ID: LCS 440-555178/2
Matrix: Water
Analysis Batch: 555178

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	1010		mg/L		101	90 - 110

Lab Sample ID: 440-244538-1 DU
Matrix: Water
Analysis Batch: 555178

Client Sample ID: DW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3200		3200		mg/L		1	5

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-556920/1
 Matrix: Water
 Analysis Batch: 556920

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			07/09/19 14:00	1

Lab Sample ID: 440-244444-H-1 DU
 Matrix: Water
 Analysis Batch: 556920

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	310		313		mg/L		0	20

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-554867/3
 Matrix: Water
 Analysis Batch: 554867

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			06/26/19 17:05	1

Lab Sample ID: LCS 440-554867/4
 Matrix: Water
 Analysis Batch: 554867

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	0.490		mg/L		98	80 - 120

Lab Sample ID: 440-244444-I-1 MS
 Matrix: Water
 Analysis Batch: 554867

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	0.027	J	0.500	0.545		mg/L		104	70 - 130

Lab Sample ID: 440-244444-I-1 MSD
 Matrix: Water
 Analysis Batch: 554867

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	0.027	J	0.500	0.407		mg/L		76	70 - 130	29	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-554919/6
 Matrix: Water
 Analysis Batch: 554919

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			06/26/19 07:35	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-554919/5
Matrix: Water
Analysis Batch: 554919

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	9.40		mg/L		94	85 - 115

Lab Sample ID: MRL 440-554919/4
Matrix: Water
Analysis Batch: 554919

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	0.126		mg/L		126	50 - 150

Lab Sample ID: 440-244520-L-1 MS
Matrix: Water
Analysis Batch: 554919

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	0.19		10.0	9.41		mg/L		92	85 - 115

Lab Sample ID: 440-244520-L-1 MSD
Matrix: Water
Analysis Batch: 554919

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	0.19		10.0	9.41		mg/L		92	85 - 115	0	20

Lab Sample ID: MB 440-555426/6
Matrix: Water
Analysis Batch: 555426

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			06/28/19 09:07	1

Lab Sample ID: LCS 440-555426/5
Matrix: Water
Analysis Batch: 555426

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	10.2		mg/L		102	85 - 115

Lab Sample ID: MRL 440-555426/4
Matrix: Water
Analysis Batch: 555426

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	0.0765	J	mg/L		77	50 - 150

Lab Sample ID: 440-244538-3 MS
Matrix: Water
Analysis Batch: 555426

Client Sample ID: DW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.33		10.0	10.3		mg/L		99	85 - 115

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Method: SM 5310C - TOC

Lab Sample ID: 440-244538-3 MSD
Matrix: Water
Analysis Batch: 555426

Client Sample ID: DW-3
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	0.33		10.0	10.2		mg/L		99	85 - 115	0	20

- 1
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- 3
- 4
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- 13

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

GC/MS VOA

Analysis Batch: 554944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	8260B	
440-244538-2	DW-2	Total/NA	Water	8260B	
440-244538-3	DW-3	Total/NA	Water	8260B	
440-244538-4	PZ-4	Total/NA	Water	8260B	
440-244538-5	Duplicate	Total/NA	Water	8260B	
440-244538-6	DW-5	Total/NA	Water	8260B	
440-244538-7	CM-9R3	Total/NA	Water	8260B	
440-244538-8	CM-10R	Total/NA	Water	8260B	
440-244538-9	CM-11R	Total/NA	Water	8260B	
440-244538-10	Field Blank	Total/NA	Water	8260B	
440-244538-11	Trip Blank	Total/NA	Water	8260B	
MB 440-554944/4	Method Blank	Total/NA	Water	8260B	
LCS 440-554944/5	Lab Control Sample	Total/NA	Water	8260B	
440-244194-B-14 MS	Matrix Spike	Total/NA	Water	8260B	
440-244194-B-14 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	8260B	
440-244538-2	DW-2	Total/NA	Water	8260B	
440-244538-3	DW-3	Total/NA	Water	8260B	
440-244538-4	PZ-4	Total/NA	Water	8260B	
440-244538-5	Duplicate	Total/NA	Water	8260B	
440-244538-6	DW-5	Total/NA	Water	8260B	
440-244538-7	CM-9R3	Total/NA	Water	8260B	
MB 440-555499/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555499/5	Lab Control Sample	Total/NA	Water	8260B	
440-244872-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-244872-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-8	CM-10R	Total/NA	Water	8260B	
440-244538-9	CM-11R	Total/NA	Water	8260B	
440-244538-10	Field Blank	Total/NA	Water	8260B	
440-244538-11	Trip Blank	Total/NA	Water	8260B	
MB 440-555711/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555711/5	Lab Control Sample	Total/NA	Water	8260B	
440-244506-E-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-244506-E-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 555227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	3520C	
440-244538-2	DW-2	Total/NA	Water	3520C	
440-244538-3	DW-3	Total/NA	Water	3520C	
440-244538-4	PZ-4	Total/NA	Water	3520C	
440-244538-5	Duplicate	Total/NA	Water	3520C	
440-244538-6	DW-5	Total/NA	Water	3520C	



QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

GC/MS Semi VOA (Continued)

Prep Batch: 555227 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-7	CM-9R3	Total/NA	Water	3520C	
440-244538-8	CM-10R	Total/NA	Water	3520C	
440-244538-9	CM-11R	Total/NA	Water	3520C	
MB 440-555227/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-555227/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-555227/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 555528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	8270C	555227
440-244538-2	DW-2	Total/NA	Water	8270C	555227
440-244538-3	DW-3	Total/NA	Water	8270C	555227
440-244538-4	PZ-4	Total/NA	Water	8270C	555227
440-244538-5	Duplicate	Total/NA	Water	8270C	555227
440-244538-6	DW-5	Total/NA	Water	8270C	555227
440-244538-7	CM-9R3	Total/NA	Water	8270C	555227
440-244538-8	CM-10R	Total/NA	Water	8270C	555227
440-244538-9	CM-11R	Total/NA	Water	8270C	555227
MB 440-555227/1-A	Method Blank	Total/NA	Water	8270C	555227
LCS 440-555227/3-A	Lab Control Sample	Total/NA	Water	8270C	555227
LCSD 440-555227/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	555227

HPLC/IC

Analysis Batch: 554440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	300.0	
440-244538-2	DW-2	Total/NA	Water	300.0	
440-244538-3	DW-3	Total/NA	Water	300.0	
440-244538-4	PZ-4	Total/NA	Water	300.0	
MB 440-554440/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554440/5	Lab Control Sample	Total/NA	Water	300.0	
440-244538-4 MS	PZ-4	Total/NA	Water	300.0	
440-244538-4 MSD	PZ-4	Total/NA	Water	300.0	

Analysis Batch: 554441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	300.0	
440-244538-1	DW-1	Total/NA	Water	300.0	
440-244538-2	DW-2	Total/NA	Water	300.0	
440-244538-2	DW-2	Total/NA	Water	300.0	
440-244538-3	DW-3	Total/NA	Water	300.0	
440-244538-3	DW-3	Total/NA	Water	300.0	
440-244538-4	PZ-4	Total/NA	Water	300.0	
440-244538-4 - DL	PZ-4	Total/NA	Water	300.0	
MB 440-554441/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554441/5	Lab Control Sample	Total/NA	Water	300.0	
440-244538-4 MS	PZ-4	Total/NA	Water	300.0	
440-244538-4 MSD	PZ-4	Total/NA	Water	300.0	

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

HPLC/IC

Analysis Batch: 554444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-6	DW-5	Total/NA	Water	300.0	
MB 440-554444/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554444/5	Lab Control Sample	Total/NA	Water	300.0	
440-244551-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-244551-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 554445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-5	Duplicate	Total/NA	Water	300.0	
440-244538-6	DW-5	Total/NA	Water	300.0	
440-244538-7	CM-9R3	Total/NA	Water	300.0	
440-244538-8	CM-10R	Total/NA	Water	300.0	
440-244538-9	CM-11R	Total/NA	Water	300.0	
MB 440-554445/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554445/5	Lab Control Sample	Total/NA	Water	300.0	
440-244520-H-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-244520-H-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 554446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-5	Duplicate	Total/NA	Water	300.0	
440-244538-5	Duplicate	Total/NA	Water	300.0	
440-244538-6	DW-5	Total/NA	Water	300.0	
440-244538-7	CM-9R3	Total/NA	Water	300.0	
440-244538-7	CM-9R3	Total/NA	Water	300.0	
440-244538-8	CM-10R	Total/NA	Water	300.0	
440-244538-8	CM-10R	Total/NA	Water	300.0	
440-244538-9	CM-11R	Total/NA	Water	300.0	
440-244538-9	CM-11R	Total/NA	Water	300.0	
MB 440-554446/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554446/5	Lab Control Sample	Total/NA	Water	300.0	
440-244520-H-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-244520-H-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 554626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total Recoverable	Water	3005A	
440-244538-2	DW-2	Total Recoverable	Water	3005A	
440-244538-3	DW-3	Total Recoverable	Water	3005A	
440-244538-4	PZ-4	Total Recoverable	Water	3005A	
440-244538-5	Duplicate	Total Recoverable	Water	3005A	
440-244538-6	DW-5	Total Recoverable	Water	3005A	
440-244538-7	CM-9R3	Total Recoverable	Water	3005A	
440-244538-8	CM-10R	Total Recoverable	Water	3005A	
440-244538-9	CM-11R	Total Recoverable	Water	3005A	
MB 440-554626/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-554626/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-244538-1 MS	DW-1	Total Recoverable	Water	3005A	
440-244538-1 MSD	DW-1	Total Recoverable	Water	3005A	

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Metals

Analysis Batch: 554903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total Recoverable	Water	6010B	554626
440-244538-2	DW-2	Total Recoverable	Water	6010B	554626
440-244538-3	DW-3	Total Recoverable	Water	6010B	554626
440-244538-4	PZ-4	Total Recoverable	Water	6010B	554626
440-244538-5	Duplicate	Total Recoverable	Water	6010B	554626
440-244538-6	DW-5	Total Recoverable	Water	6010B	554626
440-244538-7	CM-9R3	Total Recoverable	Water	6010B	554626
440-244538-8	CM-10R	Total Recoverable	Water	6010B	554626
440-244538-9	CM-11R	Total Recoverable	Water	6010B	554626
MB 440-554626/1-A	Method Blank	Total Recoverable	Water	6010B	554626
LCS 440-554626/2-A	Lab Control Sample	Total Recoverable	Water	6010B	554626
440-244538-1 MS	DW-1	Total Recoverable	Water	6010B	554626
440-244538-1 MSD	DW-1	Total Recoverable	Water	6010B	554626

Analysis Batch: 555034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total Recoverable	Water	6010B	554626
440-244538-5	Duplicate	Total Recoverable	Water	6010B	554626
440-244538-7	CM-9R3	Total Recoverable	Water	6010B	554626
440-244538-9	CM-11R	Total Recoverable	Water	6010B	554626
440-244538-1 MS	DW-1	Total Recoverable	Water	6010B	554626
440-244538-1 MSD	DW-1	Total Recoverable	Water	6010B	554626

Prep Batch: 555193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-2	DW-2	Total Recoverable	Water	3005A	
440-244538-3	DW-3	Total Recoverable	Water	3005A	
440-244538-5	Duplicate	Total Recoverable	Water	3005A	
440-244538-6	DW-5	Total Recoverable	Water	3005A	
440-244538-9	CM-11R	Total Recoverable	Water	3005A	
MB 440-555193/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-555193/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-244538-2 MS	DW-2	Total Recoverable	Water	3005A	
440-244538-2 MSD	DW-2	Total Recoverable	Water	3005A	

Analysis Batch: 555385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-2	DW-2	Total Recoverable	Water	6010B	555193
440-244538-3	DW-3	Total Recoverable	Water	6010B	555193
440-244538-5	Duplicate	Total Recoverable	Water	6010B	555193
440-244538-6	DW-5	Total Recoverable	Water	6010B	555193
440-244538-9	CM-11R	Total Recoverable	Water	6010B	555193
MB 440-555193/1-A	Method Blank	Total Recoverable	Water	6010B	555193
LCS 440-555193/2-A	Lab Control Sample	Total Recoverable	Water	6010B	555193
440-244538-2 MS	DW-2	Total Recoverable	Water	6010B	555193
440-244538-2 MSD	DW-2	Total Recoverable	Water	6010B	555193

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

General Chemistry

Analysis Batch: 554689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	SM 2320B	
440-244538-2	DW-2	Total/NA	Water	SM 2320B	
440-244538-3	DW-3	Total/NA	Water	SM 2320B	
440-244538-4	PZ-4	Total/NA	Water	SM 2320B	
440-244538-5	Duplicate	Total/NA	Water	SM 2320B	
440-244538-6	DW-5	Total/NA	Water	SM 2320B	
440-244538-7	CM-9R3	Total/NA	Water	SM 2320B	
440-244538-8	CM-10R	Total/NA	Water	SM 2320B	
440-244538-9	CM-11R	Total/NA	Water	SM 2320B	
MB 440-554689/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-554689/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-244538-1 DU	DW-1	Total/NA	Water	SM 2320B	
440-244538-8 DU	CM-10R	Total/NA	Water	SM 2320B	

Analysis Batch: 554867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	SM 4500 S2 D	
440-244538-2	DW-2	Total/NA	Water	SM 4500 S2 D	
440-244538-3	DW-3	Total/NA	Water	SM 4500 S2 D	
440-244538-4	PZ-4	Total/NA	Water	SM 4500 S2 D	
440-244538-5	Duplicate	Total/NA	Water	SM 4500 S2 D	
440-244538-6	DW-5	Total/NA	Water	SM 4500 S2 D	
440-244538-7	CM-9R3	Total/NA	Water	SM 4500 S2 D	
440-244538-8	CM-10R	Total/NA	Water	SM 4500 S2 D	
440-244538-9	CM-11R	Total/NA	Water	SM 4500 S2 D	
MB 440-554867/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-554867/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-244444-I-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
440-244444-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 554888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	350.1	
440-244538-2	DW-2	Total/NA	Water	350.1	
440-244538-3	DW-3	Total/NA	Water	350.1	
440-244538-4	PZ-4	Total/NA	Water	350.1	
440-244538-5	Duplicate	Total/NA	Water	350.1	
440-244538-6	DW-5	Total/NA	Water	350.1	
440-244538-7	CM-9R3	Total/NA	Water	350.1	
440-244538-8	CM-10R	Total/NA	Water	350.1	
440-244538-9	CM-11R	Total/NA	Water	350.1	
MB 440-554888/39	Method Blank	Total/NA	Water	350.1	
LCS 440-554888/44	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-554888/9	Lab Control Sample	Total/NA	Water	350.1	
720-93671-E-1 MS	Matrix Spike	Total/NA	Water	350.1	
720-93671-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 554919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	SM 5310C	
440-244538-2	DW-2	Total/NA	Water	SM 5310C	

Eurofins TestAmerica, Irvine

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

General Chemistry (Continued)

Analysis Batch: 554919 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-4	PZ-4	Total/NA	Water	SM 5310C	
440-244538-5	Duplicate	Total/NA	Water	SM 5310C	
440-244538-7	CM-9R3	Total/NA	Water	SM 5310C	
440-244538-8	CM-10R	Total/NA	Water	SM 5310C	
440-244538-9	CM-11R	Total/NA	Water	SM 5310C	
MB 440-554919/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-554919/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-554919/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-244520-L-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-244520-L-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 555178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	SM 2540C	
440-244538-2	DW-2	Total/NA	Water	SM 2540C	
440-244538-3	DW-3	Total/NA	Water	SM 2540C	
440-244538-4	PZ-4	Total/NA	Water	SM 2540C	
440-244538-5	Duplicate	Total/NA	Water	SM 2540C	
440-244538-6	DW-5	Total/NA	Water	SM 2540C	
440-244538-7	CM-9R3	Total/NA	Water	SM 2540C	
440-244538-8	CM-10R	Total/NA	Water	SM 2540C	
440-244538-9	CM-11R	Total/NA	Water	SM 2540C	
MB 440-555178/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-555178/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-244538-1 DU	DW-1	Total/NA	Water	SM 2540C	

Analysis Batch: 555426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-3	DW-3	Total/NA	Water	SM 5310C	
440-244538-6	DW-5	Total/NA	Water	SM 5310C	
MB 440-555426/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-555426/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-555426/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-244538-3 MS	DW-3	Total/NA	Water	SM 5310C	
440-244538-3 MSD	DW-3	Total/NA	Water	SM 5310C	

Analysis Batch: 556699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	410.4	
440-244538-2	DW-2	Total/NA	Water	410.4	
440-244538-3	DW-3	Total/NA	Water	410.4	
440-244538-4	PZ-4	Total/NA	Water	410.4	
440-244538-5	Duplicate	Total/NA	Water	410.4	
440-244538-6	DW-5	Total/NA	Water	410.4	
440-244538-7	CM-9R3	Total/NA	Water	410.4	
MB 440-556699/3	Method Blank	Total/NA	Water	410.4	
LCS 440-556699/4	Lab Control Sample	Total/NA	Water	410.4	
440-244594-I-2 MS	Matrix Spike	Total/NA	Water	410.4	
440-244594-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

General Chemistry

Analysis Batch: 556734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-8	CM-10R	Total/NA	Water	410.4	
440-244538-9	CM-11R	Total/NA	Water	410.4	
MB 440-556734/3	Method Blank	Total/NA	Water	410.4	
LCS 440-556734/4	Lab Control Sample	Total/NA	Water	410.4	
440-244616-A-5 MS	Matrix Spike	Total/NA	Water	410.4	
440-244616-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 556920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244538-1	DW-1	Total/NA	Water	SM 4500 CO2 C	
440-244538-2	DW-2	Total/NA	Water	SM 4500 CO2 C	
440-244538-3	DW-3	Total/NA	Water	SM 4500 CO2 C	
440-244538-4	PZ-4	Total/NA	Water	SM 4500 CO2 C	
440-244538-5	Duplicate	Total/NA	Water	SM 4500 CO2 C	
440-244538-6	DW-5	Total/NA	Water	SM 4500 CO2 C	
440-244538-7	CM-9R3	Total/NA	Water	SM 4500 CO2 C	
440-244538-8	CM-10R	Total/NA	Water	SM 4500 CO2 C	
440-244538-9	CM-11R	Total/NA	Water	SM 4500 CO2 C	
MB 440-556920/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-244444-H-1 DU	Duplicate	Total/NA	Water	SM 4500 CO2 C	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Qualifiers

GC/MS VOA

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.
X	Surrogate is outside control limits

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.

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

Metals

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

General Chemistry

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

Eurofins TestAmerica, Irvine

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244538-1

Laboratory: Eurofins 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	06-30-20
Arizona	State Program	9	AZ0671	10-14-19
California	LA Cty Sanitation Districts	9	10256	06-30-20
California	State Program	9	CA ELAP 2706	06-30-19 *
Guam	State Program	9	Cert. No. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19 *
Nevada	State Program	9	CA015312019-5	07-31-19 *
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
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.

Eurofins TestAmerica, Irvine

Chain of Custody Record 322964

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (07/03)

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: Geo-Logic Assoc. Address: 1115 S.W. Broadway St City/State/Zip: S.D. Ca 92127 Phone: 858-451-1131 Fax: 858-451-1082 Project Name: Aquatic Sampling Site: Sunshore Cm Landfill P O #		Project Manager: Kyle Weill Tel/Fax: 858-451-1131 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> <input type="checkbox"/> 1 week <input type="checkbox"/> <input type="checkbox"/> 2 days <input type="checkbox"/> <input type="checkbox"/> 1 day <input type="checkbox"/>		Site Contact: J. Mills Date: 6-25-19 Lab Contact: R. Tomova Carrier:		COC No: 6-25-19 Sampler: BS, NR For Lab Use Only: Walk-in Client Lab Sampling Job / SDG No.: Metals are not field filtered.	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=Grab) Matrix # of Cont.		Filtered Sample (Y/N) Perform MS/MSD (Y/N)		Date/Time Date/Time Date/Time Date/Time			
DW-1	6/25/19 1015	G	GW	13	X	6/25/19 14:15	
DW-2	1112			13	X	6/25/19 14:15	
DW-3	0905			13	X	6/25/19 14:15	
PE-4	1328			13	X	6/25/19 14:15	
Duplicate				13	X	6/25/19 14:15	
DW-5	1105			13	X	6/25/19 14:15	
CM-903	1140			13	X	6/25/19 14:15	
CM-10R	1250			13	X	6/25/19 14:15	
CM-11R	0930			13	X	6/25/19 14:15	
Field Blank				4	X	6/25/19 14:15	
Tap Blank				4	X	6/25/19 14:15	



Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other
 Possible Hazard Identification: 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 Unknown Poison B Return to Client Disposal by Lab Archive for _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Date/Time: 3/4/45 2.6/37 2.3/34 11/2.2 12.73
 Cooler Temp. (C): Obs'd: _____
 Therm ID No: _____

Special Instructions/QC Requirements & Comments:
 Custody Seal No. _____
 Relinquished by: [Signature] Date/Time: 6-25-19
 Relinquished by: [Signature] Date/Time: 6/25/19 14:15
 Relinquished by: [Signature] Date/Time: 6/25/19 14:15
 Received in Laboratory by: [Signature] Date/Time: 6/25/19 14:15
 Company: Geo-Logic Company
 Company: Geo-Logic Company
 Company: Geo-Logic Company



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-244538-1

Login Number: 244538

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Skinner, Alma D

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	



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-244629-1

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:
7/12/2019 3:59:01 PM

Rossina Tomova, Project Manager I
(949)260-3276

rossina.tomova@testamericainc.com

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-244629-1	Extraction Trench	Water	06/26/19 09:20	06/26/19 15:45	
440-244629-2	MW-1	Water	06/26/19 12:58	06/26/19 15:45	
440-244629-3	MW-2A	Water	06/26/19 08:45	06/26/19 15:45	
440-244629-4	MW-2B	Water	06/26/19 09:40	06/26/19 15:45	
440-244629-5	MW-9	Water	06/26/19 12:40	06/26/19 15:45	
440-244629-6	DW-4	Water	06/26/19 10:40	06/26/19 15:45	
440-244629-7	Field Blank	Water	06/26/19 00:01	06/26/19 15:45	
440-244629-8	Trip Blank	Water	06/26/19 00:01	06/26/19 15:45	

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Job ID: 440-244629-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-244629-1

Comments

No additional comments.

Receipt

The samples were received on 6/26/2019 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4° C, 3.6° C and 4.3° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-556104 recovered above the upper control limit for Tetrahydrofuran. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: DW-4 (440-244629-6), Trip Blank (440-244629-8) and (CCVIS 440-556104/2).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-556104 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 matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 440-556104 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-556163 recovered above the upper control limit for 1,1-Dichloroethene and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: Field Blank (440-244629-7) and (CCVIS 440-556163/2).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-556163 recovered outside control limits for the following analyte: Vinyl chloride. 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 volatile sample was analyzed with significant headspace in the sample container due to multiple runs needed for sample analysis, screens and confirmations: Field Blank (440-244629-7). 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

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 due to the nature of the sample matrix: Extraction Trench (440-244629-1), MW-2A (440-244629-3), MW-2B (440-244629-4), MW-9 (440-244629-5) and DW-4 (440-244629-6). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: Extraction Trench (440-244629-1), MW-1 (440-244629-2), MW-2A (440-244629-3), MW-2B (440-244629-4), MW-9 (440-244629-5) and DW-4 (440-244629-6). 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 following samples were diluted due to the nature of the sample matrix: Extraction Trench (440-244629-1), MW-1 (440-244629-2), MW-2A (440-244629-3), MW-2B (440-244629-4), MW-9 (440-244629-5) and DW-4 (440-244629-6). 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.

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Job ID: 440-244629-1 (Continued)

Laboratory: Eurofins TestAmerica, Irvine (Continued)

General Chemistry

Method(s) SM 2320B: The following samples are associated with these LCS and Method Blank.DW-4 (440-244629-6), (LCS 440-554973/29), (MB 440-554973/30), (440-244619-G-1) and (440-244619-G-1 DU)

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 preparation batch 440-555227. Method 8270-1,4-dioxane. LCS was performed in duplicate to provide precision of data.

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.

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Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-244629-1

Date Collected: 06/26/19 09:20

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 16:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Acrolein	ND		50	2.5	ug/L			06/29/19 15:16	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 15:16	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 16:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 16:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,4-Dichlorobenzene	2.6		0.50	0.25	ug/L			07/03/19 16:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 16:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 16:07	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 16:07	1
Acetone	ND		20	10	ug/L			07/03/19 16:07	1
Acetonitrile	ND		20	10	ug/L			07/03/19 16:07	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 16:07	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 16:07	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 16:07	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 16:07	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 16:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Chlorobenzene	0.31 J		0.50	0.25	ug/L			07/03/19 16:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 16:07	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
cis-1,2-Dichloroethene	1.5		0.50	0.25	ug/L			07/03/19 16:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 16:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 16:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 16:07	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 16:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 16:07	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 16:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 16:07	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-244629-1

Date Collected: 06/26/19 09:20

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 16:07	1
Methyl tert-butyl ether	0.94		0.50	0.25	ug/L			07/03/19 16:07	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 16:07	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Propionitrile	ND		20	10	ug/L			07/03/19 16:07	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
t-Butanol	20		10	5.0	ug/L			07/03/19 16:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Tetrahydrofuran	5.4 J		10	5.0	ug/L			07/03/19 16:07	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 16:07	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 16:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 16:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 16:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 16:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 16:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 16:07	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	12	T J	ug/L		3.80			07/03/19 16:07	1
Unknown	6.4	T J	ug/L		4.48			07/03/19 16:07	1
Unknown	13	T J	ug/L		5.88			07/03/19 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		06/29/19 15:16	1
4-Bromofluorobenzene (Surr)	118		80 - 120		06/29/19 15:16	1
Toluene-d8 (Surr)	105		80 - 128		07/03/19 16:07	1
4-Bromofluorobenzene (Surr)	95		80 - 120		07/03/19 16:07	1
Dibromofluoromethane (Surr)	91		76 - 132		06/29/19 15:16	1
Dibromofluoromethane (Surr)	91		76 - 132		07/03/19 16:07	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	17		1.1	0.26	ug/L		06/28/19 10:57	07/01/19 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	60		30 - 120	06/28/19 10:57	07/01/19 20:47	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	4.4 J		5.0	2.5	mg/L			06/26/19 20:06	10
Nitrate as N	ND		1.1	0.55	mg/L			06/26/19 20:06	10
Chloride	280		100	50	mg/L			06/26/19 20:21	200
Fluoride	3.0 J		5.0	2.5	mg/L			06/26/19 20:06	10
Sulfate	1600		100	50	mg/L			06/26/19 20:21	200

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-244629-1

Date Collected: 06/26/19 09:20

Matrix: Water

Date Received: 06/26/19 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:02	10
Calcium	430		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:02	10
Iron	69		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:02	10
Magnesium	230		0.20	0.10	mg/L		06/26/19 17:58	06/27/19 13:02	10
Manganese	4.9		0.20	0.15	mg/L		06/26/19 17:58	06/27/19 13:02	10
Potassium	36		5.0	2.5	mg/L		06/26/19 17:58	06/27/19 13:02	10
Sodium	380		5.0	2.6	mg/L		06/26/19 17:58	06/27/19 13:02	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	7.6		0.20	0.10	mg/L			07/01/19 13:26	1
Chemical Oxygen Demand	130		20	10	mg/L			07/09/19 16:57	1
Total Dissolved Solids	4100		50	25	mg/L			07/01/19 09:10	1
Total Sulfide	ND		0.050	0.027	mg/L			06/28/19 16:17	1
Total Organic Carbon	74		1.0	0.50	mg/L			06/28/19 11:58	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	560		4.0	4.0	mg/L			06/27/19 07:33	1
Bicarbonate Alkalinity as CaCO3	560		4.0	4.0	mg/L			06/27/19 07:33	1
Carbon Dioxide, Free	170		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample ID: MW-1

Lab Sample ID: 440-244629-2

Date Collected: 06/26/19 12:58

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 16:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Acrolein	ND		50	2.5	ug/L			06/29/19 15:46	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 15:46	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 16:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 16:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 16:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 16:35	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 16:35	1
Acetone	ND		20	10	ug/L			07/03/19 16:35	1
Acetonitrile	ND		20	10	ug/L			07/03/19 16:35	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 16:35	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-1

Lab Sample ID: 440-244629-2

Date Collected: 06/26/19 12:58

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 16:35	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 16:35	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 16:35	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 16:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 16:35	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 16:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 16:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 16:35	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 16:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 16:35	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 16:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 16:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 16:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 16:35	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Propionitrile	ND		20	10	ug/L			07/03/19 16:35	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 16:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 16:35	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 16:35	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 16:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 16:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 16:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 16:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 16:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 16:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.9	TJ	ug/L		3.92			07/03/19 16:35	1
Unknown	13	TJ	ug/L		5.88			07/03/19 16:35	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-1

Date Collected: 06/26/19 12:58

Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		06/29/19 15:46	1
4-Bromofluorobenzene (Surr)	120		80 - 120		06/29/19 15:46	1
Toluene-d8 (Surr)	102		80 - 128		07/03/19 16:35	1
4-Bromofluorobenzene (Surr)	95		80 - 120		07/03/19 16:35	1
Dibromofluoromethane (Surr)	93		76 - 132		06/29/19 15:46	1
Dibromofluoromethane (Surr)	96		76 - 132		07/03/19 16:35	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	7.0		0.98	0.25	ug/L		06/28/19 10:57	07/01/19 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	61		30 - 120	06/28/19 10:57	07/01/19 21:09	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.3		1.0	0.50	mg/L			06/26/19 20:37	2
Nitrate as N	ND		0.22	0.11	mg/L			06/26/19 20:37	2
Chloride	120		50	25	mg/L			06/26/19 20:52	100
Fluoride	1.9		1.0	0.50	mg/L			06/26/19 20:37	2
Sulfate	930		50	25	mg/L			06/26/19 20:52	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.2		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:11	10
Calcium	220		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:11	10
Iron	8.2		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:11	10
Magnesium	150		0.20	0.10	mg/L		06/26/19 17:58	06/27/19 13:11	10
Manganese	0.79		0.20	0.15	mg/L		06/26/19 17:58	06/27/19 13:11	10
Potassium	11		5.0	2.5	mg/L		06/26/19 17:58	06/27/19 13:11	10
Sodium	270		5.0	2.6	mg/L		06/26/19 17:58	06/27/19 13:11	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.89		0.20	0.10	mg/L			07/01/19 13:31	1
Chemical Oxygen Demand	43		20	10	mg/L			07/09/19 16:57	1
Total Dissolved Solids	2300		20	10	mg/L			07/01/19 09:10	1
Total Sulfide	ND		0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	24		0.50	0.25	mg/L			06/28/19 15:09	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	870		4.0	4.0	mg/L			06/27/19 07:17	1
Bicarbonate Alkalinity as CaCO3	870		4.0	4.0	mg/L			06/27/19 07:17	1
Carbon Dioxide, Free	51		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample ID: MW-2A

Date Collected: 06/26/19 08:45

Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-3

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			07/03/19 17:03	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-2A

Lab Sample ID: 440-244629-3

Date Collected: 06/26/19 08:45

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 17:03	1
Acrolein	ND		50	2.5	ug/L			06/29/19 16:16	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 16:16	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 17:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 17:03	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 17:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 17:03	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 17:03	1
Acetone	ND		20	10	ug/L			07/03/19 17:03	1
Acetonitrile	ND		20	10	ug/L			07/03/19 17:03	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 17:03	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 17:03	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 17:03	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 17:03	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 17:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 17:03	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 17:03	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 17:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 17:03	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 17:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 17:03	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 17:03	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 17:03	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 17:03	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-2A

Lab Sample ID: 440-244629-3

Date Collected: 06/26/19 08:45

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 17:03	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 17:03	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Propionitrile	ND		20	10	ug/L			07/03/19 17:03	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 17:03	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 17:03	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 17:03	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 17:03	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 17:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 17:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 17:03	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 17:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 17:03	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.4	T J	ug/L		3.88			07/03/19 17:03	1
Unknown	14	T J	ug/L		5.88			07/03/19 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		06/29/19 16:16	1
4-Bromofluorobenzene (Surr)	115		80 - 120		06/29/19 16:16	1
Toluene-d8 (Surr)	100		80 - 128		07/03/19 17:03	1
4-Bromofluorobenzene (Surr)	98		80 - 120		07/03/19 17:03	1
Dibromofluoromethane (Surr)	98		76 - 132		06/29/19 16:16	1
Dibromofluoromethane (Surr)	99		76 - 132		07/03/19 17:03	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		06/28/19 10:57	07/01/19 21:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	61		30 - 120	06/28/19 10:57	07/01/19 21:31	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/26/19 21:08	2
Nitrate as N	ND		0.22	0.11	mg/L			06/26/19 21:08	2
Chloride	19		1.0	0.50	mg/L			06/26/19 21:08	2
Fluoride	1.8		1.0	0.50	mg/L			06/26/19 21:08	2
Sulfate	1500		50	25	mg/L			06/26/19 21:23	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.62		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:14	10
Calcium	230		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:14	10

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-2A

Date Collected: 06/26/19 08:45

Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-3

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	19		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:14	10
Magnesium	130		0.20	0.10	mg/L		06/26/19 17:58	06/27/19 13:14	10
Manganese	0.69		0.20	0.15	mg/L		06/26/19 17:58	06/27/19 13:14	10
Potassium	6.7		5.0	2.5	mg/L		06/26/19 17:58	06/27/19 13:14	10
Sodium	410		5.0	2.6	mg/L		06/26/19 17:58	06/27/19 13:14	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.3		0.20	0.10	mg/L			07/01/19 13:36	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 16:57	1
Total Dissolved Solids	2700		20	10	mg/L			07/01/19 09:10	1
Total Sulfide	0.045	J	0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	3.3		0.10	0.050	mg/L			06/28/19 10:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		4.0	4.0	mg/L			06/27/19 07:43	1
Bicarbonate Alkalinity as CaCO3	360		4.0	4.0	mg/L			06/27/19 07:43	1
Carbon Dioxide, Free	34		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample ID: MW-2B

Date Collected: 06/26/19 09:40

Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-4

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			07/03/19 17:31	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Acrolein	ND		50	2.5	ug/L			06/29/19 16:47	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 16:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 17:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 17:31	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 17:31	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 17:31	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 17:31	1
Acetone	ND		20	10	ug/L			07/03/19 17:31	1
Acetonitrile	ND		20	10	ug/L			07/03/19 17:31	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 17:31	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 17:31	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 17:31	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-2B

Lab Sample ID: 440-244629-4

Date Collected: 06/26/19 09:40

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 17:31	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 17:31	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 17:31	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 17:31	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 17:31	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 17:31	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 17:31	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 17:31	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 17:31	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 17:31	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 17:31	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 17:31	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 17:31	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Propionitrile	ND		20	10	ug/L			07/03/19 17:31	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 17:31	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 17:31	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 17:31	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 17:31	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 17:31	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 17:31	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 17:31	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 17:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 17:31	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	13	T J	ug/L		5.88			07/03/19 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		06/29/19 16:47	1
4-Bromofluorobenzene (Surr)	115		80 - 120		06/29/19 16:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-2B

Lab Sample ID: 440-244629-4

Date Collected: 06/26/19 09:40

Matrix: Water

Date Received: 06/26/19 15:45

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		07/03/19 17:31	1
4-Bromofluorobenzene (Surr)	97		80 - 120		07/03/19 17:31	1
Dibromofluoromethane (Surr)	95		76 - 132		06/29/19 16:47	1
Dibromofluoromethane (Surr)	97		76 - 132		07/03/19 17:31	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		06/28/19 10:57	07/02/19 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	49		30 - 120	06/28/19 10:57	07/02/19 16:20	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.50	mg/L			06/26/19 21:39	2
Nitrate as N	ND		0.22	0.11	mg/L			06/26/19 21:39	2
Chloride	14		1.0	0.50	mg/L			06/26/19 21:39	2
Fluoride	1.3		1.0	0.50	mg/L			06/26/19 21:39	2

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1600		50	25	mg/L			06/26/19 22:26	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.62		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:22	10
Calcium	190		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:22	10
Iron	2.3		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:22	10
Magnesium	120		0.20	0.10	mg/L		06/26/19 17:58	06/27/19 13:22	10
Manganese	ND		0.20	0.15	mg/L		06/26/19 17:58	06/27/19 13:22	10
Potassium	4.3	J	5.0	2.5	mg/L		06/26/19 17:58	06/27/19 13:22	10
Sodium	450		5.0	2.6	mg/L		06/26/19 17:58	06/27/19 13:22	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.6		0.20	0.10	mg/L			07/01/19 13:42	1
Chemical Oxygen Demand	ND		20	10	mg/L			07/09/19 16:57	1
Total Dissolved Solids	2700		20	10	mg/L			07/01/19 09:10	1
Total Sulfide	ND		0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	1.7		0.10	0.050	mg/L			06/28/19 12:14	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			06/27/19 07:53	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			06/27/19 07:53	1
Carbon Dioxide, Free	18		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-9

Lab Sample ID: 440-244629-5

Date Collected: 06/26/19 12:40

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 17:59	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Acrolein	ND		50	2.5	ug/L			06/29/19 17:17	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 17:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 17:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 17:59	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 17:59	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 17:59	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 17:59	1
Acetone	ND		20	10	ug/L			07/03/19 17:59	1
Acetonitrile	ND		20	10	ug/L			07/03/19 17:59	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 17:59	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 17:59	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 17:59	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 17:59	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 17:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 17:59	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
cis-1,2-Dichloroethene	0.58		0.50	0.25	ug/L			07/03/19 17:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 17:59	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 17:59	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 17:59	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 17:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 17:59	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 17:59	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 17:59	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-9

Lab Sample ID: 440-244629-5

Date Collected: 06/26/19 12:40

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 17:59	1
Methyl tert-butyl ether	0.58		0.50	0.25	ug/L			07/03/19 17:59	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 17:59	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Propionitrile	ND		20	10	ug/L			07/03/19 17:59	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
t-Butanol	16		10	5.0	ug/L			07/03/19 17:59	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 17:59	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 17:59	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 17:59	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 17:59	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 17:59	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 17:59	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 17:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 17:59	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.0	T J	ug/L		2.50			07/03/19 17:59	1
Unknown	5.0	T J	ug/L		4.48			07/03/19 17:59	1
Unknown	13	T J	ug/L		5.88			07/03/19 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		06/29/19 17:17	1
4-Bromofluorobenzene (Surr)	115		80 - 120		06/29/19 17:17	1
Toluene-d8 (Surr)	105		80 - 128		07/03/19 17:59	1
4-Bromofluorobenzene (Surr)	98		80 - 120		07/03/19 17:59	1
Dibromofluoromethane (Surr)	97		76 - 132		06/29/19 17:17	1
Dibromofluoromethane (Surr)	95		76 - 132		07/03/19 17:59	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	16		0.98	0.25	ug/L		06/28/19 10:57	07/02/19 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	48		30 - 120	06/28/19 10:57	07/02/19 16:42	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.7	J	5.0	2.5	mg/L			06/26/19 23:42	10
Nitrate as N	ND		1.1	0.55	mg/L			06/26/19 23:42	10
Chloride	180		5.0	2.5	mg/L			06/26/19 23:42	10
Fluoride	3.0	J	5.0	2.5	mg/L			06/26/19 23:42	10
Sulfate	1800		100	50	mg/L			06/26/19 23:57	200

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-9

Lab Sample ID: 440-244629-5

Date Collected: 06/26/19 12:40

Matrix: Water

Date Received: 06/26/19 15:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:24	10
Calcium	440		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:24	10
Iron	60		1.0	0.50	mg/L		06/26/19 17:58	06/27/19 13:24	10
Magnesium	240		0.20	0.10	mg/L		06/26/19 17:58	06/27/19 13:24	10
Manganese	4.9		0.20	0.15	mg/L		06/26/19 17:58	06/27/19 13:24	10
Potassium	25		5.0	2.5	mg/L		06/26/19 17:58	06/27/19 13:24	10
Sodium	350		5.0	2.6	mg/L		06/26/19 17:58	06/27/19 13:24	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	7.1		0.20	0.10	mg/L			07/01/19 14:12	1
Chemical Oxygen Demand	88		20	10	mg/L			07/09/19 16:57	1
Total Dissolved Solids	3800		20	10	mg/L			07/01/19 09:10	1
Total Sulfide	ND		0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	37		1.0	0.50	mg/L			06/28/19 14:53	10

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	740		4.0	4.0	mg/L			06/27/19 08:07	1
Bicarbonate Alkalinity as CaCO3	740		4.0	4.0	mg/L			06/27/19 08:07	1
Carbon Dioxide, Free	130		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample ID: DW-4

Lab Sample ID: 440-244629-6

Date Collected: 06/26/19 10:40

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 22:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Acrolein	ND		50	2.5	ug/L			06/29/19 17:48	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 17:48	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 22:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 22:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 22:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 22:07	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 22:07	1
Acetone	ND		20	10	ug/L			07/03/19 22:07	1
Acetonitrile	ND		20	10	ug/L			07/03/19 22:07	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 22:07	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: DW-4

Lab Sample ID: 440-244629-6

Date Collected: 06/26/19 10:40

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 22:07	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 22:07	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 22:07	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 22:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 22:07	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 22:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 22:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 22:07	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 22:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 22:07	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 22:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 22:07	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 22:07	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 22:07	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Propionitrile	ND		20	10	ug/L			07/03/19 22:07	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 22:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 22:07	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 22:07	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 22:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 22:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 22:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 22:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 22:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 22:07	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.0	TJ	ug/L		3.86			07/03/19 22:07	1
Unknown	15	TJ	ug/L		5.88			07/03/19 22:07	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: DW-4
Date Collected: 06/26/19 10:40
Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-6
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		06/29/19 17:48	1
4-Bromofluorobenzene (Surr)	116		80 - 120		06/29/19 17:48	1
Toluene-d8 (Surr)	96		80 - 128		07/03/19 22:07	1
4-Bromofluorobenzene (Surr)	96		80 - 120		07/03/19 22:07	1
Dibromofluoromethane (Surr)	96		76 - 132		06/29/19 17:48	1
Dibromofluoromethane (Surr)	105		76 - 132		07/03/19 22:07	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		06/28/19 10:57	07/02/19 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	49		30 - 120	06/28/19 10:57	07/02/19 17:04	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			06/27/19 00:13	5
Nitrate as N	ND		0.55	0.28	mg/L			06/27/19 00:13	5
Chloride	14		2.5	1.3	mg/L			06/27/19 00:13	5
Fluoride	1.3	J	2.5	1.3	mg/L			06/27/19 00:13	5

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1700		100	50	mg/L			06/27/19 01:00	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.63		0.25	0.13	mg/L		06/26/19 17:58	06/27/19 13:26	5
Calcium	190		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:26	5
Iron	1.7		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 13:26	5
Magnesium	140		0.10	0.050	mg/L		06/26/19 17:58	06/27/19 13:26	5
Manganese	0.12		0.10	0.075	mg/L		06/26/19 17:58	06/27/19 13:26	5
Potassium	4.6		2.5	1.3	mg/L		06/26/19 17:58	06/27/19 13:26	5
Sodium	490		2.5	1.3	mg/L		06/26/19 17:58	06/27/19 13:26	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	4.3		0.20	0.10	mg/L			07/01/19 13:52	1
Chemical Oxygen Demand	12	J	20	10	mg/L			07/09/19 16:58	1
Total Dissolved Solids	2900		20	10	mg/L			07/01/19 09:10	1
Total Sulfide	ND		0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	1.8		0.10	0.050	mg/L			06/28/19 12:46	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			06/27/19 08:51	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			06/27/19 08:51	1
Carbon Dioxide, Free	14		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244629-7

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

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			07/05/19 11:32	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Acrolein	ND		50	2.5	ug/L			06/27/19 13:52	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 13:52	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/05/19 11:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/05/19 11:32	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/05/19 11:32	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/05/19 11:32	1
2-Hexanone	ND		5.0	2.5	ug/L			07/05/19 11:32	1
Acetone	ND		20	10	ug/L			07/05/19 11:32	1
Acetonitrile	ND		20	10	ug/L			07/05/19 11:32	1
Acrolein	ND		5.0	2.5	ug/L			07/05/19 11:32	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/05/19 11:32	1
Benzene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Allyl chloride	ND		1.0	0.50	ug/L			07/05/19 11:32	1
Bromoform	ND		1.0	0.40	ug/L			07/05/19 11:32	1
Bromomethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/05/19 11:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Chloroethane	ND		1.0	0.40	ug/L			07/05/19 11:32	1
Chloroform	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Chloromethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Dibromomethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/05/19 11:32	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/05/19 11:32	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Iodomethane	ND		2.0	1.0	ug/L			07/05/19 11:32	1
Isobutyl alcohol	ND		25	13	ug/L			07/05/19 11:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/05/19 11:32	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/05/19 11:32	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/05/19 11:32	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244629-7

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

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			07/05/19 11:32	1
Naphthalene	ND		1.0	0.40	ug/L			07/05/19 11:32	1
o-Xylene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Propionitrile	ND		20	10	ug/L			07/05/19 11:32	1
Styrene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
t-Butanol	ND		10	5.0	ug/L			07/05/19 11:32	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/05/19 11:32	1
Toluene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/05/19 11:32	1
Trichloroethene	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/05/19 11:32	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/05/19 11:32	1
Vinyl chloride	ND *		0.50	0.25	ug/L			07/05/19 11:32	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/05/19 11:32	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/05/19 11:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/05/19 11:32	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	13	T J	ug/L		5.88			07/05/19 11:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		06/27/19 13:52	1
4-Bromofluorobenzene (Surr)	97		80 - 120		06/27/19 13:52	1
Toluene-d8 (Surr)	104		80 - 128		07/05/19 11:32	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/05/19 11:32	1
Dibromofluoromethane (Surr)	102		76 - 132		06/27/19 13:52	1
Dibromofluoromethane (Surr)	96		76 - 132		07/05/19 11:32	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/06/19 00:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	10	T J	ug/L		7.17			07/06/19 00:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 128		07/06/19 00:15	1
4-Bromofluorobenzene (Surr)	84		80 - 120		07/06/19 00:15	1
Dibromofluoromethane (Surr)	98		76 - 132		07/06/19 00:15	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244629-8

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 23:09	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244629-8

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

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			06/27/19 14:20	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 14:20	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 23:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 23:09	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 23:09	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 23:09	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 23:09	1
Acetone	ND		20	10	ug/L			07/03/19 23:09	1
Acetonitrile	ND		20	10	ug/L			07/03/19 23:09	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 23:09	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 23:09	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 23:09	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 23:09	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 23:09	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 23:09	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 23:09	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 23:09	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 23:09	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 23:09	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 23:09	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 23:09	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 23:09	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 23:09	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/03/19 23:09	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244629-8

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

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			07/03/19 23:09	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Propionitrile	ND		20	10	ug/L			07/03/19 23:09	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 23:09	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 23:09	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 23:09	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 23:09	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 23:09	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 23:09	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 23:09	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 23:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 23:09	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.6	T J	ug/L		3.97			07/03/19 23:09	1
Unknown	14	T J	ug/L		5.88			07/03/19 23:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		06/27/19 14:20	1
4-Bromofluorobenzene (Surr)	95		80 - 120		06/27/19 14:20	1
Toluene-d8 (Surr)	102		80 - 128		07/03/19 23:09	1
4-Bromofluorobenzene (Surr)	96		80 - 120		07/03/19 23:09	1
Dibromofluoromethane (Surr)	105		76 - 132		06/27/19 14:20	1
Dibromofluoromethane (Surr)	99		76 - 132		07/03/19 23:09	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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 = Eurofins 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

Job ID: 440-244629-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-244629-1

Date Collected: 06/26/19 09:20

Matrix: Water

Date Received: 06/26/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	555379	06/29/19 15:16	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555960	07/03/19 16:07	TCN	TAL IRV
Total/NA	Prep	3520C			945 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 20:47	JS1	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554721	06/26/19 20:06	NTN	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554722	06/26/19 20:06	NTN	TAL IRV
Total/NA	Analysis	300.0		200	5 mL	1.0 mL	554721	06/26/19 20:21	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554883	06/26/19 17:58	BV	TAL IRV
Total Recoverable	Analysis	6010B		10			555055	06/27/19 13:02	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 13:26	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:57	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554973	06/27/19 07:33	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	555544	07/01/19 09:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:17	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	555426	06/28/19 11:58	YZ	TAL IRV

Client Sample ID: MW-1

Lab Sample ID: 440-244629-2

Date Collected: 06/26/19 12:58

Matrix: Water

Date Received: 06/26/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	555379	06/29/19 15:46	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555960	07/03/19 16:35	TCN	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 21:09	JS1	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554721	06/26/19 20:37	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554722	06/26/19 20:37	NTN	TAL IRV
Total/NA	Analysis	300.0		100	5 mL	1.0 mL	554721	06/26/19 20:52	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554883	06/26/19 17:58	BV	TAL IRV
Total Recoverable	Analysis	6010B		10			555055	06/27/19 13:11	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 13:31	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:57	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554973	06/27/19 07:17	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555544	07/01/19 09:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	555426	06/28/19 15:09	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-2A

Date Collected: 06/26/19 08:45

Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-3

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	555379	06/29/19 16:16	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555960	07/03/19 17:03	TCN	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555528	07/01/19 21:31	JS1	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554721	06/26/19 21:08	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554722	06/26/19 21:08	NTN	TAL IRV
Total/NA	Analysis	300.0		100	5 mL	1.0 mL	554721	06/26/19 21:23	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554883	06/26/19 17:58	BV	TAL IRV
Total Recoverable	Analysis	6010B		10			555055	06/27/19 13:14	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 13:36	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:57	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554973	06/27/19 07:43	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555544	07/01/19 09:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	555426	06/28/19 10:40	YZ	TAL IRV

Client Sample ID: MW-2B

Date Collected: 06/26/19 09:40

Date Received: 06/26/19 15:45

Lab Sample ID: 440-244629-4

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	555379	06/29/19 16:47	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555960	07/03/19 17:31	TCN	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555838	07/02/19 16:20	YCL	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554721	06/26/19 21:39	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	554722	06/26/19 21:39	NTN	TAL IRV
Total/NA	Analysis	300.0	DL	100	5 mL	1.0 mL	554721	06/26/19 22:26	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554883	06/26/19 17:58	BV	TAL IRV
Total Recoverable	Analysis	6010B		10			555055	06/27/19 13:22	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 13:42	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:57	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554973	06/27/19 07:53	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555544	07/01/19 09:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	555426	06/28/19 12:14	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: MW-9

Lab Sample ID: 440-244629-5

Date Collected: 06/26/19 12:40

Matrix: Water

Date Received: 06/26/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	555379	06/29/19 17:17	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	555960	07/03/19 17:59	TCN	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555838	07/02/19 16:42	YCL	TAL IRV
Total/NA	Analysis	300.0		10			554721	06/26/19 23:42	NTN	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554722	06/26/19 23:42	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554721	06/26/19 23:57	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554883	06/26/19 17:58	BV	TAL IRV
Total Recoverable	Analysis	6010B		10			555055	06/27/19 13:24	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 14:12	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:57	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554973	06/27/19 08:07	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555544	07/01/19 09:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	555426	06/28/19 14:53	YZ	TAL IRV

Client Sample ID: DW-4

Lab Sample ID: 440-244629-6

Date Collected: 06/26/19 10:40

Matrix: Water

Date Received: 06/26/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	555379	06/29/19 17:48	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556104	07/03/19 22:07	GMA	TAL IRV
Total/NA	Prep	3520C			1020 mL	1.0 mL	555227	06/28/19 10:57	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555838	07/02/19 17:04	YCL	TAL IRV
Total/NA	Analysis	300.0		5			554721	06/27/19 00:13	NTN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL	1.0 mL	554722	06/27/19 00:13	NTN	TAL IRV
Total/NA	Analysis	300.0	DL	200			554721	06/27/19 01:00	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	554883	06/26/19 17:58	BV	TAL IRV
Total Recoverable	Analysis	6010B		5			555055	06/27/19 13:26	TQN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 13:52	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			554973	06/27/19 08:51	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555544	07/01/19 09:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	555426	06/28/19 12:46	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244629-7

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

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	556306	07/06/19 00:15	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	554936	06/27/19 13:52	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556163	07/05/19 11:32	MML	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-244629-8

Date Collected: 06/26/19 00:01

Matrix: Water

Date Received: 06/26/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	554936	06/27/19 14:20	AYL	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556104	07/03/19 23:09	GMA	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-554936/7
Matrix: Water
Analysis Batch: 554936

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			06/27/19 09:21	1
Acrylonitrile	ND		50	1.0	ug/L			06/27/19 09:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		06/27/19 09:21	1
4-Bromofluorobenzene (Surr)	100		80 - 120		06/27/19 09:21	1
Dibromofluoromethane (Surr)	107		76 - 132		06/27/19 09:21	1

Lab Sample ID: LCS 440-554936/8
Matrix: Water
Analysis Batch: 554936

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	9.88	5.24	J	ug/L		53	10 - 145
Acrylonitrile	100	87.5		ug/L		88	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Lab Sample ID: 440-244444-D-5 MS
Matrix: Water
Analysis Batch: 554936

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		9.88	5.50	J	ug/L		56	10 - 147
Acrylonitrile	ND		100	88.6		ug/L		89	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132

Lab Sample ID: 440-244444-D-5 MSD
Matrix: Water
Analysis Batch: 554936

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		9.88	4.83	J	ug/L		49	10 - 147	13	40
Acrylonitrile	ND		100	92.7		ug/L		93	38 - 144	5	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-555379/4
Matrix: Water
Analysis Batch: 555379

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			06/29/19 12:13	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 12:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		06/29/19 12:13	1
4-Bromofluorobenzene (Surr)	118		80 - 120		06/29/19 12:13	1
Dibromofluoromethane (Surr)	91		76 - 132		06/29/19 12:13	1

Lab Sample ID: LCS 440-555379/5
Matrix: Water
Analysis Batch: 555379

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	9.88	6.25	J	ug/L		63	10 - 145
Acrylonitrile	100	75.4		ug/L		75	48 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	107		80 - 128
4-Bromofluorobenzene (Surr)	118		80 - 120
Dibromofluoromethane (Surr)	93		76 - 132

Lab Sample ID: 440-244651-A-5 MS
Matrix: Water
Analysis Batch: 555379

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		98.8	60.2	J	ug/L		61	10 - 147
Acrylonitrile	ND		1000	742		ug/L		74	38 - 144

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	92		76 - 132

Lab Sample ID: 440-244651-A-5 MSD
Matrix: Water
Analysis Batch: 555379

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		98.8	52.4	J	ug/L		53	10 - 147	14	40
Acrylonitrile	ND		1000	719		ug/L		72	38 - 144	3	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	108		80 - 128
4-Bromofluorobenzene (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-555960/4
Matrix: Water
Analysis Batch: 555960

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			07/03/19 08:27	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 08:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 08:27	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 08:27	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 08:27	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 08:27	1
Acetone	ND		20	10	ug/L			07/03/19 08:27	1
Acetonitrile	ND		20	10	ug/L			07/03/19 08:27	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 08:27	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 08:27	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 08:27	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 08:27	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 08:27	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 08:27	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 08:27	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 08:27	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 08:27	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 08:27	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 08:27	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 08:27	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 08:27	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 08:27	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-555960/4
Matrix: Water
Analysis Batch: 555960

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			07/03/19 08:27	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 08:27	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Propionitrile	ND		20	10	ug/L			07/03/19 08:27	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 08:27	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 08:27	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 08:27	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 08:27	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 08:27	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 08:27	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 08:27	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 08:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 08:27	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/03/19 08:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		07/03/19 08:27	1
4-Bromofluorobenzene (Surr)	93		80 - 120		07/03/19 08:27	1
Dibromofluoromethane (Surr)	89		76 - 132		07/03/19 08:27	1

Lab Sample ID: LCS 440-555960/5
Matrix: Water
Analysis Batch: 555960

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	10.0	8.86		ug/L		89	63 - 130
1,1,1,2-Tetrachloroethane	10.0	9.98		ug/L		100	60 - 141
1,1,1-Trichloroethane	10.0	10.7		ug/L		107	70 - 130
1,1,1,2,2-Tetrachloroethane	10.0	9.01		ug/L		90	63 - 130
1,1,2-Trichloroethane	10.0	9.86		ug/L		99	70 - 130
1,1-Dichloroethane	10.0	9.62		ug/L		96	64 - 130
1,1-Dichloroethene	10.0	10.6		ug/L		106	70 - 130
1,1-Dichloropropene	10.0	10.9		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	10.0	11.2		ug/L		112	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	9.18		ug/L		92	52 - 140
1,2-Dichlorobenzene	10.0	9.92		ug/L		99	70 - 130
1,2-Dichloroethane	10.0	10.1		ug/L		101	57 - 138
1,2-Dichloropropane	10.0	9.06		ug/L		91	67 - 130
1,3-Dichlorobenzene	10.0	9.91		ug/L		99	70 - 130
1,3-Dichloropropane	10.0	9.81		ug/L		98	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: LCS 440-555960/5

Matrix: Water

Analysis Batch: 555960

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	10.0	9.89		ug/L		99	70 - 130
2,2-Dichloropropane	10.0	10.9		ug/L		109	68 - 141
2-Hexanone	50.0	45.2		ug/L		90	10 - 150
Acetone	50.0	27.8		ug/L		56	10 - 150
Acrolein	9.88	7.69		ug/L		78	10 - 145
Acrylonitrile	100	83.0		ug/L		83	48 - 140
Benzene	10.0	9.57		ug/L		96	68 - 130
Bromoform	10.0	10.4		ug/L		104	60 - 148
Bromomethane	10.0	9.49		ug/L		95	64 - 139
Carbon disulfide	10.0	10.1		ug/L		101	52 - 136
Carbon tetrachloride	10.0	10.9		ug/L		109	60 - 150
Chlorobenzene	10.0	10.1		ug/L		101	70 - 130
Bromochloromethane	10.0	9.78		ug/L		98	70 - 130
Chloroethane	10.0	9.48		ug/L		95	64 - 135
Chloroform	10.0	9.88		ug/L		99	70 - 130
Chloromethane	10.0	8.89		ug/L		89	47 - 140
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	70 - 133
cis-1,3-Dichloropropene	10.0	9.98		ug/L		100	70 - 133
Dibromochloromethane	10.0	10.3		ug/L		103	69 - 145
Dibromomethane	10.0	9.68		ug/L		97	70 - 130
Bromodichloromethane	10.0	9.51		ug/L		95	70 - 132
Dichlorodifluoromethane	10.0	9.71		ug/L		97	29 - 150
Ethylbenzene	10.0	10.6		ug/L		106	70 - 130
m,p-Xylene	10.0	10.5		ug/L		105	70 - 130
Methylene Chloride	10.0	7.85		ug/L		78	52 - 130
Methyl tert-butyl ether	10.0	8.89		ug/L		89	63 - 131
Naphthalene	10.0	10.4		ug/L		104	60 - 140
o-Xylene	10.0	10.2		ug/L		102	70 - 130
Styrene	10.0	10.8		ug/L		108	70 - 134
t-Butanol	100	94.1		ug/L		94	70 - 130
Tetrachloroethene	10.0	11.4		ug/L		114	70 - 130
Toluene	10.0	10.4		ug/L		104	70 - 130
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
trans-1,3-Dichloropropene	10.0	10.2		ug/L		102	70 - 132
Trichloroethene	10.0	10.0		ug/L		100	70 - 130
Trichlorofluoromethane	10.0	11.5		ug/L		115	60 - 150
Vinyl acetate	10.0	9.37		ug/L		94	48 - 140
Vinyl chloride	10.0	10.8		ug/L		108	59 - 133
1,2-Dibromoethane (EDB)	10.0	9.91		ug/L		99	70 - 130
2-Butanone (MEK)	50.0	42.3		ug/L		85	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	45.0		ug/L		90	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	90		80 - 120
Dibromofluoromethane (Surr)	92		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244784-B-10 MS
Matrix: Water
Analysis Batch: 555960

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		10.0	9.59		ug/L		96	60 - 130
1,1,1,2-Tetrachloroethane	ND		10.0	10.4		ug/L		104	60 - 149
1,1,1-Trichloroethane	ND		10.0	10.9		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	9.48		ug/L		95	63 - 130
1,1,2-Trichloroethane	ND		10.0	10.3		ug/L		103	70 - 130
1,1-Dichloroethane	ND		10.0	9.91		ug/L		99	65 - 130
1,1-Dichloroethene	ND		10.0	10.5		ug/L		105	70 - 130
1,1-Dichloropropene	ND		10.0	11.1		ug/L		111	64 - 130
1,2,4-Trichlorobenzene	ND		10.0	11.5		ug/L		115	60 - 140
1,2-Dibromo-3-Chloropropane	ND		10.0	9.75		ug/L		98	48 - 140
1,2-Dichlorobenzene	ND		10.0	10.2		ug/L		102	70 - 130
1,2-Dichloroethane	ND		10.0	9.99		ug/L		100	56 - 146
1,2-Dichloropropane	ND		10.0	9.76		ug/L		98	69 - 130
1,3-Dichlorobenzene	ND		10.0	10.2		ug/L		102	70 - 130
1,3-Dichloropropane	ND		10.0	10.2		ug/L		102	70 - 130
1,4-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130
2,2-Dichloropropane	ND		10.0	11.5		ug/L		115	69 - 138
2-Hexanone	ND		50.0	49.8		ug/L		100	10 - 150
Acetone	ND		50.0	43.5		ug/L		87	10 - 150
Acrolein	ND		9.88	8.26		ug/L		84	10 - 147
Acrylonitrile	ND		100	99.6		ug/L		100	38 - 144
Benzene	ND		10.0	10.2		ug/L		102	66 - 130
Bromoform	ND		10.0	10.5		ug/L		105	59 - 150
Bromomethane	ND		10.0	10.0		ug/L		100	62 - 131
Carbon disulfide	ND		10.0	10.5		ug/L		105	49 - 140
Carbon tetrachloride	ND		10.0	10.9		ug/L		109	60 - 150
Chlorobenzene	ND		10.0	10.5		ug/L		105	70 - 130
Bromochloromethane	ND		10.0	10.1		ug/L		101	70 - 130
Chloroethane	ND		10.0	9.90		ug/L		99	68 - 130
Chloroform	ND		10.0	10.2		ug/L		102	70 - 130
Chloromethane	ND		10.0	9.73		ug/L		97	39 - 144
cis-1,2-Dichloroethene	ND		10.0	10.8		ug/L		108	70 - 130
cis-1,3-Dichloropropene	ND		10.0	10.4		ug/L		104	70 - 133
Dibromochloromethane	ND		10.0	10.5		ug/L		105	70 - 148
Dibromomethane	ND		10.0	10.4		ug/L		104	70 - 130
Bromodichloromethane	ND		10.0	10.2		ug/L		102	70 - 138
Dichlorodifluoromethane	ND		10.0	9.66		ug/L		97	25 - 142
Ethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130
m,p-Xylene	ND		10.0	10.7		ug/L		107	70 - 133
Methylene Chloride	ND		10.0	8.60		ug/L		86	52 - 130
Methyl tert-butyl ether	ND		10.0	9.87		ug/L		99	70 - 130
Naphthalene	ND		10.0	10.9		ug/L		109	60 - 140
o-Xylene	ND		10.0	10.6		ug/L		106	70 - 133
Styrene	ND		10.0	10.5		ug/L		105	29 - 150
t-Butanol	ND		100	94.6		ug/L		95	70 - 130
Tetrachloroethene	ND		10.0	11.4		ug/L		114	70 - 137
Toluene	ND		10.0	10.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	ND		10.0	10.5		ug/L		105	70 - 130

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244784-B-10 MS
Matrix: Water
Analysis Batch: 555960

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
trans-1,3-Dichloropropene	ND		10.0	10.5		ug/L		105	70 - 138
Trichloroethene	ND		10.0	10.7		ug/L		107	70 - 130
Trichlorofluoromethane	ND		10.0	11.6		ug/L		116	60 - 150
Vinyl acetate	ND		10.0	10.2		ug/L		102	23 - 150
Vinyl chloride	ND		10.0	11.4		ug/L		114	50 - 137
1,2-Dibromoethane (EDB)	ND		10.0	10.3		ug/L		103	70 - 131
2-Butanone (MEK)	ND		50.0	49.2		ug/L		98	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		50.0	49.4		ug/L		99	52 - 150
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	98		80 - 128						
4-Bromofluorobenzene (Surr)	91		80 - 120						
Dibromofluoromethane (Surr)	95		76 - 132						

Lab Sample ID: 440-244784-B-10 MSD
Matrix: Water
Analysis Batch: 555960

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,3-Trichloropropane	ND		10.0	10.3		ug/L		103	60 - 130	7	30
1,1,1,2-Tetrachloroethane	ND		10.0	10.3		ug/L		103	60 - 149	1	20
1,1,1-Trichloroethane	ND		10.0	10.8		ug/L		108	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		10.0	10.3		ug/L		103	63 - 130	9	30
1,1,2-Trichloroethane	ND		10.0	10.4		ug/L		104	70 - 130	0	25
1,1-Dichloroethane	ND		10.0	10.0		ug/L		100	65 - 130	1	20
1,1-Dichloroethene	ND		10.0	10.5		ug/L		105	70 - 130	0	20
1,1-Dichloropropene	ND		10.0	11.0		ug/L		110	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		10.0	11.4		ug/L		114	60 - 140	0	20
1,2-Dibromo-3-Chloropropane	ND		10.0	10.7		ug/L		107	48 - 140	9	30
1,2-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	2	20
1,2-Dichloroethane	ND		10.0	11.2		ug/L		112	56 - 146	12	20
1,2-Dichloropropane	ND		10.0	10.0		ug/L		100	69 - 130	3	20
1,3-Dichlorobenzene	ND		10.0	10.3		ug/L		103	70 - 130	1	20
1,3-Dichloropropane	ND		10.0	10.4		ug/L		104	70 - 130	2	25
1,4-Dichlorobenzene	ND		10.0	10.3		ug/L		103	70 - 130	1	20
2,2-Dichloropropane	ND		10.0	11.4		ug/L		114	69 - 138	1	25
2-Hexanone	ND		50.0	53.5		ug/L		107	10 - 150	7	35
Acetone	ND		50.0	45.3		ug/L		91	10 - 150	4	35
Acrolein	ND		9.88	7.80		ug/L		79	10 - 147	6	40
Acrylonitrile	ND		100	103		ug/L		103	38 - 144	4	40
Benzene	ND		10.0	10.1		ug/L		101	66 - 130	0	20
Bromoform	ND		10.0	10.8		ug/L		108	59 - 150	3	25
Bromomethane	ND		10.0	10.2		ug/L		102	62 - 131	2	25
Carbon disulfide	ND		10.0	10.3		ug/L		103	49 - 140	2	20
Carbon tetrachloride	ND		10.0	11.0		ug/L		110	60 - 150	1	25
Chlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	1	20
Bromochloromethane	ND		10.0	10.6		ug/L		106	70 - 130	4	25
Chloroethane	ND		10.0	9.89		ug/L		99	68 - 130	0	25

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244784-B-10 MSD

Matrix: Water

Analysis Batch: 555960

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		10.0	10.6		ug/L		106	70 - 130	4	20
Chloromethane	ND		10.0	9.50		ug/L		95	39 - 144	2	25
cis-1,2-Dichloroethene	ND		10.0	10.9		ug/L		109	70 - 130	1	20
cis-1,3-Dichloropropene	ND		10.0	10.4		ug/L		104	70 - 133	1	20
Dibromochloromethane	ND		10.0	11.1		ug/L		111	70 - 148	5	25
Dibromomethane	ND		10.0	10.8		ug/L		108	70 - 130	4	25
Bromodichloromethane	ND		10.0	10.4		ug/L		104	70 - 138	2	20
Dichlorodifluoromethane	ND		10.0	9.89		ug/L		99	25 - 142	2	30
Ethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130	0	20
m,p-Xylene	ND		10.0	10.7		ug/L		107	70 - 133	0	25
Methylene Chloride	ND		10.0	8.69		ug/L		87	52 - 130	1	20
Methyl tert-butyl ether	ND		10.0	10.3		ug/L		103	70 - 130	5	25
Naphthalene	ND		10.0	11.4		ug/L		114	60 - 140	5	30
o-Xylene	ND		10.0	10.5		ug/L		105	70 - 133	1	20
Styrene	ND		10.0	10.8		ug/L		108	29 - 150	2	35
t-Butanol	ND		100	89.9		ug/L		90	70 - 130	5	25
Tetrachloroethene	ND		10.0	11.2		ug/L		112	70 - 137	1	20
Toluene	ND		10.0	10.8		ug/L		108	70 - 130	0	20
trans-1,2-Dichloroethene	ND		10.0	10.5		ug/L		105	70 - 130	0	20
trans-1,3-Dichloropropene	ND		10.0	10.9		ug/L		109	70 - 138	3	25
Trichloroethene	ND		10.0	10.3		ug/L		103	70 - 130	3	20
Trichlorofluoromethane	ND		10.0	11.2		ug/L		112	60 - 150	4	25
Vinyl acetate	ND		10.0	10.9		ug/L		109	23 - 150	6	30
Vinyl chloride	ND		10.0	11.1		ug/L		111	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		10.0	10.6		ug/L		106	70 - 131	3	25
2-Butanone (MEK)	ND		50.0	51.8		ug/L		104	48 - 140	5	40
4-Methyl-2-pentanone (MIBK)	ND		50.0	51.7		ug/L		103	52 - 150	5	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	97		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	95		76 - 132

Lab Sample ID: MB 440-556104/4

Matrix: Water

Analysis Batch: 556104

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			07/03/19 19:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 19:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 19:47	1

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-556104/4
Matrix: Water
Analysis Batch: 556104

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			07/03/19 19:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 19:47	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 19:47	1
Acetone	ND		20	10	ug/L			07/03/19 19:47	1
Acetonitrile	ND		20	10	ug/L			07/03/19 19:47	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 19:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 19:47	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 19:47	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 19:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 19:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 19:47	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 19:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 19:47	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 19:47	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Propionitrile	ND		20	10	ug/L			07/03/19 19:47	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 19:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 19:47	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 19:47	1

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-556104/4
Matrix: Water
Analysis Batch: 556104

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 19:47	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 19:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 19:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 19:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 19:47	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					07/03/19 19:47	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	105		80 - 128		07/03/19 19:47	1
4-Bromofluorobenzene (Surr)	96		80 - 120		07/03/19 19:47	1
Dibromofluoromethane (Surr)	94		76 - 132		07/03/19 19:47	1

Lab Sample ID: LCS 440-556104/6
Matrix: Water
Analysis Batch: 556104

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	10.0	10.2		ug/L		102	60 - 141
1,1,1-Trichloroethane	10.0	10.6		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.95		ug/L		99	63 - 130
1,1,2-Trichloroethane	10.0	10.6		ug/L		106	70 - 130
1,1-Dichloroethane	10.0	10.4		ug/L		104	64 - 130
1,1-Dichloroethene	10.0	10.5		ug/L		105	70 - 130
1,1-Dichloropropene	10.0	10.8		ug/L		108	70 - 130
1,2,4-Trichlorobenzene	10.0	10.5		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	9.28		ug/L		93	52 - 140
1,2-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130
1,2-Dichloroethane	10.0	10.9		ug/L		109	57 - 138
1,2-Dichloropropane	10.0	10.2		ug/L		102	67 - 130
1,3-Dichlorobenzene	10.0	10.3		ug/L		103	70 - 130
1,3-Dichloropropane	10.0	10.4		ug/L		104	70 - 130
1,4-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130
2,2-Dichloropropane	10.0	10.5		ug/L		105	68 - 141
2-Hexanone	50.0	53.6		ug/L		107	10 - 150
Acetone	50.0	33.5		ug/L		67	10 - 150
Acrolein	9.88	8.62		ug/L		87	10 - 145
Acrylonitrile	100	103		ug/L		103	48 - 140
Benzene	10.0	10.2		ug/L		102	68 - 130
Bromoform	10.0	10.2		ug/L		102	60 - 148
Bromomethane	10.0	10.2		ug/L		102	64 - 139
Carbon disulfide	10.0	10.3		ug/L		103	52 - 136
Carbon tetrachloride	10.0	10.2		ug/L		102	60 - 150

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: LCS 440-556104/6
Matrix: Water
Analysis Batch: 556104

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	10.0	10.3		ug/L		103	70 - 130
Bromochloromethane	10.0	9.93		ug/L		99	70 - 130
Chloroethane	10.0	10.4		ug/L		104	64 - 135
Chloroform	10.0	10.4		ug/L		104	70 - 130
Chloromethane	10.0	10.3		ug/L		103	47 - 140
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 133
cis-1,3-Dichloropropene	10.0	10.6		ug/L		106	70 - 133
Dibromochloromethane	10.0	10.6		ug/L		106	69 - 145
Dibromomethane	10.0	10.3		ug/L		103	70 - 130
Bromodichloromethane	10.0	10.3		ug/L		103	70 - 132
Dichlorodifluoromethane	10.0	8.72		ug/L		87	29 - 150
Ethylbenzene	10.0	10.6		ug/L		106	70 - 130
m,p-Xylene	10.0	10.5		ug/L		105	70 - 130
Methylene Chloride	10.0	8.91		ug/L		89	52 - 130
Methyl tert-butyl ether	10.0	9.56		ug/L		96	63 - 131
Naphthalene	10.0	10.3		ug/L		103	60 - 140
o-Xylene	10.0	10.6		ug/L		106	70 - 130
Styrene	10.0	10.6		ug/L		106	70 - 134
t-Butanol	100	70.3		ug/L		70	70 - 130
Tetrachloroethene	10.0	10.7		ug/L		107	70 - 130
Toluene	10.0	10.6		ug/L		106	70 - 130
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
trans-1,3-Dichloropropene	10.0	10.7		ug/L		107	70 - 132
Trichloroethene	10.0	10.4		ug/L		104	70 - 130
Trichlorofluoromethane	10.0	10.9		ug/L		109	60 - 150
Vinyl acetate	10.0	10.0		ug/L		100	48 - 140
Vinyl chloride	10.0	11.6		ug/L		116	59 - 133
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 130
2-Butanone (MEK)	50.0	46.9		ug/L		94	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	52.2		ug/L		104	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

Lab Sample ID: 440-243426-G-3 MS
Matrix: Water
Analysis Batch: 556104

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		100	98.4		ug/L		98	60 - 130
1,1,1,2-Tetrachloroethane	ND		100	106		ug/L		106	60 - 149
1,1,1-Trichloroethane	ND		100	126		ug/L		126	70 - 130
1,1,2,2-Tetrachloroethane	ND		100	99.2		ug/L		99	63 - 130
1,1,2-Trichloroethane	ND		100	104		ug/L		104	70 - 130
1,1-Dichloroethane	ND		100	109		ug/L		109	65 - 130
1,1-Dichloroethene	ND		100	125		ug/L		125	70 - 130

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-243426-G-3 MS
Matrix: Water
Analysis Batch: 556104

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		100	129		ug/L		129	64 - 130
1,2,4-Trichlorobenzene	ND		100	101		ug/L		101	60 - 140
1,2-Dibromo-3-Chloropropane	ND		100	92.1		ug/L		92	48 - 140
1,2-Dichlorobenzene	ND		100	103		ug/L		103	70 - 130
1,2-Dichloroethane	ND		100	97.3		ug/L		97	56 - 146
1,2-Dichloropropane	ND		100	100		ug/L		100	69 - 130
1,3-Dichlorobenzene	ND		100	107		ug/L		107	70 - 130
1,3-Dichloropropane	ND		100	104		ug/L		104	70 - 130
1,4-Dichlorobenzene	ND		100	105		ug/L		105	70 - 130
2,2-Dichloropropane	ND		100	129		ug/L		129	69 - 138
2-Hexanone	ND		500	529		ug/L		106	10 - 150
Acetone	ND	F2	500	334		ug/L		67	10 - 150
Acrolein	ND	F1	98.8	ND	F1	ug/L		0	10 - 147
Acrylonitrile	ND		1000	941		ug/L		94	38 - 144
Benzene	ND		100	108		ug/L		108	66 - 130
Bromoform	ND		100	101		ug/L		101	59 - 150
Bromomethane	ND		100	111		ug/L		111	62 - 131
Carbon disulfide	ND		100	124		ug/L		124	49 - 140
Carbon tetrachloride	ND		100	125		ug/L		125	60 - 150
Chlorobenzene	ND		100	108		ug/L		108	70 - 130
Bromochloromethane	ND		100	94.2		ug/L		94	70 - 130
Chloroethane	ND		100	117		ug/L		117	68 - 130
Chloroform	ND		100	106		ug/L		106	70 - 130
Chloromethane	ND		100	113		ug/L		113	39 - 144
cis-1,2-Dichloroethene	ND		100	106		ug/L		106	70 - 130
cis-1,3-Dichloropropene	ND		100	107		ug/L		107	70 - 133
Dibromochloromethane	ND		100	105		ug/L		105	70 - 148
Dibromomethane	ND		100	99.4		ug/L		99	70 - 130
Bromodichloromethane	ND		100	95.8		ug/L		96	70 - 138
Dichlorodifluoromethane	ND		100	126		ug/L		126	25 - 142
Ethylbenzene	ND		100	118		ug/L		118	70 - 130
m,p-Xylene	ND		100	118		ug/L		118	70 - 133
Methylene Chloride	9.9	J	100	106		ug/L		96	52 - 130
Methyl tert-butyl ether	ND		100	93.0		ug/L		93	70 - 130
Naphthalene	ND		100	102		ug/L		102	60 - 140
o-Xylene	ND		100	113		ug/L		113	70 - 133
Styrene	ND		100	108		ug/L		108	29 - 150
t-Butanol	ND		1000	865		ug/L		86	70 - 130
Tetrachloroethene	ND		100	133		ug/L		133	70 - 137
Toluene	ND		100	118		ug/L		118	70 - 130
trans-1,2-Dichloroethene	ND		100	116		ug/L		116	70 - 130
trans-1,3-Dichloropropene	ND		100	102		ug/L		102	70 - 138
Trichloroethene	ND		100	117		ug/L		117	70 - 130
Trichlorofluoromethane	ND		100	137		ug/L		137	60 - 150
Vinyl acetate	ND		100	78.4		ug/L		78	23 - 150
Vinyl chloride	ND	F1	100	145	F1	ug/L		145	50 - 137
1,2-Dibromoethane (EDB)	ND		100	101		ug/L		101	70 - 131
2-Butanone (MEK)	ND		500	438		ug/L		88	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		500	526		ug/L		105	52 - 150

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

<i>Surrogate</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
<i>Toluene-d8 (Surr)</i>	103		80 - 128
<i>4-Bromofluorobenzene (Surr)</i>	94		80 - 120
<i>Dibromofluoromethane (Surr)</i>	89		76 - 132

Lab Sample ID: 440-243426-G-3 MSD
Matrix: Water
Analysis Batch: 556104

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		100	95.7		ug/L		96	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		100	102		ug/L		102	60 - 149	4	20
1,1,1-Trichloroethane	ND		100	104		ug/L		104	70 - 130	19	20
1,1,1,2,2-Tetrachloroethane	ND		100	100		ug/L		100	63 - 130	1	30
1,1,2-Trichloroethane	ND		100	106		ug/L		106	70 - 130	2	25
1,1-Dichloroethane	ND		100	96.9		ug/L		97	65 - 130	12	20
1,1-Dichloroethene	ND		100	103		ug/L		103	70 - 130	19	20
1,1-Dichloropropene	ND		100	107		ug/L		107	64 - 130	19	20
1,2,4-Trichlorobenzene	ND		100	102		ug/L		102	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		100	93.7		ug/L		94	48 - 140	2	30
1,2-Dichlorobenzene	ND		100	102		ug/L		102	70 - 130	1	20
1,2-Dichloroethane	ND		100	95.7		ug/L		96	56 - 146	2	20
1,2-Dichloropropane	ND		100	95.0		ug/L		95	69 - 130	5	20
1,3-Dichlorobenzene	ND		100	101		ug/L		101	70 - 130	5	20
1,3-Dichloropropane	ND		100	102		ug/L		102	70 - 130	3	25
1,4-Dichlorobenzene	ND		100	102		ug/L		102	70 - 130	3	20
2,2-Dichloropropane	ND		100	104		ug/L		104	69 - 138	21	25
2-Hexanone	ND		500	518		ug/L		104	10 - 150	2	35
Acetone	ND	F2	500	227	F2	ug/L		45	10 - 150	38	35
Acrolein	ND	F1	98.8	ND	F1	ug/L		0	10 - 147	NC	40
Acrylonitrile	ND		1000	953		ug/L		95	38 - 144	1	40
Benzene	ND		100	97.4		ug/L		97	66 - 130	10	20
Bromoform	ND		100	100		ug/L		100	59 - 150	1	25
Bromomethane	ND		100	98.4		ug/L		98	62 - 131	12	25
Carbon disulfide	ND		100	103		ug/L		103	49 - 140	19	20
Carbon tetrachloride	ND		100	103		ug/L		103	60 - 150	19	25
Chlorobenzene	ND		100	102		ug/L		102	70 - 130	5	20
Bromochloromethane	ND		100	93.7		ug/L		94	70 - 130	0	25
Chloroethane	ND		100	101		ug/L		101	68 - 130	15	25
Chloroform	ND		100	98.8		ug/L		99	70 - 130	7	20
Chloromethane	ND		100	96.9		ug/L		97	39 - 144	15	25
cis-1,2-Dichloroethene	ND		100	104		ug/L		104	70 - 130	2	20
cis-1,3-Dichloropropene	ND		100	105		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		100	103		ug/L		103	70 - 148	2	25
Dibromomethane	ND		100	95.5		ug/L		96	70 - 130	4	25
Bromodichloromethane	ND		100	96.5		ug/L		97	70 - 138	1	20
Dichlorodifluoromethane	ND		100	101		ug/L		101	25 - 142	22	30
Ethylbenzene	ND		100	108		ug/L		108	70 - 130	9	20
m,p-Xylene	ND		100	105		ug/L		105	70 - 133	11	25
Methylene Chloride	9.9	J	100	99.4		ug/L		89	52 - 130	6	20
Methyl tert-butyl ether	ND		100	91.7		ug/L		92	70 - 130	1	25
Naphthalene	ND		100	103		ug/L		103	60 - 140	2	30

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-243426-G-3 MSD
Matrix: Water
Analysis Batch: 556104

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
o-Xylene	ND		100	105		ug/L		105	70 - 133	7	20
Styrene	ND		100	104		ug/L		104	29 - 150	4	35
t-Butanol	ND		1000	788		ug/L		79	70 - 130	9	25
Tetrachloroethene	ND		100	111		ug/L		111	70 - 137	18	20
Toluene	ND		100	107		ug/L		107	70 - 130	10	20
trans-1,2-Dichloroethene	ND		100	100		ug/L		100	70 - 130	14	20
trans-1,3-Dichloropropene	ND		100	101		ug/L		101	70 - 138	1	25
Trichloroethene	ND		100	99.9		ug/L		100	70 - 130	15	20
Trichlorofluoromethane	ND		100	111		ug/L		111	60 - 150	21	25
Vinyl acetate	ND		100	72.9		ug/L		73	23 - 150	7	30
Vinyl chloride	ND	F1	100	116		ug/L		116	50 - 137	23	30
1,2-Dibromoethane (EDB)	ND		100	103		ug/L		103	70 - 131	1	25
2-Butanone (MEK)	ND		500	429		ug/L		86	48 - 140	2	40
4-Methyl-2-pentanone (MIBK)	ND		500	515		ug/L		103	52 - 150	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Lab Sample ID: MB 440-556163/4
Matrix: Water
Analysis Batch: 556163

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			07/05/19 08:32	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/05/19 08:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/05/19 08:32	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/05/19 08:32	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/05/19 08:32	1
2-Hexanone	ND		5.0	2.5	ug/L			07/05/19 08:32	1
Acetone	ND		20	10	ug/L			07/05/19 08:32	1
Acetonitrile	ND		20	10	ug/L			07/05/19 08:32	1
Acrolein	ND		5.0	2.5	ug/L			07/05/19 08:32	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/05/19 08:32	1

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-556163/4
Matrix: Water
Analysis Batch: 556163

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Allyl chloride	ND		1.0	0.50	ug/L			07/05/19 08:32	1
Bromoform	ND		1.0	0.40	ug/L			07/05/19 08:32	1
Bromomethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/05/19 08:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Chloroethane	ND		1.0	0.40	ug/L			07/05/19 08:32	1
Chloroform	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Chloromethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Dibromomethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/05/19 08:32	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/05/19 08:32	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Iodomethane	ND		2.0	1.0	ug/L			07/05/19 08:32	1
Isobutyl alcohol	ND		25	13	ug/L			07/05/19 08:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/05/19 08:32	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/05/19 08:32	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/05/19 08:32	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/05/19 08:32	1
Naphthalene	ND		1.0	0.40	ug/L			07/05/19 08:32	1
o-Xylene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Propionitrile	ND		20	10	ug/L			07/05/19 08:32	1
Styrene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
t-Butanol	ND		10	5.0	ug/L			07/05/19 08:32	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/05/19 08:32	1
Toluene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/05/19 08:32	1
Trichloroethene	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/05/19 08:32	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/05/19 08:32	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/05/19 08:32	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/05/19 08:32	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/05/19 08:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/05/19 08:32	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tentatively Identified Compound</i>	<i>None</i>		<i>ug/L</i>					<i>07/05/19 08:32</i>	<i>1</i>

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: MB 440-556163/4
Matrix: Water
Analysis Batch: 556163

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

<i>Surrogate</i>	<i>MB</i>	<i>MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	%Recovery	Qualifier				
<i>Toluene-d8 (Surr)</i>	110		80 - 128		07/05/19 08:32	1
<i>4-Bromofluorobenzene (Surr)</i>	102		80 - 120		07/05/19 08:32	1
<i>Dibromofluoromethane (Surr)</i>	92		76 - 132		07/05/19 08:32	1

Lab Sample ID: LCS 440-556163/5
Matrix: Water
Analysis Batch: 556163

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

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i>
	Added	Result	Qualifier				Limits
1,2,3-Trichloropropane	10.0	10.2		ug/L		102	63 - 130
1,1,1,2-Tetrachloroethane	10.0	10.1		ug/L		101	60 - 141
1,1,1-Trichloroethane	10.0	12.5		ug/L		125	70 - 130
1,1,2,2-Tetrachloroethane	10.0	10.6		ug/L		106	63 - 130
1,1,2-Trichloroethane	10.0	10.3		ug/L		103	70 - 130
1,1-Dichloroethane	10.0	10.9		ug/L		109	64 - 130
1,1-Dichloroethene	10.0	12.2		ug/L		122	70 - 130
1,1-Dichloropropene	10.0	12.9		ug/L		129	70 - 130
1,2,4-Trichlorobenzene	10.0	9.92		ug/L		99	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	9.97		ug/L		100	52 - 140
1,2-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130
1,2-Dichloroethane	10.0	9.84		ug/L		98	57 - 138
1,2-Dichloropropane	10.0	10.2		ug/L		102	67 - 130
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130
1,3-Dichloropropane	10.0	10.2		ug/L		102	70 - 130
1,4-Dichlorobenzene	10.0	10.5		ug/L		105	70 - 130
2,2-Dichloropropane	10.0	12.5		ug/L		125	68 - 141
2-Hexanone	50.0	56.3		ug/L		113	10 - 150
Acetone	50.0	36.0		ug/L		72	10 - 150
Acrolein	9.88	6.42		ug/L		65	10 - 145
Acrylonitrile	100	102		ug/L		102	48 - 140
Benzene	10.0	10.6		ug/L		106	68 - 130
Bromoform	10.0	9.56		ug/L		96	60 - 148
Bromomethane	10.0	10.9		ug/L		109	64 - 139
Carbon disulfide	10.0	12.5		ug/L		125	52 - 136
Carbon tetrachloride	10.0	12.0		ug/L		120	60 - 150
Chlorobenzene	10.0	10.7		ug/L		107	70 - 130
Bromochloromethane	10.0	9.47		ug/L		95	70 - 130
Chloroethane	10.0	11.7		ug/L		117	64 - 135
Chloroform	10.0	10.3		ug/L		103	70 - 130
Chloromethane	10.0	11.0		ug/L		110	47 - 140
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 133
cis-1,3-Dichloropropene	10.0	10.3		ug/L		103	70 - 133
Dibromochloromethane	10.0	10.0		ug/L		100	69 - 145
Dibromomethane	10.0	9.81		ug/L		98	70 - 130
Bromodichloromethane	10.0	10.0		ug/L		100	70 - 132
Dichlorodifluoromethane	10.0	11.8		ug/L		118	29 - 150
Ethylbenzene	10.0	11.9		ug/L		119	70 - 130
m,p-Xylene	10.0	11.5		ug/L		115	70 - 130

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: LCS 440-556163/5
Matrix: Water
Analysis Batch: 556163

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	10.0	8.58		ug/L		86	52 - 130
Methyl tert-butyl ether	10.0	7.48		ug/L		75	63 - 131
Naphthalene	10.0	9.93		ug/L		99	60 - 140
o-Xylene	10.0	11.5		ug/L		115	70 - 130
Styrene	10.0	10.7		ug/L		107	70 - 134
t-Butanol	100	97.9		ug/L		98	70 - 130
Tetrachloroethene	10.0	12.8		ug/L		128	70 - 130
Toluene	10.0	11.8		ug/L		118	70 - 130
trans-1,2-Dichloroethene	10.0	11.5		ug/L		115	70 - 130
trans-1,3-Dichloropropene	10.0	9.96		ug/L		100	70 - 132
Trichloroethene	10.0	11.2		ug/L		112	70 - 130
Trichlorofluoromethane	10.0	13.7		ug/L		137	60 - 150
Vinyl acetate	10.0	10.6		ug/L		106	48 - 140
Vinyl chloride	10.0	14.7	*	ug/L		147	59 - 133
1,2-Dibromoethane (EDB)	10.0	10.1		ug/L		101	70 - 130
2-Butanone (MEK)	50.0	46.6		ug/L		93	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	54.5		ug/L		109	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132

Lab Sample ID: 440-244971-B-1 MS
Matrix: Water
Analysis Batch: 556163

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		10.0	9.31		ug/L		93	60 - 130
1,1,1,2-Tetrachloroethane	ND		10.0	8.51		ug/L		85	60 - 149
1,1,1-Trichloroethane	ND	F2	10.0	9.53		ug/L		95	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	10.2		ug/L		102	63 - 130
1,1,2-Trichloroethane	ND		10.0	9.96		ug/L		100	70 - 130
1,1-Dichloroethane	ND		10.0	8.73		ug/L		87	65 - 130
1,1-Dichloroethene	ND	F2	10.0	9.38		ug/L		94	70 - 130
1,1-Dichloropropene	ND	F2	10.0	9.79		ug/L		98	64 - 130
1,2,4-Trichlorobenzene	ND		10.0	9.06		ug/L		91	60 - 140
1,2-Dibromo-3-Chloropropane	ND		10.0	9.89		ug/L		99	48 - 140
1,2-Dichlorobenzene	ND		10.0	9.06		ug/L		91	70 - 130
1,2-Dichloroethane	ND		10.0	9.61		ug/L		96	56 - 146
1,2-Dichloropropane	ND		10.0	8.74		ug/L		87	69 - 130
1,3-Dichlorobenzene	ND		10.0	8.80		ug/L		88	70 - 130
1,3-Dichloropropane	ND		10.0	9.62		ug/L		96	70 - 130
1,4-Dichlorobenzene	ND		10.0	8.91		ug/L		89	70 - 130
2,2-Dichloropropane	ND		10.0	9.40		ug/L		94	69 - 138
2-Hexanone	ND		50.0	53.9		ug/L		108	10 - 150
Acetone	ND		50.0	34.0		ug/L		68	10 - 150
Acrolein	ND		9.88	6.84		ug/L		69	10 - 147

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244971-B-1 MS

Matrix: Water

Analysis Batch: 556163

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result			Result	Qualifier				
Acrylonitrile	ND		100	97.1		ug/L		97	38 - 144
Benzene	ND		10.0	8.66		ug/L		87	66 - 130
Bromoform	ND		10.0	9.12		ug/L		91	59 - 150
Bromomethane	ND		10.0	8.26		ug/L		83	62 - 131
Carbon disulfide	ND	F2	10.0	9.39		ug/L		94	49 - 140
Carbon tetrachloride	ND		10.0	9.12		ug/L		91	60 - 150
Chlorobenzene	ND		10.0	9.00		ug/L		90	70 - 130
Bromochloromethane	ND		10.0	8.75		ug/L		88	70 - 130
Chloroethane	ND		10.0	8.95		ug/L		90	68 - 130
Chloroform	ND		10.0	8.69		ug/L		87	70 - 130
Chloromethane	ND		10.0	8.83		ug/L		88	39 - 144
cis-1,2-Dichloroethene	ND		10.0	8.93		ug/L		89	70 - 130
cis-1,3-Dichloropropene	ND		10.0	9.05		ug/L		91	70 - 133
Dibromochloromethane	ND		10.0	9.45		ug/L		94	70 - 148
Dibromomethane	ND		10.0	9.08		ug/L		91	70 - 130
Bromodichloromethane	ND		10.0	8.70		ug/L		87	70 - 138
Dichlorodifluoromethane	ND		10.0	7.61		ug/L		76	25 - 142
Ethylbenzene	ND		10.0	9.54		ug/L		95	70 - 130
m,p-Xylene	ND		10.0	9.25		ug/L		93	70 - 133
Methylene Chloride	ND		10.0	7.19		ug/L		72	52 - 130
Methyl tert-butyl ether	ND		10.0	7.14		ug/L		71	70 - 130
Naphthalene	ND		10.0	9.65		ug/L		97	60 - 140
o-Xylene	ND		10.0	9.24		ug/L		92	70 - 133
Styrene	ND		10.0	8.85		ug/L		89	29 - 150
t-Butanol	ND		100	106		ug/L		106	70 - 130
Tetrachloroethene	ND		10.0	9.80		ug/L		98	70 - 137
Toluene	ND		10.0	9.45		ug/L		94	70 - 130
trans-1,2-Dichloroethene	ND		10.0	8.70		ug/L		87	70 - 130
trans-1,3-Dichloropropene	ND		10.0	9.45		ug/L		95	70 - 138
Trichloroethene	ND		10.0	8.92		ug/L		89	70 - 130
Trichlorofluoromethane	ND	F2	10.0	10.0		ug/L		100	60 - 150
Vinyl acetate	ND		10.0	10.2		ug/L		102	23 - 150
Vinyl chloride	ND	*	10.0	10.6		ug/L		106	50 - 137
1,2-Dibromoethane (EDB)	ND		10.0	9.96		ug/L		100	70 - 131
2-Butanone (MEK)	ND		50.0	45.1		ug/L		90	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		50.0	54.7		ug/L		109	52 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Lab Sample ID: 440-244971-B-1 MSD

Matrix: Water

Analysis Batch: 556163

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result			Result	Qualifier						
1,2,3-Trichloropropane	ND		10.0	9.95		ug/L		100	60 - 130	7	30

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244971-B-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 556163

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,1,1,2-Tetrachloroethane	ND		10.0	8.35		ug/L		84	60 - 149	2	20
1,1,1-Trichloroethane	ND	F2	10.0	7.50	F2	ug/L		75	70 - 130	24	20
1,1,2,2-Tetrachloroethane	ND		10.0	10.7		ug/L		107	63 - 130	5	30
1,1,2-Trichloroethane	ND		10.0	9.80		ug/L		98	70 - 130	2	25
1,1-Dichloroethane	ND		10.0	7.62		ug/L		76	65 - 130	14	20
1,1-Dichloroethene	ND	F2	10.0	7.35	F2	ug/L		74	70 - 130	24	20
1,1-Dichloropropene	ND	F2	10.0	7.89	F2	ug/L		79	64 - 130	22	20
1,2,4-Trichlorobenzene	ND		10.0	8.78		ug/L		88	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		10.0	10.0		ug/L		100	48 - 140	2	30
1,2-Dichlorobenzene	ND		10.0	8.65		ug/L		86	70 - 130	5	20
1,2-Dichloroethane	ND		10.0	9.30		ug/L		93	56 - 146	3	20
1,2-Dichloropropane	ND		10.0	8.24		ug/L		82	69 - 130	6	20
1,3-Dichlorobenzene	ND		10.0	8.37		ug/L		84	70 - 130	5	20
1,3-Dichloropropane	ND		10.0	9.83		ug/L		98	70 - 130	2	25
1,4-Dichlorobenzene	ND		10.0	8.45		ug/L		84	70 - 130	5	20
2,2-Dichloropropane	ND		10.0	7.53		ug/L		75	69 - 138	22	25
2-Hexanone	ND		50.0	57.1		ug/L		114	10 - 150	6	35
Acetone	ND		50.0	37.6		ug/L		75	10 - 150	10	35
Acrolein	ND		9.88	6.60		ug/L		67	10 - 147	4	40
Acrylonitrile	ND		100	99.6		ug/L		100	38 - 144	3	40
Benzene	ND		10.0	7.59		ug/L		76	66 - 130	13	20
Bromoform	ND		10.0	9.29		ug/L		93	59 - 150	2	25
Bromomethane	ND		10.0	7.53		ug/L		75	62 - 131	9	25
Carbon disulfide	ND	F2	10.0	7.50	F2	ug/L		75	49 - 140	22	20
Carbon tetrachloride	ND		10.0	7.17		ug/L		72	60 - 150	24	25
Chlorobenzene	ND		10.0	8.39		ug/L		84	70 - 130	7	20
Bromochloromethane	ND		10.0	8.30		ug/L		83	70 - 130	5	25
Chloroethane	ND		10.0	7.20		ug/L		72	68 - 130	22	25
Chloroform	ND		10.0	7.74		ug/L		77	70 - 130	12	20
Chloromethane	ND		10.0	7.54		ug/L		75	39 - 144	16	25
cis-1,2-Dichloroethene	ND		10.0	7.99		ug/L		80	70 - 130	11	20
cis-1,3-Dichloropropene	ND		10.0	8.91		ug/L		89	70 - 133	2	20
Dibromochloromethane	ND		10.0	9.23		ug/L		92	70 - 148	2	25
Dibromomethane	ND		10.0	9.22		ug/L		92	70 - 130	2	25
Bromodichloromethane	ND		10.0	8.21		ug/L		82	70 - 138	6	20
Dichlorodifluoromethane	ND		10.0	5.82		ug/L		58	25 - 142	27	30
Ethylbenzene	ND		10.0	8.22		ug/L		82	70 - 130	15	20
m,p-Xylene	ND		10.0	8.08		ug/L		81	70 - 133	14	25
Methylene Chloride	ND		10.0	6.95		ug/L		70	52 - 130	3	20
Methyl tert-butyl ether	ND		10.0	7.28		ug/L		73	70 - 130	2	25
Naphthalene	ND		10.0	10.1		ug/L		101	60 - 140	5	30
o-Xylene	ND		10.0	8.20		ug/L		82	70 - 133	12	20
Styrene	ND		10.0	8.04		ug/L		80	29 - 150	10	35
t-Butanol	ND		100	97.3		ug/L		97	70 - 130	9	25
Tetrachloroethene	ND		10.0	8.08		ug/L		81	70 - 137	19	20
Toluene	ND		10.0	8.14		ug/L		81	70 - 130	15	20
trans-1,2-Dichloroethene	ND		10.0	7.56		ug/L		76	70 - 130	14	20
trans-1,3-Dichloropropene	ND		10.0	9.31		ug/L		93	70 - 138	1	25
Trichloroethene	ND		10.0	7.31		ug/L		73	70 - 130	20	20

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244971-B-1 MSD
Matrix: Water
Analysis Batch: 556163

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
Trichlorofluoromethane	ND	F2	10.0	7.70	F2	ug/L		77	60 - 150	26	25
Vinyl acetate	ND		10.0	10.2		ug/L		102	23 - 150	0	30
Vinyl chloride	ND	*	10.0	8.55		ug/L		86	50 - 137	21	30
1,2-Dibromoethane (EDB)	ND		10.0	10.2		ug/L		102	70 - 131	2	25
2-Butanone (MEK)	ND		50.0	47.2		ug/L		94	48 - 140	5	40
4-Methyl-2-pentanone (MIBK)	ND		50.0	55.3		ug/L		111	52 - 150	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	92		76 - 132

Lab Sample ID: MB 440-556306/4
Matrix: Water
Analysis Batch: 556306

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			07/05/19 20:17	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/05/19 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 128		07/05/19 20:17	1
4-Bromofluorobenzene (Surr)	84		80 - 120		07/05/19 20:17	1
Dibromofluoromethane (Surr)	97		76 - 132		07/05/19 20:17	1

Lab Sample ID: LCS 440-556306/29
Matrix: Water
Analysis Batch: 556306

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	10.0	8.69		ug/L		87	63 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	96		80 - 128
4-Bromofluorobenzene (Surr)	83		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-244541-A-2 MS
Matrix: Water
Analysis Batch: 556306

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
Methyl tert-butyl ether	5.3		10.0	13.8		ug/L		85	70 - 130

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

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

Lab Sample ID: 440-244541-A-2 MS
Matrix: Water
Analysis Batch: 556306

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	83		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

Lab Sample ID: 440-244541-A-2 MSD
Matrix: Water
Analysis Batch: 556306

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
Methyl tert-butyl ether	5.3		10.0	13.1		ug/L		78	70 - 130	5	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	86		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-555227/1-A
Matrix: Water
Analysis Batch: 555528

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		06/28/19 10:57	07/01/19 13:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		30 - 120	06/28/19 10:57	07/01/19 13:27	1

Lab Sample ID: LCS 440-555227/3-A
Matrix: Water
Analysis Batch: 555528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.29		ug/L		64	35 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	63		30 - 120

Lab Sample ID: LCSD 440-555227/4-A
Matrix: Water
Analysis Batch: 555528

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555227

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.11		ug/L		55	35 - 120	15	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Dioxane-d8 (Surr)	55		30 - 120

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-554721/15
Matrix: Water
Analysis Batch: 554721

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			06/26/19 16:22	1
Chloride	ND		0.50	0.25	mg/L			06/26/19 16:22	1
Fluoride	ND		0.50	0.25	mg/L			06/26/19 16:22	1
Sulfate	ND		0.50	0.25	mg/L			06/26/19 16:22	1

Lab Sample ID: LCS 440-554721/14
Matrix: Water
Analysis Batch: 554721

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	4.62		mg/L		92	90 - 110
Chloride	5.00	4.55		mg/L		91	90 - 110
Fluoride	5.00	4.53		mg/L		91	90 - 110
Sulfate	5.00	4.68		mg/L		94	90 - 110

Lab Sample ID: 440-244629-4 MS
Matrix: Water
Analysis Batch: 554721

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
Bromide	ND		10.0	9.52		mg/L		95	80 - 120
Chloride	14		10.0	24.3		mg/L		100	80 - 120
Fluoride	1.3		10.0	10.6		mg/L		94	80 - 120
Sulfate	2200	E	10.0	2220	E 4	mg/L		94	80 - 120

Lab Sample ID: 440-244629-4 MSD
Matrix: Water
Analysis Batch: 554721

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
Bromide	ND		10.0	9.57		mg/L		96	80 - 120	0	20
Chloride	14		10.0	24.2		mg/L		100	80 - 120	0	20
Fluoride	1.3		10.0	10.7		mg/L		94	80 - 120	0	20
Sulfate	2200	E	10.0	2220	E 4	mg/L		52	80 - 120	0	20

Lab Sample ID: 440-244629-6 MS
Matrix: Water
Analysis Batch: 554721

Client Sample ID: DW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		25.0	23.4		mg/L		94	80 - 120
Chloride	14		25.0	36.9		mg/L		92	80 - 120
Fluoride	1.3	J	25.0	24.1		mg/L		97	80 - 120
Sulfate	2400	E	25.0	2350	E 4	mg/L		-8	80 - 120

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-244629-6 MSD
Matrix: Water
Analysis Batch: 554721

Client Sample ID: DW-4
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		25.0	23.5		mg/L		94	80 - 120	0	20
Chloride	14		25.0	37.1		mg/L		93	80 - 120	0	20
Fluoride	1.3	J	25.0	24.2		mg/L		97	80 - 120	0	20
Sulfate	2400	E	25.0	2360	E 4	mg/L		19	80 - 120	0	20

Lab Sample ID: MB 440-554722/15
Matrix: Water
Analysis Batch: 554722

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			06/26/19 16:22	1

Lab Sample ID: LCS 440-554722/14
Matrix: Water
Analysis Batch: 554722

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	1.04		mg/L		92	90 - 110

Lab Sample ID: 440-244629-4 MS
Matrix: Water
Analysis Batch: 554722

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
Nitrate as N	ND		2.26	2.09		mg/L		93	80 - 120

Lab Sample ID: 440-244629-4 MSD
Matrix: Water
Analysis Batch: 554722

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
Nitrate as N	ND		2.26	2.10		mg/L		93	80 - 120	0	20

Lab Sample ID: 440-244629-6 MS
Matrix: Water
Analysis Batch: 554722

Client Sample ID: DW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND		5.65	5.24		mg/L		93	80 - 120

Lab Sample ID: 440-244629-6 MSD
Matrix: Water
Analysis Batch: 554722

Client Sample ID: DW-4
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	ND		5.65	5.24		mg/L		93	80 - 120	0	20

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-554883/1-A
Matrix: Water
Analysis Batch: 555055

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 554883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.025	mg/L		06/26/19 17:58	06/27/19 12:56	1
Calcium	ND		0.10	0.050	mg/L		06/26/19 17:58	06/27/19 12:56	1
Iron	ND		0.10	0.050	mg/L		06/26/19 17:58	06/27/19 12:56	1
Magnesium	ND		0.020	0.010	mg/L		06/26/19 17:58	06/27/19 12:56	1
Manganese	ND		0.020	0.015	mg/L		06/26/19 17:58	06/27/19 12:56	1
Potassium	ND		0.50	0.25	mg/L		06/26/19 17:58	06/27/19 12:56	1
Sodium	ND		0.50	0.26	mg/L		06/26/19 17:58	06/27/19 12:56	1

Lab Sample ID: LCS 440-554883/2-A
Matrix: Water
Analysis Batch: 555055

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 554883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120
Calcium	5.00	5.14		mg/L		103	80 - 120
Iron	1.00	1.06		mg/L		106	80 - 120
Magnesium	5.00	5.13		mg/L		103	80 - 120
Manganese	1.00	1.03		mg/L		103	80 - 120
Potassium	10.0	10.3		mg/L		103	80 - 120
Sodium	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: 440-244629-1 MS
Matrix: Water
Analysis Batch: 555055

Client Sample ID: Extraction Trench
Prep Type: Total Recoverable
Prep Batch: 554883

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.7		1.00	2.75		mg/L		102	75 - 125
Calcium	430		5.00	452	4	mg/L		438	75 - 125
Iron	69		1.00	72.8	4	mg/L		384	75 - 125
Magnesium	230		5.00	245	4	mg/L		228	75 - 125
Manganese	4.9		1.00	6.04	4	mg/L		117	75 - 125
Potassium	36		10.0	45.9		mg/L		102	75 - 125
Sodium	380		10.0	401	4	mg/L		257	75 - 125

Lab Sample ID: 440-244629-1 MSD
Matrix: Water
Analysis Batch: 555055

Client Sample ID: Extraction Trench
Prep Type: Total Recoverable
Prep Batch: 554883

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.7		1.00	2.81		mg/L		108	75 - 125	2	20
Calcium	430		5.00	451	4	mg/L		412	75 - 125	0	20
Iron	69		1.00	72.6	4	mg/L		362	75 - 125	0	20
Magnesium	230		5.00	246	4	mg/L		248	75 - 125	0	20
Manganese	4.9		1.00	6.06	4	mg/L		119	75 - 125	0	20
Potassium	36		10.0	47.5		mg/L		118	75 - 125	3	20
Sodium	380		10.0	400	4	mg/L		243	75 - 125	0	20

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-555661/10
Matrix: Water
Analysis Batch: 555661

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			07/01/19 11:53	1

Lab Sample ID: LCS 440-555661/11
Matrix: Water
Analysis Batch: 555661

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	5.26		mg/L		105	90 - 110

Lab Sample ID: MRL 440-555661/9
Matrix: Water
Analysis Batch: 555661

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	0.251		mg/L		126	50 - 150

Lab Sample ID: 240-115008-M-1 MS
Matrix: Water
Analysis Batch: 555661

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		5.00	4.84		mg/L		97	90 - 110

Lab Sample ID: 240-115008-M-1 MSD
Matrix: Water
Analysis Batch: 555661

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		5.00	5.26		mg/L		105	90 - 110	8	15

Method: 410.4 - COD

Lab Sample ID: MB 440-556734/3
Matrix: Water
Analysis Batch: 556734

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			07/09/19 16:56	1

Lab Sample ID: LCS 440-556734/4
Matrix: Water
Analysis Batch: 556734

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	193		mg/L		96	90 - 110

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-244616-A-5 MS
Matrix: Water
Analysis Batch: 556734

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	43		200	234		mg/L		96	70 - 120

Lab Sample ID: 440-244616-A-5 MSD
Matrix: Water
Analysis Batch: 556734

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	43		200	237		mg/L		97	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-554973/3
Matrix: Water
Analysis Batch: 554973

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			06/27/19 04:56	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/27/19 04:56	1

Lab Sample ID: MB 440-554973/30
Matrix: Water
Analysis Batch: 554973

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			06/27/19 08:25	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/27/19 08:25	1

Lab Sample ID: LCS 440-554973/2
Matrix: Water
Analysis Batch: 554973

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	98.8	98.1		mg/L		99	80 - 120

Lab Sample ID: LCS 440-554973/29
Matrix: Water
Analysis Batch: 554973

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	98.8	99.1		mg/L		100	80 - 120

Lab Sample ID: 440-244582-B-9 DU
Matrix: Water
Analysis Batch: 554973

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	110		113		mg/L		0.9	20
Bicarbonate Alkalinity as CaCO3	110		110		mg/L		2	20

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 440-244619-G-1 DU
Matrix: Water
Analysis Batch: 554973

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	230		216		mg/L		6	20
Bicarbonate Alkalinity as CaCO3	230		216		mg/L		6	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-555544/1
Matrix: Water
Analysis Batch: 555544

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			07/01/19 09:10	1

Lab Sample ID: LCS 440-555544/2
Matrix: Water
Analysis Batch: 555544

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	996		mg/L		100	90 - 110

Lab Sample ID: 440-244615-A-1 DU
Matrix: Water
Analysis Batch: 555544

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	640		623		mg/L		2	5

Lab Sample ID: 440-244677-A-2 DU
Matrix: Water
Analysis Batch: 555544

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	340		326		mg/L		3	5

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-557078/1
Matrix: Water
Analysis Batch: 557078

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			07/11/19 13:02	1

Lab Sample ID: 440-244629-1 DU
Matrix: Water
Analysis Batch: 557078

Client Sample ID: Extraction Trench
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	170		171		mg/L		0	20

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-555294/3
 Matrix: Water
 Analysis Batch: 555294

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			06/28/19 16:17	1

Lab Sample ID: LCS 440-555294/4
 Matrix: Water
 Analysis Batch: 555294

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	0.552		mg/L		110	80 - 120

Lab Sample ID: 440-244629-1 MS
 Matrix: Water
 Analysis Batch: 555294

Client Sample ID: Extraction Trench
 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	0.455		mg/L		91	70 - 130

Lab Sample ID: 440-244629-1 MSD
 Matrix: Water
 Analysis Batch: 555294

Client Sample ID: Extraction Trench
 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	0.455		mg/L		91	70 - 130	0	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-555426/6
 Matrix: Water
 Analysis Batch: 555426

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			06/28/19 09:07	1

Lab Sample ID: LCS 440-555426/5
 Matrix: Water
 Analysis Batch: 555426

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	10.2		mg/L		102	85 - 115

Lab Sample ID: MRL 440-555426/4
 Matrix: Water
 Analysis Batch: 555426

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	0.0765	J	mg/L		77	50 - 150

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-244538-G-3 MS
Matrix: Water
Analysis Batch: 555426

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	0.33		10.0	10.3		mg/L		99	85 - 115

Lab Sample ID: 440-244538-G-3 MSD
Matrix: Water
Analysis Batch: 555426

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	0.33		10.0	10.2		mg/L		99	85 - 115	0	20



QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

GC/MS VOA

Analysis Batch: 554936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-7	Field Blank	Total/NA	Water	8260B	
440-244629-8	Trip Blank	Total/NA	Water	8260B	
MB 440-554936/7	Method Blank	Total/NA	Water	8260B	
LCS 440-554936/8	Lab Control Sample	Total/NA	Water	8260B	
440-244444-D-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-244444-D-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	8260B	
440-244629-2	MW-1	Total/NA	Water	8260B	
440-244629-3	MW-2A	Total/NA	Water	8260B	
440-244629-4	MW-2B	Total/NA	Water	8260B	
440-244629-5	MW-9	Total/NA	Water	8260B	
440-244629-6	DW-4	Total/NA	Water	8260B	
MB 440-555379/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555379/5	Lab Control Sample	Total/NA	Water	8260B	
440-244651-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-244651-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 555960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	8260B	
440-244629-2	MW-1	Total/NA	Water	8260B	
440-244629-3	MW-2A	Total/NA	Water	8260B	
440-244629-4	MW-2B	Total/NA	Water	8260B	
440-244629-5	MW-9	Total/NA	Water	8260B	
MB 440-555960/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555960/5	Lab Control Sample	Total/NA	Water	8260B	
440-244784-B-10 MS	Matrix Spike	Total/NA	Water	8260B	
440-244784-B-10 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 556104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-6	DW-4	Total/NA	Water	8260B	
440-244629-8	Trip Blank	Total/NA	Water	8260B	
MB 440-556104/4	Method Blank	Total/NA	Water	8260B	
LCS 440-556104/6	Lab Control Sample	Total/NA	Water	8260B	
440-243426-G-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-243426-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 556163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-7	Field Blank	Total/NA	Water	8260B	
MB 440-556163/4	Method Blank	Total/NA	Water	8260B	
LCS 440-556163/5	Lab Control Sample	Total/NA	Water	8260B	
440-244971-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-244971-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

GC/MS VOA

Analysis Batch: 556306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-7 - RA	Field Blank	Total/NA	Water	8260B	
MB 440-556306/4	Method Blank	Total/NA	Water	8260B	
LCS 440-556306/29	Lab Control Sample	Total/NA	Water	8260B	
440-244541-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-244541-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 555227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	3520C	
440-244629-2	MW-1	Total/NA	Water	3520C	
440-244629-3	MW-2A	Total/NA	Water	3520C	
440-244629-4	MW-2B	Total/NA	Water	3520C	
440-244629-5	MW-9	Total/NA	Water	3520C	
440-244629-6	DW-4	Total/NA	Water	3520C	
MB 440-555227/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-555227/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-555227/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 555528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	8270C	555227
440-244629-2	MW-1	Total/NA	Water	8270C	555227
440-244629-3	MW-2A	Total/NA	Water	8270C	555227
MB 440-555227/1-A	Method Blank	Total/NA	Water	8270C	555227
LCS 440-555227/3-A	Lab Control Sample	Total/NA	Water	8270C	555227
LCSD 440-555227/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	555227

Analysis Batch: 555838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-4	MW-2B	Total/NA	Water	8270C	555227
440-244629-5	MW-9	Total/NA	Water	8270C	555227
440-244629-6	DW-4	Total/NA	Water	8270C	555227

HPLC/IC

Analysis Batch: 554721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	300.0	
440-244629-1	Extraction Trench	Total/NA	Water	300.0	
440-244629-2	MW-1	Total/NA	Water	300.0	
440-244629-2	MW-1	Total/NA	Water	300.0	
440-244629-3	MW-2A	Total/NA	Water	300.0	
440-244629-3	MW-2A	Total/NA	Water	300.0	
440-244629-4	MW-2B	Total/NA	Water	300.0	
440-244629-4 - DL	MW-2B	Total/NA	Water	300.0	
440-244629-5	MW-9	Total/NA	Water	300.0	
440-244629-5	MW-9	Total/NA	Water	300.0	
440-244629-6	DW-4	Total/NA	Water	300.0	
440-244629-6 - DL	DW-4	Total/NA	Water	300.0	
MB 440-554721/15	Method Blank	Total/NA	Water	300.0	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

HPLC/IC (Continued)

Analysis Batch: 554721 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-554721/14	Lab Control Sample	Total/NA	Water	300.0	
440-244629-4 MS	MW-2B	Total/NA	Water	300.0	
440-244629-4 MSD	MW-2B	Total/NA	Water	300.0	
440-244629-6 MS	DW-4	Total/NA	Water	300.0	
440-244629-6 MSD	DW-4	Total/NA	Water	300.0	

Analysis Batch: 554722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	300.0	
440-244629-2	MW-1	Total/NA	Water	300.0	
440-244629-3	MW-2A	Total/NA	Water	300.0	
440-244629-4	MW-2B	Total/NA	Water	300.0	
440-244629-5	MW-9	Total/NA	Water	300.0	
440-244629-6	DW-4	Total/NA	Water	300.0	
MB 440-554722/15	Method Blank	Total/NA	Water	300.0	
LCS 440-554722/14	Lab Control Sample	Total/NA	Water	300.0	
440-244629-4 MS	MW-2B	Total/NA	Water	300.0	
440-244629-4 MSD	MW-2B	Total/NA	Water	300.0	
440-244629-6 MS	DW-4	Total/NA	Water	300.0	
440-244629-6 MSD	DW-4	Total/NA	Water	300.0	

Metals

Prep Batch: 554883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total Recoverable	Water	3005A	
440-244629-2	MW-1	Total Recoverable	Water	3005A	
440-244629-3	MW-2A	Total Recoverable	Water	3005A	
440-244629-4	MW-2B	Total Recoverable	Water	3005A	
440-244629-5	MW-9	Total Recoverable	Water	3005A	
440-244629-6	DW-4	Total Recoverable	Water	3005A	
MB 440-554883/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-554883/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-244629-1 MS	Extraction Trench	Total Recoverable	Water	3005A	
440-244629-1 MSD	Extraction Trench	Total Recoverable	Water	3005A	

Analysis Batch: 555055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total Recoverable	Water	6010B	554883
440-244629-2	MW-1	Total Recoverable	Water	6010B	554883
440-244629-3	MW-2A	Total Recoverable	Water	6010B	554883
440-244629-4	MW-2B	Total Recoverable	Water	6010B	554883
440-244629-5	MW-9	Total Recoverable	Water	6010B	554883
440-244629-6	DW-4	Total Recoverable	Water	6010B	554883
MB 440-554883/1-A	Method Blank	Total Recoverable	Water	6010B	554883
LCS 440-554883/2-A	Lab Control Sample	Total Recoverable	Water	6010B	554883
440-244629-1 MS	Extraction Trench	Total Recoverable	Water	6010B	554883
440-244629-1 MSD	Extraction Trench	Total Recoverable	Water	6010B	554883

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

General Chemistry

Analysis Batch: 554973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	SM 2320B	
440-244629-2	MW-1	Total/NA	Water	SM 2320B	
440-244629-3	MW-2A	Total/NA	Water	SM 2320B	
440-244629-4	MW-2B	Total/NA	Water	SM 2320B	
440-244629-5	MW-9	Total/NA	Water	SM 2320B	
440-244629-6	DW-4	Total/NA	Water	SM 2320B	
MB 440-554973/3	Method Blank	Total/NA	Water	SM 2320B	
MB 440-554973/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-554973/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 440-554973/29	Lab Control Sample	Total/NA	Water	SM 2320B	
440-244582-B-9 DU	Duplicate	Total/NA	Water	SM 2320B	
440-244619-G-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 555294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	SM 4500 S2 D	
440-244629-2	MW-1	Total/NA	Water	SM 4500 S2 D	
440-244629-3	MW-2A	Total/NA	Water	SM 4500 S2 D	
440-244629-4	MW-2B	Total/NA	Water	SM 4500 S2 D	
440-244629-5	MW-9	Total/NA	Water	SM 4500 S2 D	
440-244629-6	DW-4	Total/NA	Water	SM 4500 S2 D	
MB 440-555294/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-555294/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-244629-1 MS	Extraction Trench	Total/NA	Water	SM 4500 S2 D	
440-244629-1 MSD	Extraction Trench	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 555426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	SM 5310C	
440-244629-2	MW-1	Total/NA	Water	SM 5310C	
440-244629-3	MW-2A	Total/NA	Water	SM 5310C	
440-244629-4	MW-2B	Total/NA	Water	SM 5310C	
440-244629-5	MW-9	Total/NA	Water	SM 5310C	
440-244629-6	DW-4	Total/NA	Water	SM 5310C	
MB 440-555426/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-555426/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-555426/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-244538-G-3 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-244538-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 555544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	SM 2540C	
440-244629-2	MW-1	Total/NA	Water	SM 2540C	
440-244629-3	MW-2A	Total/NA	Water	SM 2540C	
440-244629-4	MW-2B	Total/NA	Water	SM 2540C	
440-244629-5	MW-9	Total/NA	Water	SM 2540C	
440-244629-6	DW-4	Total/NA	Water	SM 2540C	
MB 440-555544/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-555544/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-244615-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

General Chemistry (Continued)

Analysis Batch: 555544 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244677-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 555661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	350.1	
440-244629-2	MW-1	Total/NA	Water	350.1	
440-244629-3	MW-2A	Total/NA	Water	350.1	
440-244629-4	MW-2B	Total/NA	Water	350.1	
440-244629-5	MW-9	Total/NA	Water	350.1	
440-244629-6	DW-4	Total/NA	Water	350.1	
MB 440-555661/10	Method Blank	Total/NA	Water	350.1	
LCS 440-555661/11	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-555661/9	Lab Control Sample	Total/NA	Water	350.1	
240-115008-M-1 MS	Matrix Spike	Total/NA	Water	350.1	
240-115008-M-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 556734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	410.4	
440-244629-2	MW-1	Total/NA	Water	410.4	
440-244629-3	MW-2A	Total/NA	Water	410.4	
440-244629-4	MW-2B	Total/NA	Water	410.4	
440-244629-5	MW-9	Total/NA	Water	410.4	
440-244629-6	DW-4	Total/NA	Water	410.4	
MB 440-556734/3	Method Blank	Total/NA	Water	410.4	
LCS 440-556734/4	Lab Control Sample	Total/NA	Water	410.4	
440-244616-A-5 MS	Matrix Spike	Total/NA	Water	410.4	
440-244616-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 557078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244629-1	Extraction Trench	Total/NA	Water	SM 4500 CO2 C	
440-244629-2	MW-1	Total/NA	Water	SM 4500 CO2 C	
440-244629-3	MW-2A	Total/NA	Water	SM 4500 CO2 C	
440-244629-4	MW-2B	Total/NA	Water	SM 4500 CO2 C	
440-244629-5	MW-9	Total/NA	Water	SM 4500 CO2 C	
440-244629-6	DW-4	Total/NA	Water	SM 4500 CO2 C	
MB 440-557078/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-244629-1 DU	Extraction Trench	Total/NA	Water	SM 4500 CO2 C	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control 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.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

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.

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

Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244629-1

Laboratory: Eurofins 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	06-30-20
Arizona	State Program	9	AZ0671	10-14-19
California	LA Cty Sanitation Districts	9	10256	06-30-20
California	State Program	9	CA ELAP 2706	06-30-19 *
Guam	State Program	9	Cert. No. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19 *
Nevada	State Program	9	CA015312019-5	07-31-19 *
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
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.

Eurofins TestAmerica, Irvine

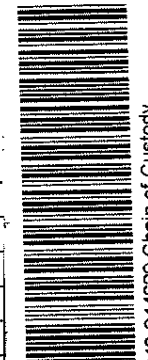
Regulatory Program: DW NPDES RCRA Other:

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

Project Manager: Cyle Welch
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: J. Mills Date: 6-26-19
Lab Contact: P. Tamayo Carrier: T
Sampler: PSNR
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)
Extraction Trench	6/26/19	0920	G	WW	13	X	X
MW-1	1258			GW	13	X	X
MW-2A	0845				13	X	X
MW-2B	0940				13	X	X
MW-9	1210				13	X	X
PW-4	1040			CFAS H2O	13	X	X
Field Blank					4	X	X
Trip Blank					4	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

Special Instructions/QC Requirements & Comments:

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

Received by: [Signature] Date/Time: 6/26/19 1045
Received by: [Signature] Date/Time: 6/26/19 1045
Received by: [Signature] Date/Time: 6/26/19 1045

Company: Geo-Logic
Company: TA
Company: TA

Therm ID No.:
Cooler Temp. (°C): Obs'd:
Corrd:

Date/Time: 6/26/19 1345
Date/Time: 6/26/19 1345
Date/Time: 6/26/19 1345

Company: TA
Company: TA
Company: TA

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1289 1.0/1.4 3.0/3.6 3.9/4.3 1545

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-244629-1

Login Number: 244629

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Skinner, Alma D

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-244744-1

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:
7/12/2019 3:41:25 PM

Rossina Tomova, Project Manager I
(949)260-3276

rossina.tomova@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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



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Sample Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-244744-1	MW-5	Water	06/27/19 10:30	06/27/19 15:00	
440-244744-2	MW-13R	Water	06/27/19 08:26	06/27/19 15:00	
440-244744-3	LY-7	Water	06/27/19 09:20	06/27/19 15:00	
440-244744-4	Field Blank	Water	06/27/19 00:01	06/27/19 15:00	
440-244744-5	Trip Blank	Water	06/27/19 00:01	06/27/19 15:00	

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Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Job ID: 440-244744-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-244744-1

Comments

No additional comments.

Receipt

The samples were received on 6/27/2019 3:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-556104 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 continuing calibration verification (CCV) associated with batch 440-556104 recovered above the upper control limit for Tetrahydrofuran. 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-13R (440-244744-2), LY-7 (440-244744-3), Field Blank (440-244744-4), Trip Blank (440-244744-5) and (CCVIS 440-556104/2).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 440-556104 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 matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 440-556104 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method(s) 8260B: The following sample was diluted due to the nature of the sample matrix: LY-7 (440-244744-3). 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.

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 Fluoride due to the nature of the sample matrix: MW-5 (440-244744-1) and LY-7 (440-244744-3). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted for Nitrate due to the nature of the sample matrix: MW-5 (440-244744-1) and LY-7 (440-244744-3). 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 440-555918 contained Magnesium above the reporting limit (RL). 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: Sample has a very strong sulfide like odor. The sample was manually diluted with a dilution factor of 5 before analysis. MW-13R (440-244744-2)

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Job ID: 440-244744-1 (Continued)

Laboratory: Eurofins TestAmerica, Irvine (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C/8270-1,4-Dioxane: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-555565. LCS was performed in duplicate to provide precision of data.

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.

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Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: MW-5

Lab Sample ID: 440-244744-1

Date Collected: 06/27/19 10:30

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 03:22	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Acrolein	ND		50	2.5	ug/L			06/29/19 18:18	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 18:18	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/04/19 03:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/04/19 03:22	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/04/19 03:22	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/04/19 03:22	1
2-Hexanone	ND		5.0	2.5	ug/L			07/04/19 03:22	1
Acetone	ND		20	10	ug/L			07/04/19 03:22	1
Acetonitrile	ND		20	10	ug/L			07/04/19 03:22	1
Acrolein	ND		5.0	2.5	ug/L			07/04/19 03:22	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/04/19 03:22	1
Benzene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Allyl chloride	ND		1.0	0.50	ug/L			07/04/19 03:22	1
Bromoform	ND		1.0	0.40	ug/L			07/04/19 03:22	1
Bromomethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/04/19 03:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Chloroethane	ND		1.0	0.40	ug/L			07/04/19 03:22	1
Chloroform	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Chloromethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Dibromomethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/04/19 03:22	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 03:22	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Iodomethane	ND		2.0	1.0	ug/L			07/04/19 03:22	1
Isobutyl alcohol	ND		25	13	ug/L			07/04/19 03:22	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/04/19 03:22	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/04/19 03:22	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 03:22	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: MW-5

Lab Sample ID: 440-244744-1

Date Collected: 06/27/19 10:30

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 03:22	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Naphthalene	ND		1.0	0.40	ug/L			07/04/19 03:22	1
o-Xylene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Propionitrile	ND		20	10	ug/L			07/04/19 03:22	1
Styrene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
t-Butanol	63		10	5.0	ug/L			07/04/19 03:22	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Toluene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/04/19 03:22	1
Trichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/04/19 03:22	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/04/19 03:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/04/19 03:22	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/04/19 03:22	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/04/19 03:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/04/19 03:22	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Silane, fluorotrimethyl-	14	T J N	ug/L		2.49	420-56-4		07/04/19 03:22	1
Unknown	13	T J	ug/L		3.80			07/04/19 03:22	1
Unknown	13	T J	ug/L		4.48			07/04/19 03:22	1
Unknown	13	T J	ug/L		5.88			07/04/19 03:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		06/29/19 18:18	1
4-Bromofluorobenzene (Surr)	118		80 - 120		06/29/19 18:18	1
Toluene-d8 (Surr)	106		80 - 128		07/04/19 03:22	1
4-Bromofluorobenzene (Surr)	101		80 - 120		07/04/19 03:22	1
Dibromofluoromethane (Surr)	99		76 - 132		06/29/19 18:18	1
Dibromofluoromethane (Surr)	96		76 - 132		07/04/19 03:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	9.2	J	10	5.0	ug/L			07/05/19 22:58	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Silane, fluorotrimethyl-	7.1	T J N	ug/L		2.52	420-56-4		07/05/19 22:58	1
Unknown	5.3	T J	ug/L		4.52			07/05/19 22:58	1
Unknown	8.2	T J	ug/L		5.95			07/05/19 22:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128		07/05/19 22:58	1
4-Bromofluorobenzene (Surr)	119		80 - 120		07/05/19 22:58	1
Dibromofluoromethane (Surr)	88		76 - 132		07/05/19 22:58	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	8.6		0.97	0.24	ug/L		07/01/19 10:48	07/02/19 17:25	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: MW-5
 Date Collected: 06/27/19 10:30
 Date Received: 06/27/19 15:00

Lab Sample ID: 440-244744-1
 Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	69		30 - 120	07/01/19 10:48	07/02/19 17:25	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	3.0	J	5.0	2.5	mg/L			06/27/19 20:18	10
Nitrate as N	ND		1.1	0.55	mg/L			06/27/19 20:18	10
Chloride	270		100	50	mg/L			06/27/19 20:33	200
Fluoride	4.2	J	5.0	2.5	mg/L			06/27/19 20:18	10
Sulfate	1400		100	50	mg/L			06/27/19 20:33	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.2		0.050	0.025	mg/L		06/28/19 08:31	07/02/19 19:15	1
Calcium	370		0.10	0.050	mg/L		06/28/19 08:31	07/02/19 19:15	1
Iron	33		0.10	0.050	mg/L		06/28/19 08:31	07/02/19 19:15	1
Magnesium	180	^	0.020	0.010	mg/L		06/28/19 08:31	07/02/19 19:15	1
Manganese	4.4		0.020	0.015	mg/L		06/28/19 08:31	07/02/19 19:15	1
Sodium	310		0.50	0.26	mg/L		06/28/19 08:31	07/02/19 19:15	1
Potassium	24		0.50	0.25	mg/L		06/28/19 08:31	07/02/19 19:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	4.3		0.20	0.10	mg/L			07/01/19 14:17	1
Chemical Oxygen Demand	94		20	10	mg/L			07/09/19 16:58	1
Total Dissolved Solids	3500		20	10	mg/L			07/02/19 08:10	1
Total Sulfide	ND		0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	33		0.50	0.25	mg/L			06/28/19 13:18	5

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	740		4.0	4.0	mg/L			06/28/19 06:55	1
Bicarbonate Alkalinity as CaCO3	740		4.0	4.0	mg/L			06/28/19 06:55	1
Carbon Dioxide, Free	99		2.0	2.0	mg/L			07/09/19 14:00	1

Client Sample ID: MW-13R
 Date Collected: 06/27/19 08:26
 Date Received: 06/27/19 15:00

Lab Sample ID: 440-244744-2
 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			07/04/19 03:50	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Acrolein	ND		50	2.5	ug/L			06/29/19 18:49	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 18:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/04/19 03:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/04/19 03:50	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:50	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: MW-13R

Lab Sample ID: 440-244744-2

Date Collected: 06/27/19 08:26

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 03:50	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/04/19 03:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/04/19 03:50	1
2-Hexanone	ND		5.0	2.5	ug/L			07/04/19 03:50	1
Acetone	ND		20	10	ug/L			07/04/19 03:50	1
Acetonitrile	ND		20	10	ug/L			07/04/19 03:50	1
Acrolein	ND		5.0	2.5	ug/L			07/04/19 03:50	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/04/19 03:50	1
Benzene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Allyl chloride	ND		1.0	0.50	ug/L			07/04/19 03:50	1
Bromoform	ND		1.0	0.40	ug/L			07/04/19 03:50	1
Bromomethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/04/19 03:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Chloroethane	ND		1.0	0.40	ug/L			07/04/19 03:50	1
Chloroform	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Chloromethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Dibromomethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/04/19 03:50	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 03:50	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Iodomethane	ND		2.0	1.0	ug/L			07/04/19 03:50	1
Isobutyl alcohol	ND		25	13	ug/L			07/04/19 03:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/04/19 03:50	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/04/19 03:50	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 03:50	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/04/19 03:50	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Naphthalene	ND		1.0	0.40	ug/L			07/04/19 03:50	1
o-Xylene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Propionitrile	ND		20	10	ug/L			07/04/19 03:50	1
Styrene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
t-Butanol	ND		10	5.0	ug/L			07/04/19 03:50	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/04/19 03:50	1
Toluene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 03:50	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/04/19 03:50	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: MW-13R

Lab Sample ID: 440-244744-2

Date Collected: 06/27/19 08:26

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 03:50	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/04/19 03:50	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/04/19 03:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/04/19 03:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/04/19 03:50	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/04/19 03:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/04/19 03:50	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	14	T J	ug/L		2.48			07/04/19 03:50	1
Unknown	6.8	T J	ug/L		3.87			07/04/19 03:50	1
Unknown	13	T J	ug/L		5.88			07/04/19 03:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		06/29/19 18:49	1
4-Bromofluorobenzene (Surr)	119		80 - 120		06/29/19 18:49	1
Toluene-d8 (Surr)	108		80 - 128		07/04/19 03:50	1
4-Bromofluorobenzene (Surr)	100		80 - 120		07/04/19 03:50	1
Dibromofluoromethane (Surr)	99		76 - 132		06/29/19 18:49	1
Dibromofluoromethane (Surr)	95		76 - 132		07/04/19 03:50	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	7.7		0.96	0.24	ug/L		07/01/19 10:48	07/02/19 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120	07/01/19 10:48	07/02/19 17:47	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.9		0.50	0.25	mg/L			06/27/19 21:20	1
Nitrate as N	ND	F1	0.11	0.055	mg/L			06/27/19 21:20	1
Fluoride	0.44	J	0.50	0.25	mg/L			06/27/19 21:20	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		5.0	2.5	mg/L			06/27/19 23:33	10
Sulfate	49		5.0	2.5	mg/L			06/27/19 23:33	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.92		0.050	0.025	mg/L		06/28/19 08:31	07/02/19 19:24	1
Calcium	79		0.10	0.050	mg/L		06/28/19 08:31	07/02/19 19:24	1
Iron	ND		0.10	0.050	mg/L		06/28/19 08:31	07/02/19 19:24	1
Magnesium	130	^	0.020	0.010	mg/L		06/28/19 08:31	07/02/19 19:24	1
Manganese	ND		0.020	0.015	mg/L		06/28/19 08:31	07/02/19 19:24	1
Sodium	160		0.50	0.26	mg/L		06/28/19 08:31	07/02/19 19:24	1
Potassium	20		0.50	0.25	mg/L		06/28/19 08:31	07/02/19 19:24	1

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: MW-13R

Lab Sample ID: 440-244744-2

Date Collected: 06/27/19 08:26

Matrix: Water

Date Received: 06/27/19 15:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	6.9		1.0	0.50	mg/L			07/01/19 16:43	5
Chemical Oxygen Demand	470		20	10	mg/L			07/09/19 16:58	1
Total Dissolved Solids	1400		10	5.0	mg/L			07/02/19 08:10	1
Total Sulfide	290		25	14	mg/L			06/28/19 16:18	500
Total Organic Carbon	25		1.0	0.50	mg/L			06/28/19 13:34	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	940		4.0	4.0	mg/L			06/28/19 07:12	1
Bicarbonate Alkalinity as CaCO3	940		4.0	4.0	mg/L			06/28/19 07:12	1
Carbon Dioxide, Free	67		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample ID: LY-7

Lab Sample ID: 440-244744-3

Date Collected: 06/27/19 09:20

Matrix: Water

Date Received: 06/27/19 15:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		10	4.0	ug/L			07/04/19 04:19	10
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Acrolein	ND		50	2.5	ug/L			06/29/19 19:20	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 19:20	1
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,1,2-Trichloroethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,1-Dichloroethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,1-Dichloroethene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,1-Dichloropropene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,2,4-Trichlorobenzene	ND		10	4.0	ug/L			07/04/19 04:19	10
1,2-Dibromo-3-Chloropropane	ND		10	5.0	ug/L			07/04/19 04:19	10
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,2-Dichloroethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,2-Dichloropropane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,3-Dichlorobenzene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,3-Dichloropropane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,4-Dichlorobenzene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
2,2-Dichloropropane	ND		10	4.0	ug/L			07/04/19 04:19	10
2-Chloro-1,3-butadiene	ND		10	5.0	ug/L			07/04/19 04:19	10
2-Hexanone	ND		50	25	ug/L			07/04/19 04:19	10
Acetone	ND		200	100	ug/L			07/04/19 04:19	10
Acetonitrile	ND		200	100	ug/L			07/04/19 04:19	10
Acrolein	ND		50	25	ug/L			07/04/19 04:19	10
Acrylonitrile	ND		20	10	ug/L			07/04/19 04:19	10
Benzene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Allyl chloride	ND		10	5.0	ug/L			07/04/19 04:19	10
Bromoform	ND		10	4.0	ug/L			07/04/19 04:19	10
Bromomethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Carbon disulfide	ND		10	5.0	ug/L			07/04/19 04:19	10
Carbon tetrachloride	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Chlorobenzene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Bromochloromethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Chloroethane	ND		10	4.0	ug/L			07/04/19 04:19	10

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Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: LY-7

Lab Sample ID: 440-244744-3

Date Collected: 06/27/19 09:20

Matrix: Water

Date Received: 06/27/19 15:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Chloromethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
cis-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
cis-1,3-Dichloropropene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Dibromochloromethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Dibromomethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Bromodichloromethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Dichlorodifluoromethane	ND		10	4.0	ug/L			07/04/19 04:19	10
Ethyl methacrylate	ND		20	10	ug/L			07/04/19 04:19	10
Ethylbenzene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Iodomethane	ND		20	10	ug/L			07/04/19 04:19	10
Isobutyl alcohol	ND		250	130	ug/L			07/04/19 04:19	10
m,p-Xylene	ND		10	5.0	ug/L			07/04/19 04:19	10
Methylacrylonitrile	ND		100	25	ug/L			07/04/19 04:19	10
Methyl methacrylate	ND		20	10	ug/L			07/04/19 04:19	10
Methylene Chloride	ND		20	8.8	ug/L			07/04/19 04:19	10
Methyl tert-butyl ether	2.9	J	5.0	2.5	ug/L			07/04/19 04:19	10
Naphthalene	ND		10	4.0	ug/L			07/04/19 04:19	10
o-Xylene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Propionitrile	ND		200	100	ug/L			07/04/19 04:19	10
Styrene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
t-Butanol	370		100	50	ug/L			07/04/19 04:19	10
Tetrachloroethene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Tetrahydrofuran	ND		100	50	ug/L			07/04/19 04:19	10
Toluene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
trans-1,4-Dichloro-2-butene	ND		50	25	ug/L			07/04/19 04:19	10
Trichloroethene	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Trichlorofluoromethane	ND		5.0	2.5	ug/L			07/04/19 04:19	10
Vinyl acetate	ND		40	20	ug/L			07/04/19 04:19	10
Vinyl chloride	ND		5.0	2.5	ug/L			07/04/19 04:19	10
1,2-Dibromoethane (EDB)	ND		5.0	2.5	ug/L			07/04/19 04:19	10
2-Butanone (MEK)	ND		50	25	ug/L			07/04/19 04:19	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			07/04/19 04:19	10

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	120	T J	ug/L		4.47			07/04/19 04:19	10
Unknown	130	T J	ug/L		5.88			07/04/19 04:19	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128		06/29/19 19:20	1
4-Bromofluorobenzene (Surr)	118		80 - 120		06/29/19 19:20	1
Toluene-d8 (Surr)	106		80 - 128		07/04/19 04:19	10
4-Bromofluorobenzene (Surr)	100		80 - 120		07/04/19 04:19	10
Dibromofluoromethane (Surr)	98		76 - 132		06/29/19 19:20	1
Dibromofluoromethane (Surr)	96		76 - 132		07/04/19 04:19	10

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: LY-7

Lab Sample ID: 440-244744-3

Date Collected: 06/27/19 09:20

Matrix: Water

Date Received: 06/27/19 15:00

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	17		1.0	0.25	ug/L		07/01/19 10:48	07/02/19 18:09	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,4-Dioxane-d8 (Surr)	48		30 - 120				07/01/19 10:48	07/02/19 18:09	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	4.4	J	5.0	2.5	mg/L			06/27/19 20:49	10
Nitrate as N	ND		1.1	0.55	mg/L			06/27/19 20:49	10
Chloride	690		250	130	mg/L			06/27/19 21:04	500
Fluoride	ND		5.0	2.5	mg/L			06/27/19 20:49	10
Sulfate	610		250	130	mg/L			06/27/19 21:04	500

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.3		0.050	0.025	mg/L		07/05/19 09:49	07/05/19 19:55	1
Calcium	180		0.10	0.050	mg/L		07/05/19 09:49	07/05/19 19:55	1
Iron	3.5		0.10	0.050	mg/L		07/05/19 09:49	07/05/19 19:55	1
Magnesium	180		0.020	0.010	mg/L		07/05/19 09:49	07/05/19 19:55	1
Manganese	2.2		0.020	0.015	mg/L		07/05/19 09:49	07/05/19 19:55	1
Sodium	990		0.50	0.26	mg/L		07/05/19 09:49	07/05/19 19:55	1
Potassium	48		0.50	0.25	mg/L		07/05/19 09:49	07/05/19 19:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	28		1.0	0.50	mg/L			07/01/19 14:22	5
Chemical Oxygen Demand	230		20	10	mg/L			07/09/19 16:58	1
Total Dissolved Solids	4600		100	50	mg/L			07/02/19 08:10	1
Total Sulfide	0.15		0.050	0.027	mg/L			06/28/19 16:18	1
Total Organic Carbon	86		1.0	0.50	mg/L			06/28/19 13:51	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	2200		4.0	4.0	mg/L			06/28/19 07:45	1
Bicarbonate Alkalinity as CaCO3	2200		4.0	4.0	mg/L			06/28/19 07:45	1
Carbon Dioxide, Free	180		2.0	2.0	mg/L			07/11/19 13:02	1

Client Sample ID: Field Blank

Lab Sample ID: 440-244744-4

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 04:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Acrolein	ND		50	2.5	ug/L			06/29/19 19:51	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 19:51	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 04:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244744-4

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 04:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/04/19 04:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/04/19 04:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/04/19 04:47	1
2-Hexanone	ND		5.0	2.5	ug/L			07/04/19 04:47	1
Acetone	ND		20	10	ug/L			07/04/19 04:47	1
Acetonitrile	ND		20	10	ug/L			07/04/19 04:47	1
Acrolein	ND		5.0	2.5	ug/L			07/04/19 04:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/04/19 04:47	1
Benzene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Allyl chloride	ND		1.0	0.50	ug/L			07/04/19 04:47	1
Bromoform	ND		1.0	0.40	ug/L			07/04/19 04:47	1
Bromomethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/04/19 04:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Chloroethane	ND		1.0	0.40	ug/L			07/04/19 04:47	1
Chloroform	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Chloromethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Dibromomethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/04/19 04:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 04:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Iodomethane	ND		2.0	1.0	ug/L			07/04/19 04:47	1
Isobutyl alcohol	ND		25	13	ug/L			07/04/19 04:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/04/19 04:47	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/04/19 04:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 04:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/04/19 04:47	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Naphthalene	ND		1.0	0.40	ug/L			07/04/19 04:47	1
o-Xylene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Propionitrile	ND		20	10	ug/L			07/04/19 04:47	1
Styrene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
t-Butanol	ND		10	5.0	ug/L			07/04/19 04:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/04/19 04:47	1
Toluene	ND		0.50	0.25	ug/L			07/04/19 04:47	1

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: Field Blank

Lab Sample ID: 440-244744-4

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 04:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/04/19 04:47	1
Trichloroethene	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/04/19 04:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/04/19 04:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/04/19 04:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/04/19 04:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/04/19 04:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/04/19 04:47	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	14	TJ	ug/L		5.88			07/04/19 04:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		06/29/19 19:51	1
4-Bromofluorobenzene (Surr)	116		80 - 120		06/29/19 19:51	1
Toluene-d8 (Surr)	102		80 - 128		07/04/19 04:47	1
4-Bromofluorobenzene (Surr)	101		80 - 120		07/04/19 04:47	1
Dibromofluoromethane (Surr)	98		76 - 132		06/29/19 19:51	1
Dibromofluoromethane (Surr)	100		76 - 132		07/04/19 04:47	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244744-5

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 05:15	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Acrolein	ND		50	2.5	ug/L			06/29/19 20:21	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 20:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/04/19 05:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/04/19 05:15	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/04/19 05:15	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/04/19 05:15	1
2-Hexanone	ND		5.0	2.5	ug/L			07/04/19 05:15	1
Acetone	ND		20	10	ug/L			07/04/19 05:15	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244744-5

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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			07/04/19 05:15	1
Acrolein	ND		5.0	2.5	ug/L			07/04/19 05:15	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/04/19 05:15	1
Benzene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Allyl chloride	ND		1.0	0.50	ug/L			07/04/19 05:15	1
Bromoform	ND		1.0	0.40	ug/L			07/04/19 05:15	1
Bromomethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/04/19 05:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Chloroethane	ND		1.0	0.40	ug/L			07/04/19 05:15	1
Chloroform	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Chloromethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Dibromomethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/04/19 05:15	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 05:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Iodomethane	ND		2.0	1.0	ug/L			07/04/19 05:15	1
Isobutyl alcohol	ND		25	13	ug/L			07/04/19 05:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/04/19 05:15	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/04/19 05:15	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/04/19 05:15	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/04/19 05:15	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Naphthalene	ND		1.0	0.40	ug/L			07/04/19 05:15	1
o-Xylene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Propionitrile	ND		20	10	ug/L			07/04/19 05:15	1
Styrene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
t-Butanol	ND		10	5.0	ug/L			07/04/19 05:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/04/19 05:15	1
Toluene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/04/19 05:15	1
Trichloroethene	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/04/19 05:15	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/04/19 05:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/04/19 05:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/04/19 05:15	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/04/19 05:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/04/19 05:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.8	TJ	ug/L		3.88			07/04/19 05:15	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-244744-5

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Unknown	14	TJ	ug/L		5.88			07/04/19 05:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	112		80 - 128					06/29/19 20:21	1
4-Bromofluorobenzene (Surr)	116		80 - 120					06/29/19 20:21	1
Toluene-d8 (Surr)	102		80 - 128					07/04/19 05:15	1
4-Bromofluorobenzene (Surr)	103		80 - 120					07/04/19 05:15	1
Dibromofluoromethane (Surr)	99		76 - 132					06/29/19 20:21	1
Dibromofluoromethane (Surr)	104		76 - 132					07/04/19 05:15	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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 = Eurofins 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

Job ID: 440-244744-1

Client Sample ID: MW-5

Lab Sample ID: 440-244744-1

Date Collected: 06/27/19 10:30

Matrix: Water

Date Received: 06/27/19 15:00

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	555379	06/29/19 18:18	OH1	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	556303	07/05/19 22:58	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556104	07/04/19 03:22	GMA	TAL IRV
Total/NA	Prep	3520C			1035 mL	1.0 mL	555565	07/01/19 10:48	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555838	07/02/19 17:25	YCL	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554993	06/27/19 20:18	NTN	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554994	06/27/19 20:18	NTN	TAL IRV
Total/NA	Analysis	300.0		200			554994	06/27/19 20:33	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555176	06/28/19 08:31	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555918	07/02/19 19:15	P1R	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	555661	07/01/19 14:17	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			555180	06/28/19 06:55	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	555745	07/02/19 08:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	556920	07/09/19 14:00	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	555426	06/28/19 13:18	YZ	TAL IRV

Client Sample ID: MW-13R

Lab Sample ID: 440-244744-2

Date Collected: 06/27/19 08:26

Matrix: Water

Date Received: 06/27/19 15:00

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	555379	06/29/19 18:49	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556104	07/04/19 03:50	GMA	TAL IRV
Total/NA	Prep	3520C			1040 mL	1.0 mL	555565	07/01/19 10:48	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555838	07/02/19 17:47	YCL	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	554993	06/27/19 21:20	NTN	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	554994	06/27/19 21:20	NTN	TAL IRV
Total/NA	Analysis	300.0	DL	10			554994	06/27/19 23:33	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	555176	06/28/19 08:31	BV	TAL IRV
Total Recoverable	Analysis	6010B		1			555918	07/02/19 19:24	P1R	TAL IRV
Total/NA	Analysis	350.1		5			555661	07/01/19 16:43	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			555180	06/28/19 07:12	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	555745	07/02/19 08:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		500	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	555426	06/28/19 13:34	YZ	TAL IRV

Lab Chronicle

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Client Sample ID: LY-7

Lab Sample ID: 440-244744-3

Date Collected: 06/27/19 09:20

Matrix: Water

Date Received: 06/27/19 15:00

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	555379	06/29/19 19:20	OH1	TAL IRV
Total/NA	Analysis	8260B		10	10 mL	10 mL	556104	07/04/19 04:19	GMA	TAL IRV
Total/NA	Prep	3520C			985 mL	1.0 mL	555565	07/01/19 10:48	JAA	TAL IRV
Total/NA	Analysis	8270C		1			555838	07/02/19 18:09	YCL	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554993	06/27/19 20:49	NTN	TAL IRV
Total/NA	Analysis	300.0		10	5 mL	1.0 mL	554994	06/27/19 20:49	NTN	TAL IRV
Total/NA	Analysis	300.0		500			554994	06/27/19 21:04	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	556202	07/05/19 09:49	EP	TAL IRV
Total Recoverable	Analysis	6010B		1			556398	07/05/19 19:55	VS	TAL IRV
Total/NA	Analysis	350.1		5	0.8 mL	8 mL	555661	07/01/19 14:22	KMY	TAL IRV
Total/NA	Analysis	410.4		1	2 mL	2 mL	556734	07/09/19 16:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			555180	06/28/19 07:45	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	555745	07/02/19 08:10	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	557078	07/11/19 13:02	KYP	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	555294	06/28/19 16:18	KMY	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	555426	06/28/19 13:51	YZ	TAL IRV

Client Sample ID: Field Blank

Lab Sample ID: 440-244744-4

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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	555379	06/29/19 19:51	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556104	07/04/19 04:47	GMA	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-244744-5

Date Collected: 06/27/19 00:01

Matrix: Water

Date Received: 06/27/19 15:00

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	555379	06/29/19 20:21	OH1	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	556104	07/04/19 05:15	GMA	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: MB 440-555379/4

Matrix: Water

Analysis Batch: 555379

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acrolein	ND		50	2.5	ug/L			06/29/19 12:13	1
Acrylonitrile	ND		50	1.0	ug/L			06/29/19 12:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Toluene-d8 (Surr)	109		80 - 128				06/29/19 12:13	1	
4-Bromofluorobenzene (Surr)	118		80 - 120				06/29/19 12:13	1	
Dibromofluoromethane (Surr)	91		76 - 132				06/29/19 12:13	1	

Lab Sample ID: LCS 440-555379/5

Matrix: Water

Analysis Batch: 555379

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acrolein	9.88	6.25	J	ug/L		63	10 - 145
Acrylonitrile	100	75.4		ug/L		75	48 - 140
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	107		80 - 128				
4-Bromofluorobenzene (Surr)	118		80 - 120				
Dibromofluoromethane (Surr)	93		76 - 132				

Lab Sample ID: 440-244651-A-5 MS

Matrix: Water

Analysis Batch: 555379

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Acrolein	ND		98.8	60.2	J	ug/L		61	10 - 147
Acrylonitrile	ND		1000	742		ug/L		74	38 - 144
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	103		80 - 128						
4-Bromofluorobenzene (Surr)	116		80 - 120						
Dibromofluoromethane (Surr)	92		76 - 132						

Lab Sample ID: 440-244651-A-5 MSD

Matrix: Water

Analysis Batch: 555379

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Acrolein	ND		98.8	52.4	J	ug/L		53	10 - 147	14	40
Acrylonitrile	ND		1000	719		ug/L		72	38 - 144	3	40
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	108		80 - 128								
4-Bromofluorobenzene (Surr)	116		80 - 120								
Dibromofluoromethane (Surr)	91		76 - 132								

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: MB 440-556104/4

Matrix: Water

Analysis Batch: 556104

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/03/19 19:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/03/19 19:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			07/03/19 19:47	1
2-Hexanone	ND		5.0	2.5	ug/L			07/03/19 19:47	1
Acetone	ND		20	10	ug/L			07/03/19 19:47	1
Acetonitrile	ND		20	10	ug/L			07/03/19 19:47	1
Acrolein	ND		5.0	2.5	ug/L			07/03/19 19:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Benzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Allyl chloride	ND		1.0	0.50	ug/L			07/03/19 19:47	1
Bromoform	ND		1.0	0.40	ug/L			07/03/19 19:47	1
Bromomethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/03/19 19:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Chloroethane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
Chloroform	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Chloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Dibromomethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			07/03/19 19:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Iodomethane	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Isobutyl alcohol	ND		25	13	ug/L			07/03/19 19:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/03/19 19:47	1
Methylacrylonitrile	ND		10	2.5	ug/L			07/03/19 19:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			07/03/19 19:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/03/19 19:47	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: MB 440-556104/4

Matrix: Water

Analysis Batch: 556104

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Naphthalene	ND		1.0	0.40	ug/L			07/03/19 19:47	1
o-Xylene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Propionitrile	ND		20	10	ug/L			07/03/19 19:47	1
Styrene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
t-Butanol	ND		10	5.0	ug/L			07/03/19 19:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			07/03/19 19:47	1
Toluene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			07/03/19 19:47	1
Trichloroethene	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/03/19 19:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			07/03/19 19:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/03/19 19:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/03/19 19:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			07/03/19 19:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			07/03/19 19:47	1

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					07/03/19 19:47	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	105		80 - 128		07/03/19 19:47	1
4-Bromofluorobenzene (Surr)	96		80 - 120		07/03/19 19:47	1
Dibromofluoromethane (Surr)	94		76 - 132		07/03/19 19:47	1

Lab Sample ID: LCS 440-556104/6

Matrix: Water

Analysis Batch: 556104

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	10.0	10.2		ug/L		102	60 - 141
1,1,1-Trichloroethane	10.0	10.6		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.95		ug/L		99	63 - 130
1,1,2-Trichloroethane	10.0	10.6		ug/L		106	70 - 130
1,1-Dichloroethane	10.0	10.4		ug/L		104	64 - 130
1,1-Dichloroethane	10.0	10.5		ug/L		105	70 - 130
1,1-Dichloropropene	10.0	10.8		ug/L		108	70 - 130
1,2,4-Trichlorobenzene	10.0	10.5		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	9.28		ug/L		93	52 - 140
1,2-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130
1,2-Dichloroethane	10.0	10.9		ug/L		109	57 - 138
1,2-Dichloropropane	10.0	10.2		ug/L		102	67 - 130
1,3-Dichlorobenzene	10.0	10.3		ug/L		103	70 - 130
1,3-Dichloropropane	10.0	10.4		ug/L		104	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: LCS 440-556104/6

Matrix: Water

Analysis Batch: 556104

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	10.0	10.2		ug/L		102	70 - 130
2,2-Dichloropropane	10.0	10.5		ug/L		105	68 - 141
2-Hexanone	50.0	53.6		ug/L		107	10 - 150
Acetone	50.0	33.5		ug/L		67	10 - 150
Acrolein	9.88	8.62		ug/L		87	10 - 145
Acrylonitrile	100	103		ug/L		103	48 - 140
Benzene	10.0	10.2		ug/L		102	68 - 130
Bromoform	10.0	10.2		ug/L		102	60 - 148
Bromomethane	10.0	10.2		ug/L		102	64 - 139
Carbon disulfide	10.0	10.3		ug/L		103	52 - 136
Carbon tetrachloride	10.0	10.2		ug/L		102	60 - 150
Chlorobenzene	10.0	10.3		ug/L		103	70 - 130
Bromochloromethane	10.0	9.93		ug/L		99	70 - 130
Chloroethane	10.0	10.4		ug/L		104	64 - 135
Chloroform	10.0	10.4		ug/L		104	70 - 130
Chloromethane	10.0	10.3		ug/L		103	47 - 140
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 133
cis-1,3-Dichloropropene	10.0	10.6		ug/L		106	70 - 133
Dibromochloromethane	10.0	10.6		ug/L		106	69 - 145
Dibromomethane	10.0	10.3		ug/L		103	70 - 130
Bromodichloromethane	10.0	10.3		ug/L		103	70 - 132
Dichlorodifluoromethane	10.0	8.72		ug/L		87	29 - 150
Ethylbenzene	10.0	10.6		ug/L		106	70 - 130
m,p-Xylene	10.0	10.5		ug/L		105	70 - 130
Methylene Chloride	10.0	8.91		ug/L		89	52 - 130
Methyl tert-butyl ether	10.0	9.56		ug/L		96	63 - 131
Naphthalene	10.0	10.3		ug/L		103	60 - 140
o-Xylene	10.0	10.6		ug/L		106	70 - 130
Styrene	10.0	10.6		ug/L		106	70 - 134
t-Butanol	100	70.3		ug/L		70	70 - 130
Tetrachloroethene	10.0	10.7		ug/L		107	70 - 130
Toluene	10.0	10.6		ug/L		106	70 - 130
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
trans-1,3-Dichloropropene	10.0	10.7		ug/L		107	70 - 132
Trichloroethene	10.0	10.4		ug/L		104	70 - 130
Trichlorofluoromethane	10.0	10.9		ug/L		109	60 - 150
Vinyl acetate	10.0	10.0		ug/L		100	48 - 140
Vinyl chloride	10.0	11.6		ug/L		116	59 - 133
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 130
2-Butanone (MEK)	50.0	46.9		ug/L		94	44 - 150
4-Methyl-2-pentanone (MIBK)	50.0	52.2		ug/L		104	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: 440-243426-G-3 MS

Matrix: Water

Analysis Batch: 556104

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,2,3-Trichloropropane	ND		100	98.4		ug/L		98	60 - 130
1,1,1,2-Tetrachloroethane	ND		100	106		ug/L		106	60 - 149
1,1,1-Trichloroethane	ND		100	126		ug/L		126	70 - 130
1,1,2,2-Tetrachloroethane	ND		100	99.2		ug/L		99	63 - 130
1,1,2-Trichloroethane	ND		100	104		ug/L		104	70 - 130
1,1-Dichloroethane	ND		100	109		ug/L		109	65 - 130
1,1-Dichloroethene	ND		100	125		ug/L		125	70 - 130
1,1-Dichloropropene	ND		100	129		ug/L		129	64 - 130
1,2,4-Trichlorobenzene	ND		100	101		ug/L		101	60 - 140
1,2-Dibromo-3-Chloropropane	ND		100	92.1		ug/L		92	48 - 140
1,2-Dichlorobenzene	ND		100	103		ug/L		103	70 - 130
1,2-Dichloroethane	ND		100	97.3		ug/L		97	56 - 146
1,2-Dichloropropane	ND		100	100		ug/L		100	69 - 130
1,3-Dichlorobenzene	ND		100	107		ug/L		107	70 - 130
1,3-Dichloropropane	ND		100	104		ug/L		104	70 - 130
1,4-Dichlorobenzene	ND		100	105		ug/L		105	70 - 130
2,2-Dichloropropane	ND		100	129		ug/L		129	69 - 138
2-Hexanone	ND		500	529		ug/L		106	10 - 150
Acetone	ND	F2	500	334		ug/L		67	10 - 150
Acrolein	ND	F1	98.8	ND	F1	ug/L		0	10 - 147
Acrylonitrile	ND		1000	941		ug/L		94	38 - 144
Benzene	ND		100	108		ug/L		108	66 - 130
Bromoform	ND		100	101		ug/L		101	59 - 150
Bromomethane	ND		100	111		ug/L		111	62 - 131
Carbon disulfide	ND		100	124		ug/L		124	49 - 140
Carbon tetrachloride	ND		100	125		ug/L		125	60 - 150
Chlorobenzene	ND		100	108		ug/L		108	70 - 130
Bromochloromethane	ND		100	94.2		ug/L		94	70 - 130
Chloroethane	ND		100	117		ug/L		117	68 - 130
Chloroform	ND		100	106		ug/L		106	70 - 130
Chloromethane	ND		100	113		ug/L		113	39 - 144
cis-1,2-Dichloroethene	ND		100	106		ug/L		106	70 - 130
cis-1,3-Dichloropropene	ND		100	107		ug/L		107	70 - 133
Dibromochloromethane	ND		100	105		ug/L		105	70 - 148
Dibromomethane	ND		100	99.4		ug/L		99	70 - 130
Bromodichloromethane	ND		100	95.8		ug/L		96	70 - 138
Dichlorodifluoromethane	ND		100	126		ug/L		126	25 - 142
Ethylbenzene	ND		100	118		ug/L		118	70 - 130
m,p-Xylene	ND		100	118		ug/L		118	70 - 133
Methylene Chloride	9.9	J	100	106		ug/L		96	52 - 130
Methyl tert-butyl ether	ND		100	93.0		ug/L		93	70 - 130
Naphthalene	ND		100	102		ug/L		102	60 - 140
o-Xylene	ND		100	113		ug/L		113	70 - 133
Styrene	ND		100	108		ug/L		108	29 - 150
t-Butanol	ND		1000	865		ug/L		86	70 - 130
Tetrachloroethene	ND		100	133		ug/L		133	70 - 137
Toluene	ND		100	118		ug/L		118	70 - 130
trans-1,2-Dichloroethene	ND		100	116		ug/L		116	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: 440-243426-G-3 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 556104

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
trans-1,3-Dichloropropene	ND		100	102		ug/L		102	70 - 138
Trichloroethene	ND		100	117		ug/L		117	70 - 130
Trichlorofluoromethane	ND		100	137		ug/L		137	60 - 150
Vinyl acetate	ND		100	78.4		ug/L		78	23 - 150
Vinyl chloride	ND	F1	100	145	F1	ug/L		145	50 - 137
1,2-Dibromoethane (EDB)	ND		100	101		ug/L		101	70 - 131
2-Butanone (MEK)	ND		500	438		ug/L		88	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		500	526		ug/L		105	52 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132

Lab Sample ID: 440-243426-G-3 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 556104

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier						
1,2,3-Trichloropropane	ND		100	95.7		ug/L		96	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		100	102		ug/L		102	60 - 149	4	20
1,1,1,1-Trichloroethane	ND		100	104		ug/L		104	70 - 130	19	20
1,1,1,2-Tetrachloroethane	ND		100	100		ug/L		100	63 - 130	1	30
1,1,2-Trichloroethane	ND		100	106		ug/L		106	70 - 130	2	25
1,1-Dichloroethane	ND		100	96.9		ug/L		97	65 - 130	12	20
1,1-Dichloroethene	ND		100	103		ug/L		103	70 - 130	19	20
1,1-Dichloropropene	ND		100	107		ug/L		107	64 - 130	19	20
1,2,4-Trichlorobenzene	ND		100	102		ug/L		102	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		100	93.7		ug/L		94	48 - 140	2	30
1,2-Dichlorobenzene	ND		100	102		ug/L		102	70 - 130	1	20
1,2-Dichloroethane	ND		100	95.7		ug/L		96	56 - 146	2	20
1,2-Dichloropropane	ND		100	95.0		ug/L		95	69 - 130	5	20
1,3-Dichlorobenzene	ND		100	101		ug/L		101	70 - 130	5	20
1,3-Dichloropropane	ND		100	102		ug/L		102	70 - 130	3	25
1,4-Dichlorobenzene	ND		100	102		ug/L		102	70 - 130	3	20
2,2-Dichloropropane	ND		100	104		ug/L		104	69 - 138	21	25
2-Hexanone	ND		500	518		ug/L		104	10 - 150	2	35
Acetone	ND	F2	500	227	F2	ug/L		45	10 - 150	38	35
Acrolein	ND	F1	98.8	ND	F1	ug/L		0	10 - 147	NC	40
Acrylonitrile	ND		1000	953		ug/L		95	38 - 144	1	40
Benzene	ND		100	97.4		ug/L		97	66 - 130	10	20
Bromoform	ND		100	100		ug/L		100	59 - 150	1	25
Bromomethane	ND		100	98.4		ug/L		98	62 - 131	12	25
Carbon disulfide	ND		100	103		ug/L		103	49 - 140	19	20
Carbon tetrachloride	ND		100	103		ug/L		103	60 - 150	19	25
Chlorobenzene	ND		100	102		ug/L		102	70 - 130	5	20
Bromochloromethane	ND		100	93.7		ug/L		94	70 - 130	0	25
Chloroethane	ND		100	101		ug/L		101	68 - 130	15	25

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: 440-243426-G-3 MSD

Matrix: Water

Analysis Batch: 556104

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroform	ND		100	98.8		ug/L		99	70 - 130	7	20
Chloromethane	ND		100	96.9		ug/L		97	39 - 144	15	25
cis-1,2-Dichloroethene	ND		100	104		ug/L		104	70 - 130	2	20
cis-1,3-Dichloropropene	ND		100	105		ug/L		105	70 - 133	2	20
Dibromochloromethane	ND		100	103		ug/L		103	70 - 148	2	25
Dibromomethane	ND		100	95.5		ug/L		96	70 - 130	4	25
Bromodichloromethane	ND		100	96.5		ug/L		97	70 - 138	1	20
Dichlorodifluoromethane	ND		100	101		ug/L		101	25 - 142	22	30
Ethylbenzene	ND		100	108		ug/L		108	70 - 130	9	20
m,p-Xylene	ND		100	105		ug/L		105	70 - 133	11	25
Methylene Chloride	9.9	J	100	99.4		ug/L		89	52 - 130	6	20
Methyl tert-butyl ether	ND		100	91.7		ug/L		92	70 - 130	1	25
Naphthalene	ND		100	103		ug/L		103	60 - 140	2	30
o-Xylene	ND		100	105		ug/L		105	70 - 133	7	20
Styrene	ND		100	104		ug/L		104	29 - 150	4	35
t-Butanol	ND		1000	788		ug/L		79	70 - 130	9	25
Tetrachloroethene	ND		100	111		ug/L		111	70 - 137	18	20
Toluene	ND		100	107		ug/L		107	70 - 130	10	20
trans-1,2-Dichloroethene	ND		100	100		ug/L		100	70 - 130	14	20
trans-1,3-Dichloropropene	ND		100	101		ug/L		101	70 - 138	1	25
Trichloroethene	ND		100	99.9		ug/L		100	70 - 130	15	20
Trichlorofluoromethane	ND		100	111		ug/L		111	60 - 150	21	25
Vinyl acetate	ND		100	72.9		ug/L		73	23 - 150	7	30
Vinyl chloride	ND	F1	100	116		ug/L		116	50 - 137	23	30
1,2-Dibromoethane (EDB)	ND		100	103		ug/L		103	70 - 131	1	25
2-Butanone (MEK)	ND		500	429		ug/L		86	48 - 140	2	40
4-Methyl-2-pentanone (MIBK)	ND		500	515		ug/L		103	52 - 150	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Lab Sample ID: MB 440-556303/8

Matrix: Water

Analysis Batch: 556303

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	ND		10	5.0	ug/L			07/05/19 22:32	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.603		ug/L		14.02	87-68-3		07/05/19 22:32	1
1,2,3-Trichlorobenzene	0.494	J	ug/L		14.13	87-61-6		07/05/19 22:32	1
Tentatively Identified Compound	None		ug/L					07/05/19 22:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128		07/05/19 22:32	1

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: MB 440-556303/8
Matrix: Water
Analysis Batch: 556303

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	118		80 - 120		07/05/19 22:32	1
Dibromofluoromethane (Surr)	91		76 - 132		07/05/19 22:32	1

Lab Sample ID: LCS 440-556303/4
Matrix: Water
Analysis Batch: 556303

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	111		80 - 128
4-Bromofluorobenzene (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	88		76 - 132

Lab Sample ID: 440-244941-A-1 MS
Matrix: Water
Analysis Batch: 556303

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

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	111		80 - 128
4-Bromofluorobenzene (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	90		76 - 132

Lab Sample ID: 440-244941-A-1 MSD
Matrix: Water
Analysis Batch: 556303

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

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	108		80 - 128
4-Bromofluorobenzene (Surr)	118		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-555565/1-A
Matrix: Water
Analysis Batch: 555838

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555565

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		1.0	0.25	ug/L		07/01/19 10:48	07/02/19 15:14	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,4-Dioxane-d8 (Surr)	50		30 - 120	07/01/19 10:48	07/02/19 15:14	1

Lab Sample ID: LCS 440-555565/3-A
Matrix: Water
Analysis Batch: 555838

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555565

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,4-Dioxane	2.00	1.24		ug/L		62	35 - 120

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	59		30 - 120

Lab Sample ID: LCSD 440-555565/4-A
 Matrix: Water
 Analysis Batch: 555838

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 555565

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.25		ug/L		63	35 - 120	1	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 440-554993/6
 Matrix: Water
 Analysis Batch: 554993

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			06/27/19 12:08	1

Lab Sample ID: LCS 440-554993/5
 Matrix: Water
 Analysis Batch: 554993

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	1.05		mg/L		93	90 - 110

Lab Sample ID: 440-244744-2 MS
 Matrix: Water
 Analysis Batch: 554993

Client Sample ID: MW-13R
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND	F1	1.13	1.64	F1	mg/L		145	80 - 120

Lab Sample ID: 440-244744-2 MSD
 Matrix: Water
 Analysis Batch: 554993

Client Sample ID: MW-13R
 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	ND	F1	1.13	1.59	F1	mg/L		141	80 - 120	3	20

Lab Sample ID: MB 440-554994/6
 Matrix: Water
 Analysis Batch: 554994

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			06/27/19 12:08	1
Chloride	ND		0.50	0.25	mg/L			06/27/19 12:08	1
Fluoride	ND		0.50	0.25	mg/L			06/27/19 12:08	1
Sulfate	ND		0.50	0.25	mg/L			06/27/19 12:08	1

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-554994/5
Matrix: Water
Analysis Batch: 554994

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	4.68		mg/L		94	90 - 110
Chloride	5.00	4.58		mg/L		92	90 - 110
Fluoride	5.00	4.59		mg/L		92	90 - 110
Sulfate	5.00	4.70		mg/L		94	90 - 110

Lab Sample ID: 440-244744-2 MS
Matrix: Water
Analysis Batch: 554994

Client Sample ID: MW-13R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	1.9		5.00	6.43		mg/L		91	80 - 120
Chloride	190	E	5.00	195	E 4	mg/L		136	80 - 120
Fluoride	0.44	J	5.00	5.88		mg/L		109	80 - 120
Sulfate	43	E	5.00	52.1	E 4	mg/L		186	80 - 120

Lab Sample ID: 440-244744-2 MSD
Matrix: Water
Analysis Batch: 554994

Client Sample ID: MW-13R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	1.9		5.00	6.42		mg/L		91	80 - 120	0	20
Chloride	190	E	5.00	196	E 4	mg/L		157	80 - 120	1	20
Fluoride	0.44	J	5.00	5.86		mg/L		108	80 - 120	0	20
Sulfate	43	E	5.00	53.3	E 4	mg/L		211	80 - 120	2	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-555176/1-A
Matrix: Water
Analysis Batch: 555918

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 555176

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.025	mg/L		06/28/19 08:31	07/02/19 19:08	1
Calcium	ND		0.10	0.050	mg/L		06/28/19 08:31	07/02/19 19:08	1
Iron	ND		0.10	0.050	mg/L		06/28/19 08:31	07/02/19 19:08	1
Magnesium	ND		0.020	0.010	mg/L		06/28/19 08:31	07/02/19 19:08	1
Manganese	ND		0.020	0.015	mg/L		06/28/19 08:31	07/02/19 19:08	1
Sodium	ND		0.50	0.26	mg/L		06/28/19 08:31	07/02/19 19:08	1
Potassium	ND		0.50	0.25	mg/L		06/28/19 08:31	07/02/19 19:08	1

Lab Sample ID: LCS 440-555176/2-A
Matrix: Water
Analysis Batch: 555918

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 555176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.965		mg/L		97	80 - 120
Calcium	5.00	4.85		mg/L		97	80 - 120
Iron	1.00	1.00		mg/L		100	80 - 120
Magnesium	5.00	4.88		mg/L		98	80 - 120
Manganese	1.00	0.975		mg/L		98	80 - 120

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QC Sample Results

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: LCS 440-555176/2-A
Matrix: Water
Analysis Batch: 555918

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 555176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	9.87		mg/L		99	80 - 120
Potassium	10.0	9.74		mg/L		97	80 - 120

Lab Sample ID: 440-244744-1 MS
Matrix: Water
Analysis Batch: 555918

Client Sample ID: MW-5
Prep Type: Total Recoverable
Prep Batch: 555176

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.2		1.00	2.17		mg/L		101	75 - 125
Calcium	370		5.00	378	4	mg/L		140	75 - 125
Iron	33		1.00	34.2	4	mg/L		117	75 - 125
Magnesium	180	^	5.00	184	4	mg/L		130	75 - 125
Manganese	4.4		1.00	5.32	4	mg/L		97	75 - 125
Sodium	310		10.0	324	4	mg/L		140	75 - 125
Potassium	24		10.0	33.5		mg/L		98	75 - 125

Lab Sample ID: 440-244744-1 MSD
Matrix: Water
Analysis Batch: 555918

Client Sample ID: MW-5
Prep Type: Total Recoverable
Prep Batch: 555176

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Boron	1.2		1.00	2.13		mg/L		97	75 - 125	2	20
Calcium	370		5.00	382	4	mg/L		218	75 - 125	1	20
Iron	33		1.00	34.7	4	mg/L		165	75 - 125	1	20
Magnesium	180	^	5.00	181	4	mg/L		72	75 - 125	2	20
Manganese	4.4		1.00	5.25	4	mg/L		90	75 - 125	1	20
Sodium	310		10.0	325	4	mg/L		151	75 - 125	0	20
Potassium	24		10.0	33.4		mg/L		96	75 - 125	1	20

Lab Sample ID: MB 440-556202/1-A
Matrix: Water
Analysis Batch: 556398

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 556202

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.025	mg/L		07/05/19 09:49	07/05/19 18:57	1
Calcium	ND		0.10	0.050	mg/L		07/05/19 09:49	07/05/19 18:57	1
Iron	ND		0.10	0.050	mg/L		07/05/19 09:49	07/05/19 18:57	1
Magnesium	ND		0.020	0.010	mg/L		07/05/19 09:49	07/05/19 18:57	1
Manganese	ND		0.020	0.015	mg/L		07/05/19 09:49	07/05/19 18:57	1
Sodium	ND		0.50	0.26	mg/L		07/05/19 09:49	07/05/19 18:57	1
Potassium	ND		0.50	0.25	mg/L		07/05/19 09:49	07/05/19 18:57	1

Lab Sample ID: LCS 440-556202/2-A
Matrix: Water
Analysis Batch: 556398

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 556202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.975		mg/L		98	80 - 120
Calcium	5.00	4.95		mg/L		99	80 - 120
Iron	1.00	1.02		mg/L		102	80 - 120

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QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

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

Lab Sample ID: LCS 440-556202/2-A

Matrix: Water

Analysis Batch: 556398

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 556202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	5.00	4.87		mg/L		97	80 - 120
Manganese	1.00	0.983		mg/L		98	80 - 120
Sodium	10.0	10.0		mg/L		100	80 - 120
Potassium	10.0	9.92		mg/L		99	80 - 120

Lab Sample ID: 440-244965-Y-1-B MS

Matrix: Water

Analysis Batch: 556398

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 556202

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.15		1.00	1.21		mg/L		106	75 - 125
Calcium	120		5.00	131	4	mg/L		126	75 - 125
Iron	0.068	J	1.00	1.07		mg/L		100	75 - 125
Magnesium	37		5.00	41.9	4	mg/L		102	75 - 125
Manganese	0.26		1.00	1.27		mg/L		101	75 - 125
Sodium	88		10.0	98.6	4	mg/L		110	75 - 125
Potassium	6.2		10.0	16.4		mg/L		102	75 - 125

Lab Sample ID: 440-244965-Y-1-C MSD

Matrix: Water

Analysis Batch: 556398

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 556202

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Boron	0.15		1.00	1.19		mg/L		104	75 - 125	1	20
Calcium	120		5.00	127	4	mg/L		58	75 - 125	3	20
Iron	0.068	J	1.00	1.06		mg/L		99	75 - 125	1	20
Magnesium	37		5.00	41.0	4	mg/L		85	75 - 125	2	20
Manganese	0.26		1.00	1.26		mg/L		99	75 - 125	1	20
Sodium	88		10.0	95.7	4	mg/L		81	75 - 125	3	20
Potassium	6.2		10.0	16.1		mg/L		99	75 - 125	2	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-555661/10

Matrix: Water

Analysis Batch: 555661

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			07/01/19 11:53	1

Lab Sample ID: MB 440-555661/41

Matrix: Water

Analysis Batch: 555661

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			07/01/19 14:46	1

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 440-555661/11
Matrix: Water
Analysis Batch: 555661

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	5.26		mg/L		105	90 - 110

Lab Sample ID: LCS 440-555661/45
Matrix: Water
Analysis Batch: 555661

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	5.26		mg/L		105	90 - 110

Lab Sample ID: MRL 440-555661/9
Matrix: Water
Analysis Batch: 555661

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	0.251		mg/L		126	50 - 150

Lab Sample ID: 240-115008-M-1 MS
Matrix: Water
Analysis Batch: 555661

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		5.00	4.84		mg/L		97	90 - 110

Lab Sample ID: 240-115008-M-1 MSD
Matrix: Water
Analysis Batch: 555661

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	Limit
Ammonia (as N)	ND		5.00	5.26		mg/L		105	90 - 110	8	15

Lab Sample ID: 440-244693-C-2 MS
Matrix: Water
Analysis Batch: 555661

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)	0.16	J	5.00	5.66		mg/L		110	90 - 110

Lab Sample ID: 440-244693-C-2 MSD
Matrix: Water
Analysis Batch: 555661

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	Limit
Ammonia (as N)	0.16	J	5.00	5.42		mg/L		105	90 - 110	4	15

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: 410.4 - COD

Lab Sample ID: MB 440-556734/3
Matrix: Water
Analysis Batch: 556734

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			07/09/19 16:56	1

Lab Sample ID: LCS 440-556734/4
Matrix: Water
Analysis Batch: 556734

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	193		mg/L		96	90 - 110

Lab Sample ID: 440-244353-B-1 MS
Matrix: Water
Analysis Batch: 556734

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	140		200	320		mg/L		88	70 - 120

Lab Sample ID: 440-244353-B-1 MSD
Matrix: Water
Analysis Batch: 556734

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	Limit
Chemical Oxygen Demand	140		200	323		mg/L		89	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-555180/3
Matrix: Water
Analysis Batch: 555180

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			06/28/19 06:14	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/28/19 06:14	1

Lab Sample ID: LCS 440-555180/2
Matrix: Water
Analysis Batch: 555180

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	98.8	98.4		mg/L		100	80 - 120

Lab Sample ID: 440-244729-B-1 DU
Matrix: Water
Analysis Batch: 555180

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alkalinity as CaCO3	340		337		mg/L		0.6	20
Bicarbonate Alkalinity as CaCO3	340		337		mg/L		0.6	20

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-555745/1
 Matrix: Water
 Analysis Batch: 555745

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			07/02/19 08:10	1

Lab Sample ID: LCS 440-555745/2
 Matrix: Water
 Analysis Batch: 555745

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	992		mg/L		99	90 - 110

Lab Sample ID: 440-244651-E-13 DU
 Matrix: Water
 Analysis Batch: 555745

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	4000		3970		mg/L		0.8	5

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-556920/1
 Matrix: Water
 Analysis Batch: 556920

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			07/09/19 14:00	1

Lab Sample ID: 440-244444-H-1 DU
 Matrix: Water
 Analysis Batch: 556920

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	310		313		mg/L		0	20

Lab Sample ID: MB 440-557078/1
 Matrix: Water
 Analysis Batch: 557078

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			07/11/19 13:02	1

Lab Sample ID: 440-244629-H-1 DU
 Matrix: Water
 Analysis Batch: 557078

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	170		171		mg/L		0	20

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-555294/3
 Matrix: Water
 Analysis Batch: 555294

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			06/28/19 16:17	1

Lab Sample ID: LCS 440-555294/4
 Matrix: Water
 Analysis Batch: 555294

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	0.552		mg/L		110	80 - 120

Lab Sample ID: 440-244629-J-1 MS
 Matrix: Water
 Analysis Batch: 555294

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	0.455		mg/L		91	70 - 130

Lab Sample ID: 440-244629-J-1 MSD
 Matrix: Water
 Analysis Batch: 555294

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	0.455		mg/L		91	70 - 130	0	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-555426/6
 Matrix: Water
 Analysis Batch: 555426

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			06/28/19 09:07	1

Lab Sample ID: LCS 440-555426/5
 Matrix: Water
 Analysis Batch: 555426

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	10.2		mg/L		102	85 - 115

Lab Sample ID: MRL 440-555426/4
 Matrix: Water
 Analysis Batch: 555426

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	0.0765	J	mg/L		77	50 - 150

QC Sample Results

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-244538-G-3 MS

Matrix: Water

Analysis Batch: 555426

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	0.33		10.0	10.3		mg/L		99	85 - 115

Lab Sample ID: 440-244538-G-3 MSD

Matrix: Water

Analysis Batch: 555426

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	0.33		10.0	10.2		mg/L		99	85 - 115	0	20



QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

GC/MS VOA

Analysis Batch: 555379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	8260B	
440-244744-2	MW-13R	Total/NA	Water	8260B	
440-244744-3	LY-7	Total/NA	Water	8260B	
440-244744-4	Field Blank	Total/NA	Water	8260B	
440-244744-5	Trip Blank	Total/NA	Water	8260B	
MB 440-555379/4	Method Blank	Total/NA	Water	8260B	
LCS 440-555379/5	Lab Control Sample	Total/NA	Water	8260B	
440-244651-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-244651-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 556104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	8260B	
440-244744-2	MW-13R	Total/NA	Water	8260B	
440-244744-3	LY-7	Total/NA	Water	8260B	
440-244744-4	Field Blank	Total/NA	Water	8260B	
440-244744-5	Trip Blank	Total/NA	Water	8260B	
MB 440-556104/4	Method Blank	Total/NA	Water	8260B	
LCS 440-556104/6	Lab Control Sample	Total/NA	Water	8260B	
440-243426-G-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-243426-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 556303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1 - RA	MW-5	Total/NA	Water	8260B	
MB 440-556303/8	Method Blank	Total/NA	Water	8260B	
LCS 440-556303/4	Lab Control Sample	Total/NA	Water	8260B	
440-244941-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-244941-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 555565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	3520C	
440-244744-2	MW-13R	Total/NA	Water	3520C	
440-244744-3	LY-7	Total/NA	Water	3520C	
MB 440-555565/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-555565/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-555565/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 555838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	8270C	555565
440-244744-2	MW-13R	Total/NA	Water	8270C	555565
440-244744-3	LY-7	Total/NA	Water	8270C	555565
MB 440-555565/1-A	Method Blank	Total/NA	Water	8270C	555565
LCS 440-555565/3-A	Lab Control Sample	Total/NA	Water	8270C	555565
LCSD 440-555565/4-A	Lab Control Sample Dup	Total/NA	Water	8270C	555565

QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

HPLC/IC

Analysis Batch: 554993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	300.0	
440-244744-2	MW-13R	Total/NA	Water	300.0	
440-244744-3	LY-7	Total/NA	Water	300.0	
MB 440-554993/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554993/5	Lab Control Sample	Total/NA	Water	300.0	
440-244744-2 MS	MW-13R	Total/NA	Water	300.0	
440-244744-2 MSD	MW-13R	Total/NA	Water	300.0	

Analysis Batch: 554994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	300.0	
440-244744-1	MW-5	Total/NA	Water	300.0	
440-244744-2	MW-13R	Total/NA	Water	300.0	
440-244744-2 - DL	MW-13R	Total/NA	Water	300.0	
440-244744-3	LY-7	Total/NA	Water	300.0	
440-244744-3	LY-7	Total/NA	Water	300.0	
MB 440-554994/6	Method Blank	Total/NA	Water	300.0	
LCS 440-554994/5	Lab Control Sample	Total/NA	Water	300.0	
440-244744-2 MS	MW-13R	Total/NA	Water	300.0	
440-244744-2 MSD	MW-13R	Total/NA	Water	300.0	

Metals

Prep Batch: 555176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total Recoverable	Water	3005A	
440-244744-2	MW-13R	Total Recoverable	Water	3005A	
MB 440-555176/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-555176/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-244744-1 MS	MW-5	Total Recoverable	Water	3005A	
440-244744-1 MSD	MW-5	Total Recoverable	Water	3005A	

Analysis Batch: 555918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total Recoverable	Water	6010B	555176
440-244744-2	MW-13R	Total Recoverable	Water	6010B	555176
MB 440-555176/1-A	Method Blank	Total Recoverable	Water	6010B	555176
LCS 440-555176/2-A	Lab Control Sample	Total Recoverable	Water	6010B	555176
440-244744-1 MS	MW-5	Total Recoverable	Water	6010B	555176
440-244744-1 MSD	MW-5	Total Recoverable	Water	6010B	555176

Prep Batch: 556202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-3	LY-7	Total Recoverable	Water	3005A	
MB 440-556202/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-556202/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-244965-Y-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-244965-Y-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Metals

Analysis Batch: 556398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-3	LY-7	Total Recoverable	Water	6010B	556202
MB 440-556202/1-A	Method Blank	Total Recoverable	Water	6010B	556202
LCS 440-556202/2-A	Lab Control Sample	Total Recoverable	Water	6010B	556202
440-244965-Y-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	556202
440-244965-Y-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	556202

General Chemistry

Analysis Batch: 555180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	SM 2320B	
440-244744-2	MW-13R	Total/NA	Water	SM 2320B	
440-244744-3	LY-7	Total/NA	Water	SM 2320B	
MB 440-555180/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-555180/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-244729-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 555294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	SM 4500 S2 D	
440-244744-2	MW-13R	Total/NA	Water	SM 4500 S2 D	
440-244744-3	LY-7	Total/NA	Water	SM 4500 S2 D	
MB 440-555294/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-555294/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-244629-J-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
440-244629-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 555426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	SM 5310C	
440-244744-2	MW-13R	Total/NA	Water	SM 5310C	
440-244744-3	LY-7	Total/NA	Water	SM 5310C	
MB 440-555426/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-555426/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-555426/4	Lab Control Sample	Total/NA	Water	SM 5310C	
440-244538-G-3 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-244538-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 555661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	350.1	
440-244744-2	MW-13R	Total/NA	Water	350.1	
440-244744-3	LY-7	Total/NA	Water	350.1	
MB 440-555661/10	Method Blank	Total/NA	Water	350.1	
MB 440-555661/41	Method Blank	Total/NA	Water	350.1	
LCS 440-555661/11	Lab Control Sample	Total/NA	Water	350.1	
LCS 440-555661/45	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-555661/9	Lab Control Sample	Total/NA	Water	350.1	
240-115008-M-1 MS	Matrix Spike	Total/NA	Water	350.1	
240-115008-M-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
440-244693-C-2 MS	Matrix Spike	Total/NA	Water	350.1	

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QC Association Summary

Client: Geo-Logic Associates
 Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

General Chemistry (Continued)

Analysis Batch: 555661 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244693-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 555745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	SM 2540C	
440-244744-2	MW-13R	Total/NA	Water	SM 2540C	
440-244744-3	LY-7	Total/NA	Water	SM 2540C	
MB 440-555745/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-555745/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-244651-E-13 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 556734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	410.4	
440-244744-2	MW-13R	Total/NA	Water	410.4	
440-244744-3	LY-7	Total/NA	Water	410.4	
MB 440-556734/3	Method Blank	Total/NA	Water	410.4	
LCS 440-556734/4	Lab Control Sample	Total/NA	Water	410.4	
440-244353-B-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-244353-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 556920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-1	MW-5	Total/NA	Water	SM 4500 CO2 C	
MB 440-556920/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-244444-H-1 DU	Duplicate	Total/NA	Water	SM 4500 CO2 C	

Analysis Batch: 557078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-244744-2	MW-13R	Total/NA	Water	SM 4500 CO2 C	
440-244744-3	LY-7	Total/NA	Water	SM 4500 CO2 C	
MB 440-557078/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-244629-H-1 DU	Duplicate	Total/NA	Water	SM 4500 CO2 C	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control 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
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
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.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

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Accreditation/Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic Sunshine Canyon

Job ID: 440-244744-1

Laboratory: Eurofins 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	06-30-20
Arizona	State Program	9	AZ0671	10-14-19
California	LA Cty Sanitation Districts	9	10256	06-30-20
California	State Program	9	CA ELAP 2706	06-30-19 *
Guam	State Program	9	Cert. No. 19-005R	01-23-20
Hawaii	State Program	9	N/A	01-29-20
Kansas	NELAP	7	E-10420	07-31-19 *
Nevada	State Program	9	CA015312019-5	07-31-19 *
New Mexico	State Program	6	N/A	01-29-20
Oregon	NELAP	10	4028	01-29-20
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.

Eurofins TestAmerica, Irvine

Chain of Custody Record

322962

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (07/13)

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Kyle Neichowp Site Contact: J. Miller Date: 6-27-19

Company Name: Geo-Lusic Assoc.
Address: 1115 W. Bernardo Ct
City/State/Zip: S. D., CA 92127
Phone: 656-451-1136
Fax: 656-451-1087
Project Name: Geosonic Services
Site: Sunshyne Cyn. Landfill
PO #

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below
 2 weeks
 1 week
 2 days
 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 8160 B-VOCs	EPA 8160 C-VOCs	EPA 410.4-CAD	EPA 300.0-N3A	Chloride Sulfate	Ammonia as (N)	EPA 415-1-TSC	EPA 376.2-Sulfide	SM-450-CO2	Carbon Dioxide	Total Alkalinity	B: Carbonate	Sample Specific Notes
MW-5	6/27/19	1030	G	GW	13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Metals give wet field filtered.
MW-13R	6/27/19	0826	G	GW	13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
LY-7	6/27/19	0920	G	GW	11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Field blank																				
TriP Blank																				



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

Special Instructions/QC Requirements & Comments:

Custody Seal No.: Yes No

Relinquished by: [Signature] Date/Time: 6/27/19 11:17
Relinquished by: [Signature] Date/Time: 6/27/19 1500
Relinquished by: [Signature] Date/Time: 6/27/19 1500

Received by: [Signature] Date/Time: 6/27/19 11:17
Received by: [Signature] Date/Time: 6/27/19 1500

Company: Geo-Lusic Company: TAIRU
Company: TAIRU Company: TAIRU

12/13/ 1:3/24



Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-244744-1

Login Number: 244744

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Skinner, Alma D

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	

APPENDIX C

MONTHLY VADOSE ZONE GAS MONITORING REPORTS

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>A Romo</u>		TEMPERATURE: <u>49</u>		BARO. PRESSURE: <u>30.22</u>					
SEM SERIAL #: <u>G504543</u>		WEATHER CONDITIONS: <u>cloudy</u>							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13	1-15-19	740	0	0	.1	22.0	77.7	2	
B-29	1-15-19	742	-1.1	0	.1	22.0	77.9	2	
C-45	1-15-19	745	-1.40	0	.1	22.4	77.5	3	
D-61	1-15-19	749	-2.00	0	.1	22.4	77.5	4	
E-77	1-15-19	753	-15.87	0	.1	22.5	77.4	4	
214									
A-13	1-15-19	804	-5.01	0	.1	22.2	77.7	2	
B-30	1-15-19	806	-11.06	0	.2	21.8	78.0	2	
C-48	1-15-19	809	-8.55	0	.5	22.0	77.5	3	
215									
A-13	1-15-19	820	+0.3	0	6.5	5.1	88.4	2	
B-30	1-15-19	822	-1.1	0	5.0	13.8	81.2	2	
C-47	1-15-19	824	.00	0	.1	22.2	77.7	3	
D-64	1-15-19	828	-1.70	0	1.5	18.2	80.3	4	
E-81	1-15-19	832	-0.4	0	4.2	11.0	84.8	4	
216									
A-14	1-15-19	847	-0.01	.1	.1	21.9	77.9	2	
B-43	1-15-19	851	+0.04	0	.1	21.9	78.0	2	
C-62	1-15-19	854	-0.67	0	.1	22.0	77.9	3	
D-86	1-15-19	858	-0.85	0	.2	20.5	79.3	4	
E-110	1-15-19	903	+0.01	0	.3	21.6	78.1	4	
217									
A-13	1-15-19	922	+0.05	0	5.7	16.2	78.1	2	
B-30	1-15-19	924	-0.53	0	3.8	17.8	78.4	2	
218R									
A-11	1-15-19	950	-0.25	0	20.6	2.2	71.2	2	
B-265	1-15-19	952	+3.23	.1	31.5	.3	68.1	2	
B-30	1-15-19	955	+0.04	0	32.1	13.6	54.5	2	
219									
A-13								2	
B-64								2	
C-115								3	
D-166								4	
E-217								4	

SCS SIGNATURE



LEA SIGNATURE

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>A Romo</u>			TEMPERATURE: <u>55</u>		BARO. PRESSURE: <u>28.47</u>				
GEM SERIAL #: <u>G503346</u>			WEATHER CONDITIONS: <u>SUNNY</u>						
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13								2	
B-29								2	
C-45								3	
D-61								4	
E-77								4	
214									
A-13								2	
B-30								2	
C-48								3	
215									
A-13								2	
B-30								2	
C-47								3	
D-64								4	
E-81								4	
216									
A-14								2	
B-43								2	
C-62								3	
D-86								4	
E-110								4	
217									
A-13								2	
B-30								2	
218R									
A-11								2	
B-26.5								2	
B-30								2	
219									
A-13	<u>1-24-19</u>	<u>1044</u>	<u>-1.10</u>	<u>0</u>	<u>.8</u>	<u>20.9</u>	<u>78.3</u>	<u>2</u>	
B-64	<u>1-24-19</u>	<u>1046</u>	<u>-1.03</u>	<u>0</u>	<u>3.9</u>	<u>15.5</u>	<u>80.6</u>	<u>2</u>	
C-115	<u>1-24-19</u>	<u>1050</u>	<u>-1.09</u>	<u>0</u>	<u>11</u>	<u>21.8</u>	<u>78.1</u>	<u>3</u>	
D-166	<u>1-24-19</u>	<u>1054</u>	<u>-1.12</u>	<u>0</u>	<u>0</u>	<u>22.1</u>	<u>77.9</u>	<u>4</u>	
E-217	<u>1-24-19</u>	<u>1059</u>	<u>+1.01</u>	<u>0</u>	<u>1.2</u>	<u>20.0</u>	<u>78.8</u>	<u>4</u>	

SCS SIGNATURE: 

LEA SIGNATURE _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

AMANDO MARTINEZ GEM G502765

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220									
A-14								2	
B-40								2	
C-87								3	
D-124								4	
E-158								4	
220B									
A-14	01/15/19	7:33	+0.01	0	2.9	17.5	79.5	2	
B-38	01/15/19	7:38	0.0	0	0.4	21.1	78.5	2	
C-62	01/15/19	7:43	0.0	0.1	6.5	10.8	82.6	3	
D-86	01/15/19	7:49	+0.03	0	3.2	15.6	81.2	4	
E-110	01/15/19	7:55	+0.01	0	4.7	14.2	81.1	4	
221									
A-13	01/15/19	8:58	-0.03	0	1.0	19.6	79.5	2	
B-56	01/15/19	9:01	-0.08	0	0.2	20.6	79.2	2	
C-99	01/15/19	9:06	-0.08	0	1.2	19.4	79.4	3	
D-142	01/15/19	9:11	0.0	0	0.1	20.5	79.4	4	
E-185	01/15/19	9:16	+0.03	0	0.1	20.5	79.4	4	
222									
A-13	01/15/19	9:23	+0.02	0	2.0	18.6	79.4	2	
B-54.8	01/15/19	9:27	-0.06	0	0.1	20.5	79.4	2	
C-96.5	01/15/19	9:31	+0.05	0	0.1	20.5	79.3	3	
D-138.3	01/15/19	9:36	+0.04	0	3.3	13.1	83.6	4	
E-180	01/15/19	9:42	+0.10	0	3.7	5.2	91.0	4	
223									
A-13	01/15/19	8:09	+0.05	0	5.3	8.4	86.3	2	
B-37.5	01/15/19	8:14	+0.15	0	7.1	1.4	91.4	2	
C-62	01/15/19	8:20	+0.05	0	4.6	10.8	84.5	3	
D-86.5	01/15/19	8:25	+0.06	0	2.6	15.4	82.0	4	
E-111	01/15/19	8:31	+0.08	0	3.3	14.1	82.6	4	
224									
A-13								2	
B-67.5								2	
C-122								3	
D-177.5								4	
E-232								4	


SCS SIGNATURE: AMANDO MARTINEZ

LEA SIGNATURE: _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

Saulo Diaz G504541

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225									
A-13	01/15/19	08:20	-0.01	0.0	0.9	19.8	79.3	2	
B-72	01/15/19	08:24	-5.82	0.0	0.4	20.3	79.3	2	
C-1131	01/15/19	08:28	-9.74	0.0	0.9	19.7	79.4	3	
D-190	01/15/19	08:32	-9.84	0.0	0.2	20.5	79.3	4	
E-244	01/15/19	08:38	-9.23	0.0	0.8	19.8	79.4	4	
226									
A-13	01/15/19	08:45	-0.06	0.0	0.1	20.5	79.4	2	
B-64	01/15/19	08:48	-11.66	0.0	0.1	20.5	79.4	2	
C-114	01/15/19	08:51	-11.05	0.0	0.1	20.6	79.3	3	
D-164	01/15/19	08:56	-11.67	0.0	0.1	20.6	79.3	4	
E-208	01/15/19	09:01	-12.07	0.0	0.2	20.6	79.2	4	
227									
A-13	01/15/19	09:07	-0.01	0.0	1.5	14.5	84.0	2	
B-48.7	01/15/19	09:11	+0.12	0.3	5.9	0.3	93.5	2	
C-84.4	01/15/19	09:15	+0.05	0.0	5.4	1.2	93.4	3	
D-114	01/15/19	09:22	+0.16	0.0	3.9	0.7	95.4	4	
E-115.7	01/15/19	09:28	+0.14	0.0	4.8	1.9	93.2	4	
228									
A-13	01/15/19	09:35	-0.04	0.0	1.0	18.8	80.2	2	
B-63	01/15/19	09:37	+0.03	0.0	4.3	11.2	84.5	2	
C-113	01/15/19	09:42	+0.10	0.5	5.8	6.0	87.8	3	
D-163	01/15/19	09:47	+0.15	0.0	3.8	5.6	90.6	4	
E-213	01/15/19	09:52	+0.03	0.0	5.4	1.9	92.7	4	
229									
A-13								2	
B-48.7								2	
C-84.4								3	
D-114								4	
E-155.7								4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE: 

LEA SIGNATURE: _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

AMANDO MARTINEZ GEN G502765

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225									
A-13								2	
B-72								2	
C-1131								3	
D-190								4	
E-244								4	
226									
A-13								2	
B-64								2	
C-114								3	
D-164								4	
E-208								4	
227									
A-13								2	
B-48.7								2	
C-84.4								3	
D-114								4	
E-115.7								4	
228									
A-13								2	
B-63								2	
C-113								3	
D-163								4	
E-213								4	
229									
A-13	01/15/19	10:00	-2.63	Ø	0.5	19.2	80.3	2	
B-48.7	01/15/19	10:03	-14.55	Ø	0.2	20.3	79.6	2	
C-84.4	01/15/19	10:14	-13.26	Ø	0.1	20.7	79.2	3	
D-114	01/15/19	10:21	-16.44	Ø	0.3	20.0	79.7	4	
E-155.7	01/15/19	10:26	-23.14	Ø	0.1	20.7	79.2	4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE: AMANDO MARTINEZ

LEA SIGNATURE: _____

SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>ARMO</u>			TEMPERATURE: <u>51</u>		BARO. PRESSURE: <u>28.39</u>				
GEM SERIAL #: <u>G503346</u>			WEATHER CONDITIONS: <u>SUNNY</u>						
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202									
A-10								2	REMOVED DUE TO CONSTRUCTION
B-25								2	REMOVED DUE TO CONSTRUCTION
C-38								3	REMOVED DUE TO CONSTRUCTION
203									
A-10								2	
B-25								2	
C-40								3	
206									
A-10	1-24-19	956	-0.03	0	7.9	11.2	80.9	2	
B-25	1-24-19	958	-0.01	0	9.2	12.6	78.2	2	
C-40	1-24-19	1000	-0.09	0	14.4	10.5	75.1	3	
207									
A-10	1-24-19	1011	-0.13	0	.1	21.9	78.0	2	
B-25	1-24-19	1013	+3.34	0	.2	21.8	78.0	2	
C-40	1-24-19	1015	-0.14	0	0	22.2	77.8	3	
208									
A-9.1	1-24-19	943	-0.22	0	.3	21.8	77.9	2	
B-25	1-24-19	945	-0.06	0	7.3	14.2	78.5	2	
C-40	1-24-19	947	-0.04	0	10.1	11.0	78.9	3	
210									
A-10	1-24-19	877	-0.58	0	.1	22.0	77.9	2	
B-25	1-24-19	879	-0.20	0	.1	22.1	77.8	2	
C-39	1-24-19	881	-0.17	0	.1	22.3	77.6	3	
242									
C-42	1-24-19	907	-0.16	0	1.0	20.9	78.1	3	
D-60	1-24-19	910	-0.17	0	2.8	17.0	80.2	4	
E-78	1-24-19	914	-0.16	0	2.5	18.4	79.1	4	
243									
A-11								2	
B-20								2	
C-33								3	

SCS SIGNATURE: 

LEA SIGNATURE _____

SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <i>Saulo DIAZ</i>			TEMPERATURE: <i>70°</i>		BARO. PRESSURE: <i>28.36</i> "				
GEM SERIAL #: <i>G500485</i>			WEATHER CONDITIONS: <i>Mostly Clear</i>						
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202									
A-10								2	REMOVED DUE TO CONSTRUCTION
B-25								2	REMOVED DUE TO CONSTRUCTION
C-38								3	REMOVED DUE TO CONSTRUCTION
203									
A-10	<i>1/24/19</i>	<i>7:42</i>	<i>-0.01</i>	<i>0.0</i>	<i>1.9</i>	<i>19.3</i>	<i>78.8</i>	2	
B-25	<i>1/24/19</i>	<i>7:46</i>	<i>-0.03</i>	<i>0.0</i>	<i>2.2</i>	<i>19.2</i>	<i>78.6</i>	2	
C-40	<i>1/24/19</i>	<i>7:51</i>	<i>-0.01</i>	<i>0.0</i>	<i>1.8</i>	<i>19.6</i>	<i>78.6</i>	3	
206									
A-10								2	
B-25								2	
C-40								3	
207									
A-10								2	
B-25								2	
C-40								3	
208									
A-9.1								2	
B-25								2	
C-40								3	
210									
A-10								2	
B-25								2	
C-39								3	
242									
C-42								3	
D-60								4	
E-78								4	
243	<i>1/24/19</i>								
A-11	<i>1/24/19</i>	<i>9:11</i>	<i>-0.01</i>	<i>0.2</i>	<i>10.6</i>	<i>1.7</i>	<i>87.5</i>	2	
B-20	<i>1/24/19</i>	<i>9:18</i>	<i>-0.04</i>	<i>0.0</i>	<i>3.4</i>	<i>9.0</i>	<i>87.7</i>	2	
C-33	<i>1/24/19</i>	<i>9:24</i>	<i>-0.02</i>	<i>0.0</i>	<i>0.5</i>	<i>19.9</i>	<i>79.6</i>	3	

SCS SIGNATURE: *Saulo Diaz*

LEA SIGNATURE _____

SUNSHINE CANYON - COUNTY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
244									
A-11	1-24-19	929	-0.11	0	15.0	4.1	70.9	2	
B-21	1-24-19	930	-0.16	0	9.4	13.0	77.7	2	
C-36	1-24-19	932	-0.10	0	8.0	15.3	76.7	3	
245									
A-11								2	
B-20								2	
C-35								3	
D-50								4	
E-64								4	
246									
A-9								2	REMOVED DUE TO CONSTRUCTION
B-16								2	REMOVED DUE TO CONSTRUCTION
205R									
A-11								2	
B-20								2	
C-33								3	
D-48								4	
E-62								4	
239									
A-11	1-24-19	817	-0.14	0	13.8	14.0	72.2	2	
B-20	1-24-19	820	-0.19	0	.1	22.4	77.5	2	
C-35	1-24-19	822	-0.13	0	.1	22.4	77.5	3	
D-50	1-24-19	825	-0.27	0	.1	22.4	77.5	4	
E-64	1-24-19	829	-0.18	0	.1	22.4	77.5	4	
240									
A-11	1-24-19	746	-0.17	0	12.3	11.8	75.9	2	
B-20	1-24-19	749	-0.23	0	.1	22.5	77.4	2	
C-33	1-24-19	751	-0.20	0	.1	22.7	77.2	3	
D-49	1-24-19	754	-0.17	0	.1	22.8	77.1	4	
E-61	1-24-19	758	-0.19	.1	.1	22.8	77.0	4	

SCS SIGNATURE: 

LEA SIGNATURE: _____

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: Aromo		TEMPERATURE: 65		BARO. PRESSURE: 28.19					
GEM SERIAL #: 500485		WEATHER CONDITIONS: Partly cloudy							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13	2-12-19	822	-.12	0	.1	20.8	79.1	2	
B-29	2-12-19	824	-.13	0	.1	20.8	79.1	2	
C-45	2-12-19	827	-.63	0	.1	20.8	79.1	3	
D-61	2-12-19	832	-.68	0	.1	20.9	79.0	4	
E-77	2-12-19	838	-14.52	0	.1	21.0	78.9	4	
214									
A-13	2-12-19	857	-.17	0	.1	20.5	79.4	2	
B-30	2-12-19	859	-12.33	0	.1	20.5	79.4	2	
C-48	2-12-19	903	-16.32	0	.1	20.4	79.5	3	
215									
A-13	2-12-19	911	-.15	0	3.7	12.3	84.0	2	
B-30	2-12-19	913	-.30	0	.1	19.9	80.0	2	
C-47	2-12-19	918	-.13	0	.1	20.4	79.7	3	
D-64	2-12-19	923	-.18	0	1.4	17.7	80.9	4	
E-81	2-12-19	927	-.15	0	2.6	15.2	82.2	4	
216									
A-14	2-12-19	940	-.15	0	.1	20.3	79.6	2	
B-43	2-12-19	942	-.08	0	.1	20.3	79.6	2	
C-62	2-12-19	945	-.11	0	.1	20.3	79.6	3	
D-86	2-12-19	949	-.15	0	.1	20.3	79.7	4	
E-110	2-12-19	953	-3.27	0	.3	19.7	80.0	4	
217									
A-13	2-12-19	1005	-.12	0	3.8	16.6	79.6	2	
B-30	2-12-19	1007	-.08	0	4.2	15.6	80.2	2	
218R									
A-11	2-12-19	1016	-.13	0	14.5	6.8	78.7	2	
B-26.5	2-12-19	1019	-4.93	0	1.6	18.7	79.7	2	
C-30	2-12-19	1022	-.08	0	1.8	19.7	78.5	2	
219									
A-13	2-12-19	1043	-.07	0	1.0	18.4	80.6	2	
B-54	2-12-19	1045	-.14	0	4.4	12.2	83.4	2	
C-115	2-12-19	1048	-.27	0	.1	19.8	80.1	3	
D-166	2-12-19	1052	-.10	0	.1	19.9	80.0	4	
E-217	2-12-19	1056	-.05	0	1.0	18.2	80.8	4	

SCS SIGNATURE: _____

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SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

Saulo Diaz / Marcos Martinez

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220	2/12/19								
A-14	2/12/19	8:00	-0.04	0.0	2.9	17.3	79.8	2	
B-40	2/12/19	8:07	+0.03	0.0	0.1	20.5	79.4	2	
C-87	2/12/19	8:11	-0.03	0.0	0.4	20.5	79.1	3	
D-124	2/12/19	8:17	-0.06	0.0	0.7	20.3	78.9	4	
E-158	2/12/19	8:25	+0.03	0.0	0.8	20.6	78.6	4	
220B	2/12/19								
A-14	2/12/19	8:37	-0.06	0.0	4.2	13.7	82.1	2	
B-38	2/12/19	8:41	-0.04	0.0	3.0	18.3	78.6	2	
C-62	2/12/19	8:46	-0.04	0.0	7.9	7.3	84.8	3	
D-86	2/12/19	8:04	+0.07	0.0	10.5	1.7	87.8	4	
E-110	2/12/19	8:59	-0.23	0.0	4.8	12.1	83.2	4	
221	2/12/19								
A-13	2/12/19	9:10	-0.06	0.0	1.1	19.1	79.9	2	
B-56	2/12/19	9:15	-0.01	0.0	1.0	18.5	80.5	2	
C-99	2/12/19	9:21	-0.04	0.0	1.1	18.3	80.6	3	
D-142	2/12/19	9:25	+1.46	0.0	0.1	19.1	80.8	4	
E-185	2/12/19	9:33	-0.15	0.0	0.3	18.6	81.2	4	
222	2/12/19								
A-13	2/12/19	9:41	0.01	0.0	2.3	16.3	81.3	2	
B-54.8	2/12/19	9:45	0.01	0.0	0.1	20.6	79.3	2	
C-96.5	2/12/19	9:53	-0.05	0.0	0.3	20.6	79.1	3	
D-138.3	2/12/19	10:01	-0.09	0.0	2.6	17.8	79.6	4	
E-180	2/12/19	10:05	-0.10	0.0	0.2	20.4	79.3	4	
223	2/12/19								
A-13	2/12/19	10:26	-0.01	0.0	4.5	13.7	81.8	2	
B-37.5	2/12/19	10:30	-0.26	0.0	5.2	15.3	79.5	2	
C-62	2/12/19	10:35	-0.02	0.0	0.9	19.8	79.3	3	
D-86.5	2/12/19	10:41	0.00	0.0	1.9	18.3	79.8	4	
E-111								4	
224	2/12/19								
A-13	2/12/19	11:00	-0.05	0.0	0.2	20.3	79.5	2	
B-67.5	2/12/19	11:03	0.01	0.0	0.1	20.5	79.4	2	
C-122	2/12/19	11:07	-0.06	0.0	0.1	20.5	79.4	3	
D-177.5	2/12/19	11:12	-1.98	0.0	0.1	20.6	79.3	4	
E-232	2/12/19	11:17	-2.10	0.0	0.1	20.6	79.3	4	

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SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225	2/12/19								
A-13	2/12/19	1:49	-0.07	0.0	2.4	17.4	80.2	2	
B-72	2/12/19	1:52	-5.97	0.0	0.6	19.7	79.7	2	
C-1131	2/12/19	1:56	-10.21	0.0	1.8	18.2	80	3	
D-190	2/12/19	2:00	-10.28	0.0	0.1	20.4	79.5	4	
E-244	2/12/19	2:06	-9.7	0.0	0.4	20.1	79.5	4	
226	2/12/19	2:12	-0.06	0.0	0.1	20.5	79.3		
A-13	2/12/19	2:12	-0.06	0.0	0.1	20.5	79.3	2	
B-64	2/12/19	2:15	-11.56	0.0	0.1	20.5	79.4	2	
C-114	2/12/19	2:19	-11.34	0.0	0.1	20.6	79.3	3	
D-164	2/12/19	2:24	-11.8	0.0	0.1	20.7	79.2	4	
E-208	2/12/19	2:29	-12.23	0.0	0.2	20.6	79.2	4	
227	2/12/19								
A-13	2/12/19	2:35	+0.03	0.0	0.7	19.3	80	2	
B-48.7	2/12/19	2:37	+0.07	0.0	0.1	20.8	79.1	2	
C-84.4	2/12/19	2:41	-0.15	0.0	0.1	20.8	79.1	3	
D-114	2/12/19	2:46	-0.19	0.0	0.1	20.9	79	4	
E-115.7	2/12/19	2:50	+0.04	0.0	0.8	19.6	79.6	4	
228									
A-13	2-12-19	1432	+0.01	0	.6	19.8	79.5	2	
B-63	2-12-19	1434	+0.31	0	1.0	18.8	80.2	2	
C-113	2-12-19	1437	+0.02	0	1.8	17.9	80.3	3	
D-163	2-12-19	1441	-0.79	0	.3	20.2	79.5	4	
E-213	2-12-19	1445	-0.07	0	1.3	19.8	78.9	4	
229									
A-13	2-12-19	1459	+0.14	0	0	20.9	79.1	2	
B-48.7	2-12-19	1402	-11.79	0	0	20.9	79.1	2	
C-84.4	2-12-19	1405	-9.54	0	0	20.9	79.1	3	
D-114	2-12-19	1410	-12.77	0	0	20.9	79.1	4	
E-155.7	2-12-19	1414	-19.08	0	0	20.9	79.1	4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE: _____



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SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>AROMO/SAULO</u>		TEMPERATURE: <u>39</u>		BARO. PRESSURE: <u>29.65</u>					
GEM SERIAL #: <u>6500485</u>				WEATHER CONDITIONS: <u>cloudy</u>					
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202									
A-10								2	REMOVED DUE TO CONSTRUCTION
B-25								2	REMOVED DUE TO CONSTRUCTION
C-38								3	REMOVED DUE TO CONSTRUCTION
203									
A-10	<u>2-21-19</u>	<u>8:06</u>	<u>0.00</u>	<u>Ø</u>	<u>4.4</u>	<u>16.1</u>	<u>79.4</u>	<u>2</u>	
B-25	<u>2-21-19</u>	<u>8:09</u>	<u>-0.00</u>	<u>Ø</u>	<u>4.1</u>	<u>16.7</u>	<u>79.2</u>	<u>2</u>	
C-40	<u>2-21-19</u>	<u>8:12</u>	<u>-0.05</u>	<u>Ø</u>	<u>3.0</u>	<u>17.7</u>	<u>79.3</u>	<u>3</u>	
206									
A-10	<u>2-21-19</u>	<u>9:56</u>	<u>-0.10</u>	<u>Ø</u>	<u>6.2</u>	<u>14.1</u>	<u>79.7</u>	<u>2</u>	
B-25	<u>2-21-19</u>	<u>9:58</u>	<u>-0.9</u>	<u>Ø</u>	<u>8.2</u>	<u>15.8</u>	<u>76.0</u>	<u>2</u>	
C-40	<u>2-21-19</u>	<u>10:00</u>	<u>-0.18</u>	<u>Ø</u>	<u>12.8</u>	<u>11.5</u>	<u>75.7</u>	<u>3</u>	
207									
A-10	<u>2-21-19</u>	<u>10:10</u>	<u>-0.13</u>	<u>Ø</u>	<u>1.1</u>	<u>19.9</u>	<u>79.0</u>	<u>2</u>	
B-25	<u>2-21-19</u>	<u>10:12</u>	<u>-0.20</u>	<u>Ø</u>	<u>.1</u>	<u>20.2</u>	<u>79.7</u>	<u>2</u>	
C-40	<u>2-21-19</u>	<u>10:14</u>	<u>-0.14</u>	<u>Ø</u>	<u>.1</u>	<u>20.2</u>	<u>79.7</u>	<u>3</u>	
208									
A-9.1	<u>2-21-19</u>	<u>9:49</u>	<u>-0.10</u>	<u>Ø</u>	<u>6.0</u>	<u>15.7</u>	<u>78.3</u>	<u>2</u>	
B-25	<u>2-21-19</u>	<u>9:51</u>	<u>-0.12</u>	<u>Ø</u>	<u>8.0</u>	<u>15.5</u>	<u>76.5</u>	<u>2</u>	
C-40	<u>2-21-19</u>	<u>9:53</u>	<u>-0.08</u>	<u>Ø</u>	<u>10.7</u>	<u>12.5</u>	<u>76.8</u>	<u>3</u>	
210									
A-10	<u>2-21-19</u>	<u>8:51</u>	<u>-0.16</u>	<u>Ø</u>	<u>.1</u>	<u>20.6</u>	<u>79.3</u>	<u>2</u>	
B-25	<u>2-21-19</u>	<u>8:53</u>	<u>-0.17</u>	<u>Ø</u>	<u>.1</u>	<u>20.7</u>	<u>79.2</u>	<u>2</u>	
C-39	<u>2-21-19</u>	<u>8:55</u>	<u>-0.12</u>	<u>Ø</u>	<u>.5</u>	<u>20.5</u>	<u>79.0</u>	<u>3</u>	
242									
C-42	<u>2-21-19</u>	<u>9:04</u>	<u>-0.14</u>	<u>Ø</u>	<u>2.0</u>	<u>17.3</u>	<u>80.7</u>	<u>3</u>	
D-60	<u>2-21-19</u>	<u>9:07</u>	<u>-0.15</u>	<u>Ø</u>	<u>3.5</u>	<u>14.6</u>	<u>81.9</u>	<u>4</u>	
E-78	<u>2-21-19</u>	<u>9:04</u>	<u>-0.10</u>	<u>Ø</u>	<u>4.3</u>	<u>11.4</u>	<u>84.3</u>	<u>4</u>	
243									
A-11	<u>2-21-19</u>	<u>9:20</u>	<u>+0.68</u>	<u>0.3</u>	<u>12.2</u>	<u>0.2</u>	<u>87.3</u>	<u>2</u>	
B-20	<u>2-21-19</u>	<u>9:23</u>	<u>+0.15</u>	<u>0.0</u>	<u>2.5</u>	<u>8.4</u>	<u>89.1</u>	<u>2</u>	
C-33	<u>2-21-19</u>	<u>9:27</u>	<u>0.00</u>	<u>Ø</u>	<u>1.0</u>	<u>18.2</u>	<u>80.8</u>	<u>3</u>	

PV 2010 - 1019 -3.64 0 .2 20.0 79.7

SCS SIGNATURE: 

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SUNSHINE CANYON - COUNTY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
244									
A-11	2-21-19	9:25	-0.14	0	11.3	8.1	80.6	2	
B-21	2-21-19	9:28	-0.15	.1	12.5	7.4	80.0	2	
C-36	2-21-19	9:30	-0.16	0	.2	20.2	79.6	3	
245									
A-11	2-21-19	8:26	-0.05	0.0	16.1	2.1	81.9	2	
B-20	2-21-19	8:29	0.00	0.1	27.3	0.2	72.4	2	
C-35	2-21-19	8:32	-0.01	0.0	20.0	3.9	76.1	3	
D-50	2-21-19	8:35	0.01	0.0	15.8	4.5	79.8	4	
E-64	2-21-19	8:38	0.0	0.0	14.3	14.3	81.6	4	
246									
A-9								2	REMOVED DUE TO CONSTRUCTION
B-16								2	REMOVED DUE TO CONSTRUCTION
205R									
A-11	2-21-19	9:44	-0.04	0.0	8.1	5.7	86.2	2	
B-20	2-21-19	9:46	0.09	0.6	24.3	1.4	78.7	2	
C-33	2-21-19	9:49	-0.05	1.3	33.9	4.6	60.2	3	
D-48	2-21-19	9:52	-0.14	1.5	33.2	5.7	59.7	4	
E-62	2-21-19	9:54	-8.53	0.5	22.1	3.6	73.8	4	
239									
A-11	2-21-19	8:28	-0.24	0	9.5	15.2	75.3	2	
B-20	2-21-19	8:30	-0.16	0	.1	20.9	79.0	2	
C-35	2-21-19	8:32	-0.17	0	.1	20.9	79.0	3	
D-50	2-21-19	8:35	-7.74	0	.1	20.9	79.0	4	
E-64	2-21-19	8:39	-0.14	0	.1	20.9	79.0	4	
240									
A-11	2-21-19	8:00	-0.19	.1	14.7	8.7	76.5	2	
B-20	2-21-19	8:03	-0.16	0	.4	20.9	78.7	2	
C-33	2-21-19	8:06	-1.27	0	.1	20.9	79.0	3	
D-49	2-21-19	8:10	-0.61	0	.1	21.0	78.9	4	
E-61	2-21-19	8:16	-0.17	.1	.1	21.0	78.8	4	

SCS SIGNATURE: 

LEA SIGNATURE: _____

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>R. RAMIREZ</u>		TEMPERATURE: <u>54°</u>		BARO. PRESSURE: <u>27.94</u>					
SEM SERIAL #: <u>G500485</u>		WEATHER CONDITIONS: <u>CLEAR</u>							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13	3-26-19	08:44	- .03	⊖	.1	20.8	79.1	2	
B-29		08:48	- .03	⊖	.2	20.1	79.7	2	
C-45		08:53	- .12	⊖	.1	20.8	79.1	3	
D-61		08:59	- .04	⊖	.1	20.7	79.2	4	
E-77		09:05	-6.97	⊖	.1	20.7	79.2	4	
214									
A-13	3-26-19	09:25	.09	⊖	.4	20.6	78.9	2	
B-30		09:28	-6.76	⊖	.1	20.8	79.1	2	
C-48		09:33	-6.26	⊖	.1	20.7	79.2	3	
215									
A-13	3-26-19	09:48	.13	⊖	5.5	6.9	87.5	2	NO LID ON PROBE MONUMENT
B-30		09:53	- .44	⊖	.1	20.6	79.4	2	
C-47		09:58	- .14	⊖	⊖	20.6	79.3	3	
D-64		10:04	.04	⊖	.4	19.9	79.8	4	
E-81		10:10	- .02	⊖	3.6	12.4	84.0	4	
216									
A-14	3-26-19	10:24	.06	⊖	.7	19.2	80.2	2	
B-43		10:29	.10	⊖	1.8	18.0	80.2	2	
C-62		10:34	- .04	⊖	1.0	18.4	80.5	3	
D-86		10:40	.16	⊖	.3	18.9	80.8	4	
E-110		10:45	.07	⊖	2.2	16.6	81.2	4	
217									
A-13	3-26-19	11:02	.06	⊖	2.1	16.5	81.4	2	
B-30		11:05	- .40	⊖	9.9	1.5	88.7	2	
218R									
A-11	3-26-19	14:02	.07	⊖	19.1	.1	80.8	2	
B-26.5		14:06	.04	⊖	12.6	3.6	83.8	2	
B-30		14:10	- .03	⊖	8.2	17.6	74.3	2	
219									
A-13	3-26-19	13:16	- .02	.2	1.7	18.6	79.6	2	
B-64		13:19	- .04	.1	5.7	7.1	87.2	2	
C-115		13:23	⊖	⊖	.1	19.9	80.0	3	
D-166		13:29	.06	⊖	⊖	20.2	79.8	4	
E-217		13:34	.65	⊖	2.8	14.5	82.7	4	

SCS SIGNATURE: _____

LEA SIGNATURE _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220									
A-14	3/26/19	7:51	-0.19	0.0	4.1	14.4	51.5	2	
B-40	3/26/19	7:55	-0.21	0.6	0.3	20.8	78.9	2	
C-87	3/26/19	7:59	-0.19	0.0	7.1	11.4	81.5	3	
D-124	3/26/19	8:04	-0.21	0.0	12.1	3.6	84.3	4	
E-158	3/26/19	8:09	-0.16	0.0	1.1	20.1	78.8	4	
220B									
A-14	3/26/19	8:17	-0.23	0.0	5.5	9.9	84.6	2	
B-38	3/26/19	8:20	-0.18	0.0	10.9	1.3	82.8	2	
C-62	3/26/19	8:24	-0.18	0.0	11.4	0.3	88.3	3	
D-86	3/26/19	8:28	-0.26	0.0	11.1	2.2	86.7	4	
E-110	3/26/19	8:33	-0.22	0.0	9.6	3.5	87.0	4	
	3/26/19			0.0					
221									
A-13	3/26/19	8:42	-0.15	0.0	4.1	11.3	84.6	2	
B-56	3/26/19	8:45	-0.08	0.0	8.8	0.9	90.3	2	
C-99	3/26/19	8:49	-0.11	0.0	11.1	0.3	88.7	3	
D-142	3/26/19	8:54	-0.11	0.0	2.9	14.0	83.2	4	
E-185	3/26/19	8:59	-0.10	0.0	1.9	17.2	80.9	4	
222									
A-13	3/26/19	9:05	-0.11	0.0	2.8	18.5	78.7	2	
B-54.8	3/26/19	9:12	-0.19	0.0	0.1	20.6	79.3	2	
C-96.5	3/26/19	9:16	-0.06	0.0	0.3	20.8	78.9	3	
D-138.3	3/26/19	9:21	-0.04	0.0	3.1	18.0	78.9	4	
E-180	3/26/19	9:26	+0.04	0.0	3.0	12.5	84.5	4	
223									
A-13	3/26/19	14:20	-0.10	0.0	5.3	12.2	82.5	2	
B-37.5	3/26/19	14:23	+0.04	0.0	9.5	10.2	80.3	2	
C-62	3/26/19	14:28	+0.03	0.0	2.5	16.0	81.5	3	
D-86.5	3/26/19	14:33	+0.07	0.0	2.1	17.1	80.8	4	
E-111	3/26/19	14:38	+0.02	0.0	3.8	15.4	80.8	4	
224									
A-13	3/26/19	9:42	-0.10	0.0	0.3	20.5	79.3	2	
B-67.5	3/26/19	9:51	-0.06	0.0	0.1	20.8	79.1	2	
C-122	3/26/19	9:56	-0.07	0.0	0.6	18.2	81.3	3	
D-177.5	3/26/19	10:01	-11.92	0.0	0.4	18.8	80.8	4	
E-232	3/26/19	10:06	-8.31	0.0	0.4	18.7	80.9	4	

SCS SIGNATURE: AMANDO MARTINEZ

LEA SIGNATURE: _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225									
A-13	3/26/19	10:14	-0.09	0.0	1.2	18.6	80.2	2	
B-72	3/26/19	10:17	-6.45	0.0	0.5	19.7	79.8	2	
C-1131	3/26/19	10:23	-9.51	0.0	2.0	17.9	80.0	3	
D-190	3/26/19	10:28	-9.89	0.0	0.3	20.2	79.5	4	
E-244	3/26/19	10:34	-9.29	0.0	0.0	20.7	79.3	4	
226									
A-13	3/26/19	10:44	+0.03	0.0	0.0	20.9	79.1	2	
B-64	3/26/19	10:47	-6.15	0.0	0.0	20.9	79.0	2	
C-114	3/26/19	10:51	-7.17	0.0	0.0	20.9	79.1	3	
D-164	3/26/19	10:58	-6.40	0.0	0.0	20.4	79.0	4	
E-208	3/26/19	11:03	-8.95	0.0	0.1	20.8	79.4	4	
227									
A-13	3/26/19	11:09	+0.01	0.0	0.0	20.7	79.3	2	
B-48.7	3/26/19	11:12	+0.40	0.0	5.7	0.9	93.4	2	
C-84.4	3/26/19	11:16	+0.14	0.0	4.9	3.3	91.8	3	
D-114	3/26/19	11:21	+0.20	0.0	2.8	5.6	91.6	4	
E-115.7	3/26/19	11:26	+0.19	0.0	2.5	6.1	91.4	4	
228									
A-13	3/26/19	11:35	+0.06	0.0	0.1	20.4	79.5	2	
B-63	3/26/19	11:38	+0.65	0.0	3.4	12.7	83.9	2	
C-113	3/26/19	11:42	+0.38	0.1	4.5	1.8	93.6	3	
D-163	3/26/19	11:52	+0.04	0.0	2.4	13.3	84.3	4	
E-213	3/26/19	11:57	+0.04	0.1	3.5	6.7	89.7	4	
229									
A-13	3/26/19	13:48	-0.43	0.0	0.5	19.3	80.1	2	
B-48.7	3/26/19	13:52	-15.39	0.0	0.1	20.5	79.4	2	
C-84.4	3/26/19	13:56	-14.20	0.0	0.3	19.8	79.9	3	
D-114	3/26/19	14:02	-17.68	0.0	0.4	19.5	80.1	4	
E-155.7	3/26/19	14:08	-25.68	0.0	0.0	20.7	79.2	4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE: AMANDO MARTINEZ

LEA SIGNATURE: _____

SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

ARMO

TECHNICIAN: AMANDA NTZ		TEMPERATURE: 62		BARO. PRESSURE: 28.17					
SEM SERIAL #: G505465		WEATHER CONDITIONS: partially cloudy							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202									
A-10								2	REMOVED DUE TO CONSTRUCTION
B-25								2	REMOVED DUE TO CONSTRUCTION
C-38								3	REMOVED DUE TO CONSTRUCTION
203									
A-10	3/28/19	8:42	+0.09	0.0	4.3	16.7	79.0	2	
B-25	3/28/19	8:45	+0.12	0.0	4.2	16.5	79.3	2	
C-40	3/28/19	8:50	+0.12	0.0	3.7	17.3	79.0	3	
206									
A-10	3-28-19	821	-0.05	0	6.9	13.5	79.6	2	
B-25	3-28-19	823	+0.09	0	9.0	12.4	78.6	2	
C-40	3-28-19	825	+0.01	0	12.0	11.9	76.1	3	
207									
A-10	3-28-19	801	+0.02	.1	1.3	19.1	79.5	2	
B-25	3-28-19	803	+0.02	0	.1	20.7	79.5	2	
C-40	3-28-19	805	+0.02	0	.1	20.7	79.2	3	
208									
A-9.1	3-28-19	832	+0.52	0	.1	20.6	79.3	2	
B-25	3-28-19	834	+0.11	0	11.2	10.5	78.3	2	
C-40	3-28-19	836	+0.13	0	.1	20.6	79.3	3	
210									
A-10	3-28-19	913	+0.08	0	.1	20.1	79.8	2	
B-25	3-28-19	915	+0.08	0	.1	20.5	79.4	2	
C-39	3-28-19	917	+0.14	0	0	20.5	79.5	3	
242									
C-42	3-28-19	857	+0.07	0	1.4	18.7	79.9	3	
D-60	3-28-19	900	+0.09	0	3.1	15.5	81.4	4	
E-78	3-28-19	904	+0.11	0	2.4	17.4	80.2	4	
243									
A-11	3/28/19	7:36	-0.03	0.0	10.9	1.4	87.7	2	
B-20	3/28/19	7:40	+0.04	0.0	4.2	13.3	82.5	2	
C-33	3/28/19	7:44	+0.04	0.0	2.8	13.8	83.3	3	

SCS SIGNATURE: AMANDA MARTINEZ

LEA SIGNATURE _____

SUNSHINE CANYON - COUNTY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
244									
A-11	3-28-19	844	+1.11	0	11.2	8.2	80.6	2	
B-21	3-28-19	846	+0.05	0	9.7	10.8	79.5	2	
C-36	3-28-19	848	-0.07	0	.4	20.4	79.4	3	
245									
A-11	3/28/19	9:00	+0.12	0.0	11.4	6.3	82.4	2	
B-20	3/28/19	9:03	+0.13	0.0	19.6	5.8	74.6	2	
C-35	3/28/19	9:08	+0.09	0.0	21.5	2.2	76.3	3	
D-50	3/28/19	9:13	+0.12	0.0	16.2	2.7	81.1	4	
E-64	3/28/19	9:18	+0.20	0.0	1.6	18.1	80.3	4	
246									
A-9								2	REMOVED DUE TO CONSTRUCTION
B-16								2	REMOVED DUE TO CONSTRUCTION
205R									
A-11	3/28/19	8:01	+0.03	0.0	6.2	8.3	85.5	2	
B-20	3/28/19	8:05	-0.19	0.0	2.2	19.9	77.9	2	
C-33	3/28/19	8:10	-0.13	1.3	39.6	2.1	56.9	3	
D-48	3/28/19	8:16	+0.02	2.7	46.7	0.1	50.6	4	
E-62	3/28/19	8:22	-1.83	0.0	20.7	3.1	76.2	4	
239									
A-11	3-28-19	946	+1.19	0	.1	19.8	80.1	2	
B-20	3-28-19	949	+1.18	0	.1	19.8	80.1	2	
C-35	3-28-19	951	+1.17	0	0	19.9	80.1	3	
D-50	3-28-19	954	+1.21	0	.1	20.2	79.7	4	
E-64	3-28-19	958	+1.14	0	0	20.3	79.7	4	
240									
A-11	3-28-19	927	+1.12	0	5.7	17.0	77.3	2	
B-20	3-28-19	929	+1.11	0	.1	20.2	79.7	2	
C-33	3-28-19	931	-1.43	0	0	20.0	79.7	3	
D-49	3-28-19	934	+1.11	0	0	20.2	79.8	4	
E-61	3-28-19	938	+1.13	0	0	20.1	79.9	4	

SCS SIGNATURE: AMANDO MARRINO

LEA SIGNATURE: _____

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: AROMO		TEMPERATURE: 81		BARO. PRESSURE: 28.32					
GEM SERIAL #: G500485		WEATHER CONDITIONS: SUNNY							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13	4-23-19	745	+0.02	0	.1	20.7	79.2	2	
B-29	4-23-19	748	-0.43	0	.1	20.6	79.3	2	
C-45	4-23-19	751	-0.12	0	.1	20.4	79.3	3	
D-61	4-23-19	758	+0.05	0	.1	20.4	79.3	4	
E-77	4-23-19	801	-1.00	0	0	20.8	79.0	4	
214	4-23-19								
A-13	4-23-19	813	+0.14	0	.3	20.5	79.2	2	
B-30	4-23-19	815	-10.53	0	0	20.7	79.3	2	
C-48	4-23-19	817	-13.06	0	.1	20.4	79.3	3	
215	4-23-19								
A-13	4-23-19	824	+0.18	0	5.1	9.6	85.3	2	
B-30	4-23-19	826	+0.21	0	0	20.3	79.2	2	
C-47	4-23-19	828	+0.13	0	0	20.3	79.2	3	
D-64	4-23-19	831	+0.10	0	.3	19.7	80.0	4	
E-81	4-23-19	835	+0.13	0	3.4	13.5	83.1	4	
216	4-23-19								
A-14	4-23-19	847	+0.15	0	0	20.5	79.5	2	
B-43	4-23-19	849	+0.15	0	0	20.6	79.4	2	
C-62	4-23-19	851	+0.15	0	0	20.6	79.4	3	
D-86	4-23-19	854	+0.19	0	0	20.7	79.3	4	
E-110	4-23-19	858	+0.17	0	.2	20.5	79.3	4	
217	4-23-19								
A-13	4-23-19	912	+0.12	0	2.1	17.7	80.2	2	
B-30	4-23-19	914	+0.24	0	6.7	10.8	80.5	2	
218R	4-23-19								
A-11	4-23-19	0929	+0.20	0	15.4	5.6	79.0	2	
B-26.5	4-23-19	931	+0.29	0	7.1	12.6	80.3	2	
B-30	4-23-19	933	+0.27	0	.7	20.0	79.3	2	
219	4-23-19								
A-13	4-23-19	1008	+0.26	0	.9	19.7	79.5	2	
B-64	4-23-19	1010	+0.25	0	3.6	13.2	83.2	2	
C-115	4-23-19	1013	+0.20	0	.5	19.3	80.2	3	
D-166	4-23-19	1017	+0.26	0	0	20.4	79.4	4	
E-217	4-23-19	1021	+0.27	0	1.2	18.4	80.0	4	

SCS SIGNATURE: 

LEA SIGNATURE _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220									
A-14								2	
B-40								2	
C-87								3	
D-124								4	
E-158								4	
220B									
A-14	04-23-19	08:42	-0.02	0.0	4.7	13.1	82.2	2	
B-38	04-23-19	08:45	+0.01	0.0	0.3	20.9	78.8	2	
C-62	04-23-19	08:50	-0.02	0.0	6.0	8.3	85.7	3	
D-86	04-23-19	08:58	-0.05	0.0	7.3	7.9	84.8	4	
E-110	04-23-19	09:02	-0.08	0.1	8.5	6.2	85.2	4	
221									
A-13	04-23-19	09:11	-0.02	0.0	1.8	18.7	79.5	2	
B-56	04-23-19	09:15	-0.15	0.0	0.8	20.0	79.2	2	
C-99	04-23-19	09:20	-0.24	0.0	2.2	17.9	79.9	3	
D-142	04-23-19	09:25	-0.04	0.0	0.1	20.2	79.7	4	
E-185	04-23-19	09:31	-0.06	0.0	0.2	20.0	79.8	4	
222									
A-13	04-23-19	09:45	-0.05	0.0	1.3	19.0	79.7	2	
B-54.8	04-23-19	09:49	0.00	0.0	0.1	20.4	79.5	2	
C-96.5	04-23-19	09:54	-0.07	0.0	0.5	19.6	79.9	3	
D-138.3	04-23-19	10:02	-0.03	0.0	1.7	17.6	80.7	4	
E-180	04-23-19	10:09	+0.02	0.0	4.4	6.6	89.0	4	
223									
A-13	04-23-19	10:20	-0.06	0.0	6.5	10.7	82.8	2	
B-37.5	04-23-19	10:25	-0.02	0.0	10.2	7.5	82.3	2	
C-62	04-23-19	10:30	-0.03	0.0	2.46	16.0	81.4	3	
D-86.5	04-23-19	10:35	+0.02	0.0	2.4	17.1	80.5	4	
E-111	04-23-19	10:41	+0.04	0.1	3.4	16.2	80.3	4	
224									
A-13	04-23-19	11:04	-0.11	0.1	0.1	20.7	79.1	2	
B-67.5	04-23-19	11:08	-0.04	0.1	0.0	21.0	78.9	2	
C-122	04-23-19	11:12	-0.02	0.0	0.0	20.8	79.1	3	
D-177.5	04-23-19	11:19	-12.69	0.0	0.0	20.9	79.1	4	
E-232	04-23-19	11:25	-9.13	0.0	0.0	20.9	79.1	4	

SCS SIGNATURE



LEA SIGNATURE: _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225									
A-13	04-23-19	14:17	0.02	0.1	2.9	16.4	80.6	2	
B-72	04-23-19	14:22	-5.42	0.1	0.9	19.2	79.8	2	
C-1131	04-23-19	14:26	-9.20	0.6	5.3	13.7	80.4	3	
D-190	04-23-19	14:32	-9.66	0.2	0.8	19.6	79.3	4	
E-244	04-23-19	14:38	-9.14	0.0	0.1	20.8	79.1	4	
226									
A-13	04-23-19	14:50	+0.08	0.4	0.0	21.0	78.9	2	
B-64	04-23-19	14:54	+0.08	0.0	0.0	21.0	78.9	2	
C-114	04-23-19	14:59	-8.28	0.0	0.0	20.7	79.2	3	
D-164	04-23-19	15:07	-8.07	0.0	0.0	20.9	79.1	4	
E-208	04-23-19	15:12	-9.94	0.0	0.1	20.9	79.0	4	
227									
A-13	04-23-19	15:18	+0.02	0.0	1.0	16.4	82.5	2	
B-48.7	04-23-19	15:22	+0.75	0.3	5.8	0.1	93.9	2	
C-84.4	04-23-19	15:26	+0.55	0.1	5.4	0.6	93.9	3	
D-114	04-23-19	15:32	+0.80	0.1	4.0	0.0	95.9	4	
E-115.7	04-23-19	15:37	+0.75	0.1	4.6	0.4	94.9	4	
228		15:44							
A-13	04-23-19	15:51	+0.07	0.1	0.2	20.9	78.8	2	
B-63	04-23-19	15:47	+1.02	0.1	4.5	9.2	86.2	2	
C-113	04-23-19	15:50	+0.55	0.4	6.8	0.0	92.9	3	
D-163	04-23-19	15:57	+0.64	0.1	4.4	2.6	92.9	4	
E-213	04-23-19	16:02	+0.74	0.1	4.7	0.4	94.8	4	
229									
A-13	04-23-19	1040	-4.6	0	0	20.3	79.7	2	
B-48.7	04-23-19	1042	-13.00	0	0	20.7	79.6	2	
C-84.4	04-23-19	1045	-12.38	0	0	20.4	79.2	3	
D-114	04-23-19	1048	-15.98	0	0	20.4	79.2	4	
E-155.7	04-23-19	1352	-26.83	.3	.1	19.1	80.5	4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE: 

LEA SIGNATURE: _____

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>AMANDO MADRINO</u>		TEMPERATURE: <u>55°F</u>		BARO. PRESSURE: <u>28.12</u>					
GEM SERIAL #: <u>6504541</u>		WEATHER CONDITIONS: <u>Cloudy</u>							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13								2	
B-29								2	
C-45								3	
D-61								4	
E-77								4	
214									
A-13								2	
B-30								2	
C-48								3	
215									
A-13								2	
B-30								2	
C-47								3	
D-64								4	
E-81								4	
216									
A-14								2	
B-43								2	
C-62								3	
D-86								4	
E-110								4	
217									
A-13								2	
B-30								2	
218R									
A-11								2	
B-26.5								2	
B-30								2	
219									
A-13								2	
B-64								2	
C-115								3	
D-166								4	
E-217								4	

SCS SIGNATURE: _____

LEA SIGNATURE _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220									
A-14	04/27/19	10:56	+0.02	0.0	0.7	19.9	79.4	2	
B-40	04/27/19	11:00	-0.06	0.0	0.1	20.9	79.0	2	
C-87	04/27/19	11:04	-0.13	0.0	0.6	20.5	78.9	3	
D-124	04/27/19	11:10	-0.31	0.0	0.1	21.0	78.9	4	
E-158	04/27/19	11:16	-0.08	0.0	0.1	21.1	78.8	4	
220B									
A-14								2	
B-38								2	
C-62								3	
D-86								4	
E-110								4	
221									
A-13								2	
B-56								2	
C-99								3	
D-142								4	
E-185								4	
222									
A-13								2	
B-54.8								2	
C-96.5								3	
D-138.3								4	
E-180								4	
223									
A-13								2	
B-37.5								2	
C-62								3	
D-86.5								4	
E-111								4	
224									
A-13								2	
B-67.5								2	
C-122								3	
D-177.5								4	
E-232								4	


SCS SIGNATURE: Amardo MARTINEZ

LEA SIGNATURE: _____

SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>A Romo/Saulo Diaz</u>		TEMPERATURE: <u>85</u>		BARO. PRESSURE: <u>27.92</u>					
GEM SERIAL #: <u>6500485/6504541</u>		WEATHER CONDITIONS: <u>SUNNY</u>							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202									
A-10								2	REMOVED DUE TO CONSTRUCTION
B-25								2	REMOVED DUE TO CONSTRUCTION
C-38								3	REMOVED DUE TO CONSTRUCTION
203		<u>09:14</u>							
A-10	<u>04/25/19</u>	<u>09:14</u>	<u>-0.07</u>	<u>0.0</u>	<u>4.3</u>	<u>15.9</u>	<u>79.8</u>	2	
B-25	<u>04/25/19</u>	<u>09:17</u>	<u>+0.05</u>	<u>0.0</u>	<u>4.4</u>	<u>15.1</u>	<u>80.5</u>	2	
C-40	<u>04/25/19</u>	<u>09:21</u>	<u>+0.04</u>	<u>0.0</u>	<u>4.0</u>	<u>15.7</u>	<u>80.3</u>	3	
206									
A-10	<u>04/25/19</u>	<u>1001</u>	<u>-.14</u>	<u>0</u>	<u>7.7</u>	<u>12.2</u>	<u>80.1</u>	2	
B-25	<u>04/25/19</u>	<u>1003</u>	<u>-.08</u>	<u>0</u>	<u>9.1</u>	<u>11.0</u>	<u>79.9</u>	2	
C-40	<u>04/25/19</u>	<u>1005</u>	<u>-.12</u>	<u>0</u>	<u>12.0</u>	<u>10.4</u>	<u>77.6</u>	3	
207									
A-10	<u>04/25/19</u>	<u>1013</u>	<u>-.14</u>	<u>0</u>	<u>0</u>	<u>19.3</u>	<u>80.7</u>	2	
B-25	<u>04/25/19</u>	<u>1015</u>	<u>-.15</u>	<u>0</u>	<u>0</u>	<u>19.5</u>	<u>80.5</u>	2	
C-40	<u>04/25/19</u>	<u>1017</u>	<u>-.15</u>	<u>0</u>	<u>0</u>	<u>19.4</u>	<u>80.5</u>	3	
208									
A-9.1	<u>04/25/19</u>	<u>948</u>	<u>-.11</u>	<u>0</u>	<u>.3</u>	<u>18.8</u>	<u>80.9</u>	2	
B-25	<u>04/25/19</u>	<u>950</u>	<u>-.12</u>	<u>0</u>	<u>7.2</u>	<u>12.8</u>	<u>81.0</u>	2	
C-40	<u>04/25/19</u>	<u>952</u>	<u>-.12</u>	<u>0</u>	<u>.1</u>	<u>9.0</u>	<u>80.9</u>	3	
210									
A-10	<u>04/25/19</u>	<u>842</u>	<u>-.35</u>	<u>.2</u>	<u>.1</u>	<u>20.2</u>	<u>79.5</u>	2	
B-25	<u>04/25/19</u>	<u>844</u>	<u>-.24</u>	<u>0</u>	<u>.1</u>	<u>20.2</u>	<u>79.7</u>	2	
C-39	<u>04/25/19</u>	<u>846</u>	<u>-.24</u>	<u>0</u>	<u>.3</u>	<u>20.0</u>	<u>79.7</u>	3	
242									
C-42	<u>04/25/19</u>	<u>856</u>	<u>-.23</u>	<u>0</u>	<u>1.5</u>	<u>18.2</u>	<u>80.3</u>	3	
D-60	<u>04/25/19</u>	<u>859</u>	<u>-.37</u>	<u>0</u>	<u>4.1</u>	<u>13.5</u>	<u>82.4</u>	4	
E-78	<u>04/25/19</u>	<u>903</u>	<u>-.27</u>	<u>0</u>	<u>3.0</u>	<u>15.2</u>	<u>81.8</u>	4	
243		<u>10:24</u>							
A-11	<u>04/25/19</u>	<u>10:24</u>	<u>+0.01</u>	<u>0.0</u>	<u>10.7</u>	<u>0.7</u>	<u>88.6</u>	2	
B-20	<u>04/25/19</u>	<u>10:27</u>	<u>0.00</u>	<u>0.0</u>	<u>6.2</u>	<u>10.8</u>	<u>83.0</u>	2	
C-33	<u>04/25/19</u>	<u>10:31</u>	<u>+0.04</u>	<u>0.0</u>	<u>6.0</u>	<u>11.4</u>	<u>82.6</u>	3	

27.92

SCS SIGNATURE: 

LEA SIGNATURE _____

SUNSHINE CANYON - COUNTY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
244									
A-11	04/25/19	924	-1.6	0	9.8	9.0	81.2	2	
B-21	04/25/19	926	-3.0	0	7.0	13.2	75.8	2	
C-36	04/25/19	928	-1.8	0	.3	19.4	80.3	3	
245									
A-11	04/25/19	09:31	-0.01	0.0	14.0	4.0	82.0	2	
B-20	04/25/19	09:33	-0.01	0.2	26.2	0.2	73.4	2	
C-35	04/25/19	09:38	+0.01	0.0	24.0	0.5	75.5	3	
D-50	04/25/19	09:43	-0.06	0.0	18.7	0.1	81.1	4	
E-64	04/25/19	09:48	-0.03	0.0	0.1	20.9	79.0	4	
246									
A-9								2	REMOVED DUE TO CONSTRUCTION
B-16								2	REMOVED DUE TO CONSTRUCTION
205R									
A-11	04/25/19	07:41	+0.02	0.0	6.8	9.1	84.1	2	
B-20	04/25/19	07:47	-0.11	0.0	20.2	2.1	77.7	2	
C-33	04/25/19	07:53	-0.69	1.7	48.5	0.5	49.3	3	
D-48	04/25/19	08:02	-0.19	2.7	52.4	0.0	44.9	4	
E-62	04/25/19	08:09	-3.39	0.0	20.7	1.8	77.5	4	
239									
A-11	04/25/19	757	-2.6	0	11.2	13.3	75.5	2	
B-20	04/25/19	759	-3.6	0	.1	20.8	79.1	2	
C-35	04/25/19	801	-3.2	0	.1	20.9	79.0	3	
D-50	04/25/19	804	-2.5	0	.1	20.9	79.0	4	
E-64	04/25/19	812	-2.5	0	.1	20.8	79.1	4	
240									
A-11	04/25/19	732	-3.0	0	.9	20.3	78.8	2	
B-20	04/25/19	734	-3.2	0	.2	20.9	78.9	2	
C-33	04/25/19	736	-3.6	0	.1	21.0	78.9	3	
D-49	04/25/19	739	-3.2	0	.1	20.9	79.0	4	
E-61	04/25/19	745	-3.2	.1	.1	20.9	79.9	4	

SCS SIGNATURE:



LEA SIGNATURE: _____

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>A. Pardo</u>		TEMPERATURE: <u>66</u>		BARO. PRESSURE: <u>27.91</u>					
GEM SERIAL #: <u>5500485</u>				WEATHER CONDITIONS: <u>cloudy</u>					
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13	5-21-19	819	-1.3	0	1.4	19.5	79.1	2	
B-29	5-21-19	823	-1.13	0	.1	20.9	79.0	2	
C-45	5-21-19	827	-1.45	0	.1	20.9	79.6	3	
D-61	5-21-19	831	-1.10	0	.1	20.9	79.0	4	
E-77	5-21-19	835	-12.06	0	.1	20.9	79.0	4	
214									
A-13	5-21-19	851	-1.44	0	3.5	16.2	80.3	2	
B-30	5-21-19	853	-8.52	0	.1	20.7	79.2	2	
C-48	5-21-19	856	-10.33	0	.1	20.7	79.2	3	
215									
A-13	5-21-19	902	-1.02	0	4.4	11.4	84.2	2	
B-30	5-21-19	904	-1.07	0	.1	20.7	79.2	2	
C-47	5-21-19	907	-1.02	0	0	20.8	79.2	3	
D-64	5-21-19	911	-1.03	0	.2	20.4	79.4	4	
E-81	5-21-19	916	-1.05	0	2.8	15.3	81.9	4	
216									
A-14	5-21-19	930	-1.02	0	.1	20.5	79.4	2	
B-43	5-21-19	932	-1.01	0	.1	20.6	79.3	2	
C-62	5-21-19	942	+1.05	0	.1	20.3	79.6	3	
D-86	5-21-19	948	+1.04	0	0	20.3	79.7	4	
E-110	5-21-19	952	+1.06	0	.1	20.1	79.8	4	
217									
A-13	5-21-19	1003	-3.52	0	3.1	16.4	80.5	2	
B-30	5-21-19	1005	+1.01	0	3.7	16.3	80.0	2	
218R									
A-11	5-21-19	1012	+1.04	0	16.8	5.3	77.9	2	
B-26.5	5-21-19	1014	-1.03	0	10.0	10.4	79.6	2	
B-30	5-21-19	1017	-12.05	0	2.5	20.0	77.5	2	
219									
A-13	5-21-19	1342	+1.11	0	1.3	20.3	78.4	2	
B-64	5-21-19	1344	+1.08	0	4.6	10.4	85.0	2	
C-115	5-21-19	1347	+1.01	0	1.1	19.3	79.6	3	
D-166	5-21-19	1351	+1.11	0	.6	20.7	78.7	4	
E-217	5-21-19	1356	+1.04	0	2.1	17.9	80.0	4	

SCS SIGNATURE: _____

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SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220									
A-14	05-21-19	07:42	-0.01	0.0	1.5	20.1	78.5	2	
B-40	05-21-19	07:50	-0.11	0.0	0.1	20.7	79.2	2	
C-87	05-21-19	07:54	-0.14	0.0	0.3	20.6	79.1	3	
D-124	05-21-19	07:59	-0.45	0.0	0.2	20.8	79.0	4	
E-158	05-21-19	08:03	-0.04	0.0	0.1	20.9	79.0	4	
220B									
A-14	05-21-19	08:10	-0.07	0.0	4.7	14.4	80.9	2	
B-38	05-21-19	08:13	+0.02	0.0	6.8	7.7	85.5	2	
C-62	05-21-19	08:17	-0.01	0.0	10.1	2.6	87.3 87.3	3	
D-86	05-21-19	08:22	-0.04	0.0	9.9	4.9	85.1	4	
E-110	05-21-19	08:27	-0.01	0.0	5.1	13.6	81.3	4	
221									
A-13	05-21-19	08:34	0.00	0.0	0.8	20.4	78.8	2	
B-56	05-21-19	08:37	+0.01	0.0	7.4	5.5	87.1	2	
C-99	05-21-19	08:42	+0.01	0.0	9.1	2.7	88.2	3	
D-142	05-21-19	08:47	+0.03	0.0	0.2	20.8	79.0	4	
E-185	05-21-19	08:53	0.00	0.0	0.1	20.8	79.0	4	
222									
A-13	05-21-19	09:03	+0.02	0.0	0.7	20.1	79.2	2	
B-54.8	05-21-19	09:06	-0.02	0.0	0.1	20.7	79.1	2	
C-96.5	05-21-19	09:11	-0.14	0.0	0.3	20.5	79.2	3	
D-138.3	05-21-19	09:16	-0.05	0.0	0.9	19.8	79.4	4	
E-180	05-21-19	09:21	+0.05	0.0	0.5	20.3	79.3	4	
223									
A-13	05-21-19	09:31	0.00	0.0	7.6	10.4	82.0	2	
B-37.5	05-21-19	09:34	-0.01	0.0	11.2	6.7	82.1	2	
C-62	05-21-19	09:38	-0.01	0.0	7.1	9.6	83.3	3	
D-86.5	05-21-19	09:43	-0.06	0.0	2.8	16.7	80.4	4	
E-111	05-21-19	09:48	-0.01	0.0	4.4	14.8	80.7	4	
224									
A-13	05-21-19	10:02	-0.01	0.0	0.2	20.4	79.4	2	
B-67.5	05-21-19	10:06	0.00	0.0	0.1	20.6	79.3	2	
C-122	05-21-19	10:10	-0.05	0.0	0.1	20.6	79.3	3	
D-177.5	05-21-19	10:15	-12.72	0.0	0.1	20.6	79.3	4	
E-232	05-21-19	10:20	-8.92	0.0	0.1	20.6	79.4	4	

SCS SIGNATURE:



LEA SIGNATURE: _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225									
A-13	05-21-19	10:31	-0.13	0.0	7.8	11.2	81.0	2	
B-72	05-21-19	10:35	-4.87	0.0	3.0	16.5	80.5	2	
C-1131	05-21-19	10:53	-8.56	0.8	11.8	7.3	80.1	3	
D-190	05-21-19	10:44	-10.03	0.1	1.0	19.0	79.9	4	
E-244	05-21-19	10:49	-9.33	0.0	1.9	17.6	80.5	4	
226									
A-13	05-21-19	11:03	-0.03	0.0	0.0	20.9	79.1	2	
B-64	05-21-19	11:08	-6.58	0.0	0.1	20.7	79.3	2	
C-114	05-21-19	11:12	-8.96	0.0	0.1	20.9	79.0	3	
D-164	05-21-19	11:19	-8.14	0.0	0.0	20.9	79.1	4	
E-208	05-21-19	11:24	-10.03	0.0	0.1	20.8	79.1	4	
227									
A-13	05-21-19	13:37	-0.01	0.0	2.5	11.5	86.0	2	
B-48.7	05-21-19	13:43	-0.01	0.4	6.6	0.1	92.8	2	
C-84.4	05-21-19	13:47	+0.51	0.0	6.1	0.2	93.7	3	
D-114	05-21-19	13:52	+0.64	0.0	4.6	0.0	95.4	4	
E-115.7	05-21-19	13:56	+0.70	0.0	5.0	0.5	94.5	4	
228									
A-13	05-21-19	14:03	+0.10	0.0	0.4	18.9	80.7	2	
B-63	05-21-19	14:06	-0.18	0.0	0.4	19.1	80.5	2	
C-113	05-21-19	14:11	+0.78	0.5	7.4	0.0	92.1	3	
D-163	05-21-19	14:15	+0.83	0.1	4.9	2.1	93.0	4	
E-213	05-21-19	14:21	+0.98	0.0	4.9	0.2	94.9	4	
229									
A-13	5-21-19	1039	-7.72	0	0	20.7	79.8	2	
B-48.7	5-21-19	1041	-11.60	0	0	20.7	79.8	2	
C-84.4	5-21-19	1044	-10.55	0	0	20.7	79.8	3	
D-114	5-21-19	1048	-13.91	0	0	20.7	79.7	4	
E-155.7	5-21-19	1053	-21.12	.1	0	20.1	79.8	4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE: 

LEA SIGNATURE: _____

SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>Saulb. Ditz</u>			TEMPERATURE: <u>53°F</u>			BARO. PRESSURE: <u>29.84"</u>			
GEM SERIAL # <u>6502765</u>			WEATHER CONDITIONS: <u>Cloudy</u>						
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202									
A-10								2	REMOVED DUE TO CONSTRUCTION
B-25								2	REMOVED DUE TO CONSTRUCTION
C-38								3	REMOVED DUE TO CONSTRUCTION
203									
A-10	05-23-19	07:49	+0.03	0.0	4.4	17.1	78.5	2	
B-25	05-23-19	07:51	+0.02	0.0	4.8	15.8	77.4	2	
C-40	05-23-19	07:55	+0.02	0.0	4.1	16.7	77.2	3	
206									
A-10	5-23-19	1005	-0.07	0	7.8	14.6	77.7	2	
B-25	5-23-19	1007	-0.15	0	9.2	13.7	77.1	2	
C-40	5-23-19	1013	-0.05	0	12.0	12.9	75.1	3	
207									
A-10	5-23-19	1016	-0.09	0	.8	20.7	78.5	2	
B-25	5-23-19	1018	-0.08	0	.1	21.5	78.4	2	
C-40	5-23-19	1021	-0.04	0	.1	21.5	78.4	3	
208									
A-9.1	5-23-19	953	-0.09	0	1.3	21.3	77.4	2	
B-25	5-23-19	955	-0.03	0	8.9	14.0	77.1	2	
C-40	5-23-19	958	-0.05	0	.1	21.4	78.5	3	
210									
A-10	5-23-19	842	-0.50	0	.1	21.5	78.4	2	
B-25	5-23-19	844	-0.49	0	.1	21.5	78.4	2	
C-39	5-23-19	847	-0.08	0	.1	21.6	78.3	3	
242									
C-42	5-23-19	924	-0.22	.1	2.2	18.5	79.2	3	
D-60	5-23-19	928	+0.16	0	4.2	14.6	81.2	4	
E-78	5-23-19	932	-0.05	0	4.1	14.0	81.9	4	
243									
A-11	05-23-19	09:14	-0.03	0.0	11.8	0.7	87.5	2	
B-20	05-23-19	09:17	-0.06	0.0	4.4	14.6	81.0	2	
C-33	05-23-19	09:21	-0.01	0.0	3.8	15.7	80.5	3	

SCS SIGNATURE: Saulb. Ditz

LEA SIGNATURE _____

SUNSHINE CANYON - COUNTY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
244									
A-11	5-23-19	941	-10	0	10.2	11.8	78.0	2	
B-21	5-23-19	943	-0.7	0	.8	10.2	89.0	2	
C-36	5-23-19	946	-2.2	0	1.3	20.1	78.6	3	
245									
A-11	05-23-19	08:17	-0.09	0.0	12.4	7.8	79.8	2	
B-20	05-23-19	08:21	-0.04	0.1	22.0	2.1	75.8	2	
C-35	05-23-19	08:25	-0.04	0.0	21.6	2.3	76.1	3	
D-50	05-23-19	08:31	-0.03	0.0	17.5	1.6	80.9	4	
E-64	05-23-19	08:36	+0.07	0.0	1.9	18.4	79.7	4	
246									
A-9								2	REMOVED DUE TO CONSTRUCTION
B-16								2	REMOVED DUE TO CONSTRUCTION
205R									
A-11	05-23-19	10:00	-0.04	0.0	7.7	10.7	81.6	2	
B-20	05-23-19	10:03	-0.39	0.0	8.9	11.9	79.2	2	
C-33	05-23-19	10:11	-0.45	1.6	39.6	2.8	55.9	3	
D-48	05-23-19	10:16	-0.50	2.8	47.4	0.0	49.8	4	
E-62	05-23-19	10:23	-2.20	0.0	22.4	1.1	76.5	4	
239									
A-11	5-23-19	823	-0.06	0	11.5	15.4	73.1	2	
B-20	5-23-19	825	-0.29	0	.1	21.7	78.2	2	
C-35	5-23-19	828	-0.22	0	.1	21.7	78.2	3	
D-50	5-23-19	832	-0.12	0	.1	21.6	78.3	4	
E-64	5-23-19	836	-0.07	0	.1	21.6	78.3	4	
240									
A-11	5-23-19	800	-0.08	.1	.1	21.8	78.0	2	
B-20	5-23-19	802	-0.08	0	1.5	21.5	78.0	2	
C-33	5-23-19	805	-0.11	0	.1	21.8	78.1	3	
D-49	5-23-19	809	-0.06	0	.1	21.8	78.1	4	
E-61	5-23-19	813	-0.19	.1	.1	21.8	78.0	4	

SCS SINGNATURE:



LEA SIGNATURE: _____

SUNSHINE CANYON CITY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>Scudo Diaz</u>		TEMPERATURE: <u>77° F</u>		BARO. PRESSURE: <u>29.98"</u>					
SEM SERIAL #: <u>6502745</u>		WEATHER CONDITIONS: <u>overcast/sunny</u>							
PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
213									
A-13	6.18.19	7:51	-0.02	0	.2	20.4	79.0	2	
B-29	6.18.19	7:53	+0.01	0	.1	20.8	79.1	2	
C-45	6.18.19	8:03	0	0	.1	20.9	79.0	3	
D-61	6.18.19	8:07	-0.08	0	.1	20.9	79.0	4	
E-77	6.18.19	8:12	-11.68	0	0	21.0	79.0	4	
214									
A-13	6.18.19	8:22	-0.16	0	4.4	15.5	80.1	2	
B-30	6.18.19	8:24	-9.18	0	.1	20.8	79.1	2	
C-48	6.18.19	8:27	-11.40	0	0	20.9	79.1	3	
215									
A-13	6.18.19	8:35	+0.04	0	5.3	9.9	84.4	2	
B-30	6.18.19	8:37	-0.03	0	.1	20.8	79.1	2	
C-47	6.18.19	8:40	-0.02	0	0	20.9	79.1	3	
D-64	6.18.19	8:44	-0.08	0	.2	20.6	79.2	4	
E-81	6.18.19	8:48	+0.06	0	3.4	14.4	82.2	4	
216									
A-14	6.18.19	9:01	-0.04	0	4.8	11.1	84.1	2	
B-43	6.18.19	9:06	0	0	.1	21.0	78.9	2	
C-62	6.18.19	9:09	+0.04	0	0	21.0	79.0	3	
D-86	6.18.19	9:13	+0.05	0	.2	20.6	79.2	4	
E-110	6.18.19	9:17	-0.02	0	1.7	17.8	80.5	4	
217									
A-13	6.18.19	9:30	-0.04	0	3.2	16.5	80.3	2	
B-30	6.18.19	9:32	+0.14	0	3.6	17.0	79.4	2	
218R									
A-11	6.18.19	10:01	+0.11	.1	15.1	7.7	77.0	2	
B-26.5	6.18.19	10:03	+0.08	.1	8.7	13.3	77.9	2	
B-30	6.18.19	10:06	0	.1	2.7	20.3	76.9	2	
219									
A-13	6.18.19	10:28	+0.08	0	.1	20.7	79.2	2	
B-64	6.18.19	10:31	+0.09	0	.1	20.6	79.3	2	
C-115	6.18.19	10:34	+0.04	0	.3	20.2	79.5	3	
D-166	6.18.19	10:38	+0.08	0	0	20.7	79.3	4	
E-217	6.18.19	10:54	+0.19	0	1.9	18.0	80.1	4	

SCS SIGNATURE: _____

LEA SIGNATURE _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
220									
A-14	06-18-19	07:58	+0.05	0.0	1.3	19.9	78.8	2	
B-40	06-18-19	08:01	-0.01	0.0	0.1	20.7	79.2	2	
C-87	06-18-19	08:05	-0.12	0.0	0.3	20.6	79.1	3	
D-124	06-18-19	08:10	-0.43	0.0	0.2	20.8	79.0	4	
E-158	06-18-19	08:15	-0.1	0.0	0.1	20.9	79.0	4	
220B									
A-14	06-18-19	08:22	-0.04	0.0	3.9	16.2	79.9	2	
B-38	06-18-19	08:27	-0.1	0.0	7.6	5.4	87.0	2	
C-62	06-18-19	08:31	-0.14	0.0	6.0	11.2	82.8	3	
D-86	06-18-19	08:36	-0.08	0.0	5.3	12.2	82.5	4	
E-110	06-18-19	08:40	-0.08	0.0	3.5	17	79.5	4	
221									
A-13	06-18-19	08:47	0.0	0.0	0.6	20.4	79.0	2	
B-56	06-18-19	08:50	-0.15	0.0	0.9	20.2	78.9	2	
C-99	06-18-19	08:55	-0.31	0.0	0.6	20.4	79.0	3	
D-142	06-18-19	09:00	-0.04	0.0	0.1	20.9	79.0	4	
E-185	06-18-19	09:05	+0.01	0.0	0.1	20.9	79.0	4	
222									
A-13	06-18-19	09:12	-0.03	0.0	0.7	20.0	79.3	2	
B-54.8	06-18-19	09:16	-0.14	0.0	0.1	20.7	79.2	2	
C-96.5	06-18-19	09:20	-0.03	0.0	0.1	20.7	79.2	3	
D-138.3	06-18-19	09:25	-0.02	0.0	0.7	20.0	79.3	4	
E-180	06-18-19	09:30	-0.5	0.0	0.3	20.5	79.2	4	
223									
A-13	06-18-19	09:47	-0.02	0.0	8.2	9.4	82.4	2	
B-37.5	06-18-19	09:50	-0.04	0.0	8.9	7.5	83.6	2	
C-62	06-18-19	09:54	+0.03	0.0	4.7	13.3	82.0	3	
D-86.5	06-18-19	09:59	+0.01	0.0	3.0	16.8	80.2	4	
E-111	06-18-19	10:04	-0.04	0.0	4.0	15.1	80.9	4	
224									
A-13	06-18-19	10:20	-0.04	0.0	0.1	20.9	79.0	2	
B-67.5	06-18-19	10:23	-0.07	0.0	0.0	20.9	79.1	2	
C-122	06-18-19	10:29	-0.01	0.0	0.0	20.7	79.3	3	
D-177.5	06-18-19	10:34	-13.75	0.0	0.0	20.8	79.2	4	
E-232	06-18-19	10:39	-9.91	0.0	0.0	20.8	79.2	4	

SCS SIGNATURE: 

LEA SIGNATURE: _____

SUNSHINE CANYON - CITY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
225									
A-13	06-18-19	10:52	-0.06	0.0	9.1	10.4	80.5	2	
B-72	06-18-19	10:55	-5.04	0.0	3.4	10.7	79.9	2	
C-1131	06-18-19	10:59	-10.33	0.6	13.6	6.3	79.5	3	
D-190	06-18-19	11:04	-10.93	0.0	0.9	19.5	79.6	4	
E-244	06-18-19	11:10	-10.37	0.0	3.7	16.2	80.1	4	
226									
A-13	06-18-19	11:17	+0.04	0.0	0.0	20.4	79.6	2	
B-64	06-18-19	11:19	-7.79	0.0	0.1	20.4	79.5	2	
C-114	06-18-19	11:23	-10.29	0.0	0.0	20.5	79.5	3	
D-164	06-18-19	11:28	-9.58	0.0	0.0	20.7	79.3	4	
E-208	06-18-19	11:32	-11.38	0.0	0.1	20.6	79.3	4	
227									
A-13	06-18-19	14:13	0.0	0.0	0.0	20.7	79.3	2	
B-48.7	06-18-19	14:15	-0.16	0.4	5.1	2.4	92.1	2	
C-84.4	06-18-19	14:19	-0.29	0.0	1.6	14.9	83.5	3	
D-114	06-18-19	14:24	-0.48	0.0	0.0	20.6	79.4	4	
E-115.7	06-18-19	14:29	-0.21	0.0	1.0	19.3	79.7	4	
228									
A-13	06-18-19	14:37	-0.02	0.0	0.2	20.0	79.8	2	
B-63	06-18-19	14:39	-0.54	0.0	3.1	12.8	84.1	2	
C-113	06-18-19	14:43	-0.18	0.0	0.2	20.5	79.3	3	
D-163	06-18-19	14:49	-0.18	0.0	0.8	19.9	79.3	4	
E-213	06-18-19	14:56	-0.21	0.0	1.9	16.6	81.5	4	
229									
A-13	6-18-19	10:57	-0.72	0	0	20.5	79.5	2	
B-48.7	6-18-19	11:01	-9.31	0	0	20.7	79.3	2	
C-84.4	6-18-19	11:04	-8.71	0	0	20.7	79.2	3	
D-114	6-18-19	11:08	-13.81	0	0	20.8	79.2	4	
E-155.7	6-18-19	11:12	-22.63	0	0	20.9	79.1	4	
230									
A-16								2	REMOVED DUE TO CONSTRUCTION
B-33								2	REMOVED DUE TO CONSTRUCTION
C-50								3	REMOVED DUE TO CONSTRUCTION
231									
A-13								2	REMOVED DUE TO CONSTRUCTION
B-26								2	REMOVED DUE TO CONSTRUCTION
C-39								3	REMOVED DUE TO CONSTRUCTION
D-51								4	REMOVED DUE TO CONSTRUCTION
E-66								4	REMOVED DUE TO CONSTRUCTION

SCS SIGNATURE:

LEA SIGNATURE: _____

SUNSHINE CANYON COUNTY PERIMETER PROBE MONITORING DATA

TECHNICIAN: <u>AROMO/Sandoval</u>		TEMPERATURE: <u>66</u>		BARO. PRESSURE: <u>28.01</u>						
SEM SERIAL #: <u>G500485</u>		WEATHER CONDITIONS: <u>OVERCAST</u>								
PROBE NUMBER		DATE	TIME	PRESSURE (+/-)	% CH4	% CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
202										
A-10									2	REMOVED DUE TO CONSTRUCTION
B-25									2	REMOVED DUE TO CONSTRUCTION
C-38									3	REMOVED DUE TO CONSTRUCTION
203										
A-10	<u>06/20/19</u>	<u>07:49</u>	<u>+0.04</u>	<u>0.0</u>	<u>4.4</u>	<u>16.6</u>	<u>79.0</u>		2	
B-25	<u>06/20/19</u>	<u>07:52</u>	<u>-0.02</u>	<u>0.0</u>	<u>4.8</u>	<u>15.3</u>	<u>79.9</u>		2	
C-40	<u>06/20/19</u>	<u>07:56</u>	<u>-0.03</u>	<u>0.0</u>	<u>4.0</u>	<u>16.1</u>	<u>79.9</u>		3	
206										
A-10	<u>06/20/19</u>	<u>1008</u>	<u>0</u>	<u>0</u>	<u>6.2</u>	<u>15.0</u>	<u>78.8</u>		2	
B-25	<u>06/20/19</u>	<u>1010</u>	<u>+0.09</u>	<u>0</u>	<u>7.1</u>	<u>14.1</u>	<u>78.8</u>		2	
C-40	<u>06/20/19</u>	<u>1012</u>	<u>-0.03</u>	<u>0</u>	<u>9.1</u>	<u>14.0</u>	<u>76.9</u>		3	
207										
A-10	<u>06/20/19</u>	<u>1021</u>	<u>-0.04</u>	<u>0</u>	<u>.1</u>	<u>20.6</u>	<u>79.3</u>		2	
B-25	<u>06/20/19</u>	<u>1023</u>	<u>+0.32</u>	<u>0</u>	<u>0</u>	<u>20.7</u>	<u>79.3</u>		2	
C-40	<u>06/20/19</u>	<u>1025</u>	<u>+0.03</u>	<u>0</u>	<u>0</u>	<u>20.7</u>	<u>79.3</u>		3	
208										
A-9.1	<u>06/20/19</u>	<u>955</u>	<u>-0.04</u>	<u>0</u>	<u>1.0</u>	<u>20.2</u>	<u>78.8</u>		2	
B-25	<u>06/20/19</u>	<u>957</u>	<u>+0.02</u>	<u>0</u>	<u>7.0</u>	<u>15.0</u>	<u>78.0</u>		2	
C-40	<u>06/20/19</u>	<u>959</u>	<u>-0.03</u>	<u>0</u>	<u>.1</u>	<u>20.7</u>	<u>79.2</u>		3	
210										
A-10	<u>06/20/19</u>	<u>908</u>	<u>-0.20</u>	<u>.1</u>	<u>.1</u>	<u>20.8</u>	<u>79.0</u>		2	
B-25	<u>06/20/19</u>	<u>910</u>	<u>-0.20</u>	<u>0</u>	<u>.1</u>	<u>20.8</u>	<u>79.1</u>		2	
C-39	<u>06/20/19</u>	<u>912</u>	<u>-0.05</u>	<u>0</u>	<u>.1</u>	<u>20.8</u>	<u>79.1</u>		3	
242										
C-42	<u>06/20/19</u>	<u>923</u>	<u>-0.08</u>	<u>0</u>	<u>2.2</u>	<u>17.6</u>	<u>80.2</u>		3	
D-60	<u>06/20/19</u>	<u>926</u>	<u>+0.05</u>	<u>0</u>	<u>4.3</u>	<u>13.0</u>	<u>82.7</u>		4	
E-78	<u>06/20/19</u>	<u>930</u>	<u>-0.02</u>	<u>0</u>	<u>4.3</u>	<u>3.1</u>	<u>82.6</u>		4	
243										
A-11	<u>06/20/19</u>	<u>09:30</u>	<u>+0.05</u>	<u>0.1</u>	<u>13.3</u>	<u>0.2</u>	<u>86.3</u>		2	
B-20	<u>06/20/19</u>	<u>09:34</u>	<u>+0.01</u>	<u>0.0</u>	<u>9.0</u>	<u>6.3</u>	<u>84.8</u>		2	
C-33	<u>06/20/19</u>	<u>09:40</u>	<u>0.00</u>	<u>0.0</u>	<u>8.1</u>	<u>6.6</u>	<u>85.3</u>		3	

SCS SIGNATURE: [Signature]

LEA SIGNATURE _____

SUNSHINE CANYON - COUNTY PERIMETER PROBE MONITORING DATA

PROBE NUMBER	DATE	TIME	PRESSURE (+/-)	% VOL CH4	% VOL CO2	% O2	% BAL	PURGE TIME (MIN)	COMMENTS
244									
A-11	06/20/19	940	0	0	5.9	15.1	79.0	2	
B-21	06/20/19	942	-0.05	.1	6.1	15.1	78.7	2	
C-36	06/20/19	944	+0.03	0	.9	19.9	79.2	3	
245									
A-11	06/20/19	08:06	-0.05	0.0	15.5	3.6	80.9	2	
B-20	06/20/19	08:12	-0.02	0.1	24.1	0.6	75.1	2	
C-35	06/20/19	08:16	-0.17	0.0	22.5	1.9	75.6	3	
D-50	06/20/19	08:21	+0.01	0.0	18.0	1.5	80.6	4	
E-64	06/20/19	08:27	+0.05	0.0	2.0	17.9	80.1	4	
246									
A-9								2	REMOVED DUE TO CONSTRUCTION
B-16								2	REMOVED DUE TO CONSTRUCTION
205R									
A-11	06/20/19	09:58	+0.04	0.0	8.7	10.7	80.7	2	
B-20	06/20/19	10:02	-0.03	0.0	11.2	9.6	79.2	2	
C-33	06/20/19	10:10	-0.28	1.8	48.5	0.0	49.7	3	
D-48	06/20/19	10:15	-0.36	2.4	49.6	0.0	48.0	4	
E-62	06/20/19	10:21	-2.54	0.0	23.8	1.2	75.0	4	
239									
A-11	06/20/19	821	-0.03	0	9.6	16.2	74.2	2	
B-20	06/20/19	823	+0.11	0	.1	20.8	79.1	2	
C-35	06/20/19	825	+0.02	0	.1	20.9	79.0	3	
D-50	06/20/19	828	+0.03	0	.1	20.9	79.0	4	
E-64	06/20/19	840	-0.02	0	.1	20.9	79.0	4	
240									
A-11	06/20/19	859	-0.45	0	2.4	19.0	78.6	2	
B-20	06/20/19	801	-0.12	0	.1	20.8	79.1	2	
C-33	06/20/19	803	-0.04	0	.1	20.8	79.1	3	
D-49	06/20/19	806	-0.09	0	.1	20.8	79.1	4	
E-61	06/20/19	810	0	.1	.1	20.8	79.0	4	

SCS SINGNATURE:



LEA SIGNATURE:

APPENDIX D

NPDES CERTIFICATION OF COMPLETION

August 15, 2019

Operating Records
Sunshine Canyon Landfill
14747 San Fernando Road
Sylmar, CA 91342

Please be advised that all standard observations for the landfill were done in accordance with the NPDES monitoring and reporting requirements. Records of observations are kept at the Sunshine Canyon Landfill's Operating Records and are submitted to the RWQCB in the storm water table due annually by July 1st.

Sincerely,

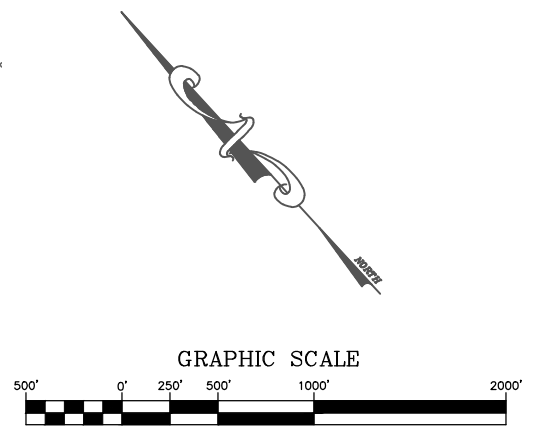
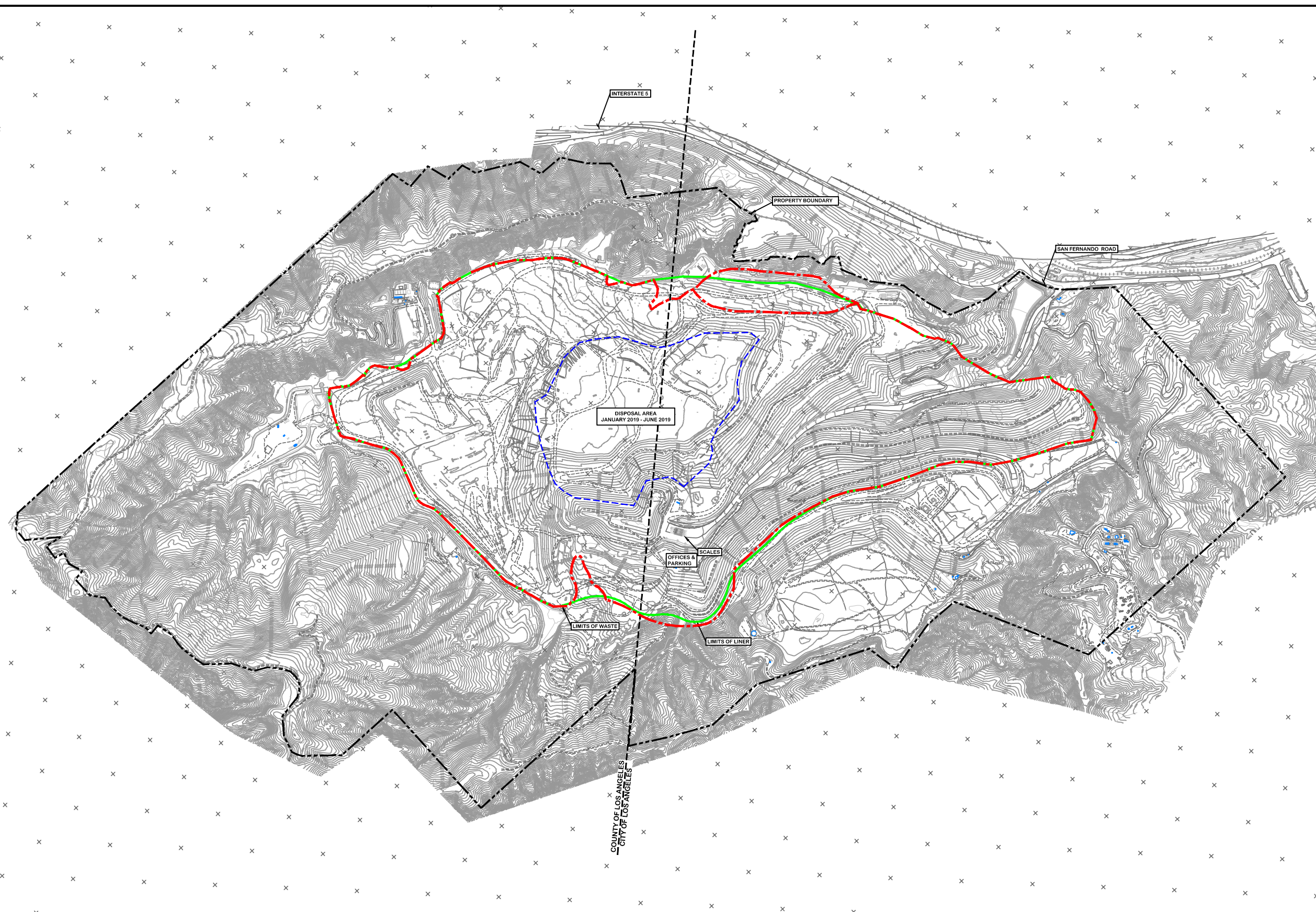


Chris Coyle
General Manager
Sunshine Canyon Landfill

APPENDIX E

**WASTE PLACEMENT AREAS
FIRST SEMIANNUAL 2019 MONITORING PERIOD**

C:\Users\cbarrett\Documents\Validated-Republic\Sunshine Canyon LF\Exhibits\Semi-annual Report\DWG SETS\SO19.1074-SCL-2019H1-SMI-ANNUAL REPORT.dwg Aug 15, 2019 - 11:30am By: cbarrett



- LEGEND**
- 1500 — EXISTING 10 FT CONTOUR
 - — — — — PROPERTY BOUNDARY
 - - - - - CITY/COUNTY LIMIT
 - - - - - APPROVED LIMITS OF REFUSE PER 2002 JTD
 - — — — — PERMIT LINER LIMIT

This drawing has not been published but rather has been prepared by Geo-Logic Associates, Inc. for use by the client named in the title block, solely in respect of the construction operation, and maintenance of the facility named in the title block. Geo-Logic Associates, Inc. shall not be liable for the use of this drawing on any other facility or for any other purpose.

EXISTING TOPOGRAPHY PREPARED BY COOPER AERIAL SURVEYS DATED FEBRUARY 8, 2018 WITH SUPPLEMENTAL SURVEY PROVIDED BY VERTEX SURVEY INC. ON MAY 6, 2019

FOR REVIEW ONLY

REV. NO.	DATE	DESCRIPTION	APPROVED BY
REV1	DATE1	DESCRIPTION1	DRAWN1
REV2	DATE2	DESCRIPTION2	DRAWN2
REV3	DATE3	DESCRIPTION3	DRAWN3
REV4	DATE4	DESCRIPTION4	DRAWN4
REV5	DATE5	DESCRIPTION5	DRAWN5
REV6	DATE6	DESCRIPTION6	DRAWN6

DATE OF ISSUE: AUGUST 2019
 DESIGNED BY: C BARRETT
 DRAWN BY: C BARRETT
 CHECKED BY: R JOHNSON
 APPROVED BY: R JOHNSON



2777 E. GUASTI RD.
 ONTARIO, CA 91761
 909) 626-2282
 www.geo-logic.com



SUNSHINE CANYON LANDFILL
 SYLMAR, CALIFORNIA
 SEMI-ANNUAL GROUNDWATER MONITORING REPORT
 DISPOSAL AREAS - JANUARY 2019 - JUNE 2019

DWG NO. **1**
 PROJECT NO. SO19.1074

APPENDIX F

WASTE ACCEPTANCE REPORTS



Republic Services, Inc.

18500 N. Allied Way, Phoenix, AZ 85054

SPECIAL WASTE DEPARTMENT DECISION

	Waste Profile # 5123162417	Expiration Date 2/12/2022	
I. Decision Request:	<input type="checkbox"/> Initial <input checked="" type="checkbox"/> Recertification <input type="checkbox"/> Change		
Disposal Facility: 5123 - Sunshine Canyon Landfill			
Generator Name: City of Los Angeles Police Department, Property Division			
Generator Site Address: 180 North Los Angeles Street, RM BP-18			
City: Los Angeles	County:	State: CA	Zip:
Name of Waste: Narcotics - Marijuana Contained in recycled Carboard Boxes			
Estimated Annual Volume: 20,000 Pounds			

II. Special Waste Department Decision: Approved Rejected

Management Method(s): Landfill Solidification Bioremediation Transfer Facility

Problematic Special Waste according to Republic? Yes No

If yes, which one? _____

Approved by Special Waste Review Committee? Yes No Not Applicable

Precautions, Conditions or Limitations on Approval

This material must be buried immediately upon receipt at the landfill.

Special Waste Analyst Signature: Joseph M. Sorokach
Date: 1/30/2019

Name (Printed): Joseph Sorokach

III. Facility Decision: Approved Rejected

Precautions, Conditions or Limitations on Approval

By signing below, the General Manager or Designee agrees that a fully executed Special Waste Service Agreement is on file for this profile and that the special waste file is complete.

General Manager or Designee: Chris Coyle
Date: 1/30/2019

Name (Printed): Chris Coyle



SPECIAL WASTE PROFILE - RECERTIFICATION

Saveable fill-in form. Restricted printing until all required (yellow) fields are completed.

Disposal Facility: 5123 Sunshine Canyon LF CA

Waste Profile #
5123162417

I. Generator Information

Generator Name: City of Los Angeles - Los Angeles Police Department - Property Division			
Generator Site Address: 180 N. Los Angeles Street, RM BP-18			
City: Los Angeles	County:	State: California	Zip: 90012
State ID/Reg No: CAL000139919	State Approval/Waste Code:		NAICS #:
Generator Mailing Address (if different): <input type="checkbox"/> 180 N. Los Angeles Street, RM BP-18			
City: Los Angeles	County:	State: California	Zip: 90012
Generator Contact Name: Eduardo Gonzalez			Email: N2071@lapd.online
Phone Number: (213) 356-3730		Fax Number:	

II. Waste Stream Information

Name of Waste: Narcotics - Marijuana	
Check Section 1 OR Section 2 below:	
1. <input type="checkbox"/>	<p><u>There has been a change</u> in the characteristics of the waste stream due to the following:</p> <ul style="list-style-type: none"> a. Change of a raw material used in the waste generating process. b. Change in the waste generating process itself. c. Change in a physical characteristic of the waste. d. New information has been documented concerning the human health effects of exposure to the waste. <p>If any of these changes have occurred, a new laboratory analysis and profile sheet must be completed. Attach copies of the new chemical analysis and new Special Waste Profile with the appropriate signatures.</p>
2. <input checked="" type="checkbox"/>	<p><u>There have been no changes</u> that would alter the physical characteristics of the special waste stream. Updated analytical may be required.</p>

III. Representative Sample Certification

No Sample Taken

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?	<input type="checkbox"/> YES or <input type="checkbox"/> NO
Type of Sample: <input type="checkbox"/> COMPOSITE SAMPLE <input type="checkbox"/> GRAB SAMPLE	
Sample Date:	
Sample ID Numbers:	

IV. Certification

I hereby certify that to the best of my knowledge and belief, the information contained in the Special Waste Profile - Recertification and the information in the Original Special Waste Profile is true, complete and accurate.

Eduardo Gonzalez, Principal Property Officer

City of Los Angeles - LAPD

Authorized Representative Name And Title (Printed)

Company Name

Eduardo Gonzalez

01/30/2019

Authorized Representative Signature

Date



SPECIAL WASTE SERVICE AGREEMENT NON-HAZARDOUS WASTES

Special Waste Profile Number: 5123162417

Generator Billing Information

Republic Waste Location (Company)

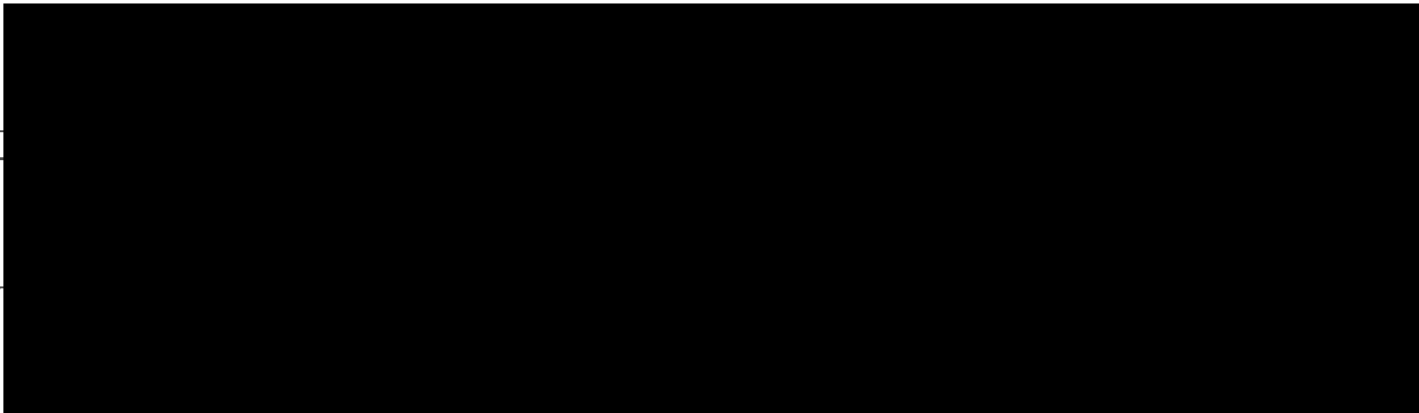
Name: CITY OF LOS ANGELES POLICE DEPT.-
PROPERTY DIV. (ACCOUNT # 173)
Address: 180 N LOS ANGELES ST RM BP-18
City: LOS ANGELES
State: CA Zip: 90012
Phone: 213.356.3730 Fax: _____
Contact: EDUARDO GONZALEZ

SUNSHINE CANYON LANDFILL (5123)
14747 SAN FERNANDO ROAD
SYLMAR, CA 91342
818.362.2141

Project: NARCOTICS-MARIJUANA County and State of Origin: LOS ANGELES, CA

Additional Information: SITE: 180 N LOS ANGELES ST RM BP-18

- Special Waste Service.** Subject to the terms and conditions contained herein, the Company and the Generator agree to be legally bound hereby and the Company agrees to accept at its Facility, Acceptable Waste (hereinafter referred to as "Special Waste" or "Waste") delivered by Generator, and which is acceptable to the Company as herein provided.
- Acceptable Waste.** Only those Special Wastes described in Paragraph 3 herein and in any Special Waste Profile(s) which number is identical to the contract number referenced above, and which Profile(s) are hereby incorporated by reference herein, and which Waste is subsequently approved by the Company and is otherwise in accordance with all laws, regulations and permits, shall be acceptable for disposal at the Facility ("Acceptable Waste").



this Agreement as if fully set forth herein.

1) N/A

2) N/A

- Term of Agreement.** This Agreement is effective for 12 months, commencing 1/31/2019 and shall automatically be renewed for a similar term thereafter unless either party shall give written notice (via certified mail) of termination to the other party at least thirty (30) days prior written notice.

THE COMPANY AND THE GENERATOR, IN CONSIDERATION OF THE MUTUAL OBLIGATIONS CONTAINED HEREIN, AGREE THAT THIS IS A LEGALLY BINDING AGREEMENT WHICH IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON THIS PAGE AND ON THE REVERSE SIDE OF THIS DOCUMENT. IN ADDITION, THE GENERATOR IS CERTIFYING THE ATTACHED TERMS AND CONDITIONS HAVE BEEN REVIEWED AND INITIALLED AT THE BOTTOM OF THE PAGE.

GENERATOR

REPUBLIC SERVICES, INC/COMPAN

Eduardo Gonzalez
SIGNATURE (AUTHORIZED REPRESENTATIVE)
Eduardo Gonzalez, Principal Prop. Ofcr
NAME AND TITLE (PLEASE PRINT)

Edward Antolin
SIGNATURE (AUTHORIZED REPRESENTATIVE)
EDWARD ANTOLIN, MESE
NAME AND TITLE (PLEASE PRINT)

01-31-19
DATE

1/31/2019
DATE

Terms and Conditions of Special Waste Service Agreement

5. **The Agreement.** This agreement of the parties ("Agreement") for the disposal of Special Waste shall consist of this Agreement, riders to the Agreement (if any) and any Application, permit and approval that may be applicable to such Waste.
6. **Waste Accepted at Facility.** Generator represents, warrants and covenants that the Waste delivered to Company at its Facility hereunder will be Acceptable Waste and will not contain any unacceptable quantity of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances, as defined by applicable federal, state, local or provincial laws or regulations. Any Waste which does not meet these requirements shall hereinafter be referred to as "Unacceptable Waste". The Generator shall in all matters relating to the collection, transportation and disposal of the Waste hereunder, comply with all applicable federal, state and local laws, regulations, rules and orders regarding the same. The word "Facility" shall mean any landfill, transfer station or other location used to transfer, process or otherwise dispose of such Waste.
7. **Special Waste.** Generator represents, warrants and covenants that the Waste delivered to Company hereunder (i) will not contain any Special Waste that is not specifically described on any Application which is attached hereto or which is subsequently approved by the Company, (ii) will meet the material description as set forth in any Application and otherwise in all significant respects and (iii) will not contain Unacceptable Waste. The parties may incorporate additional Special Waste as part of this Agreement if prior to delivery of such Waste to Company, Generator has provided an Application for such Waste and Company has approved disposal of such Waste within the limitations and conditions contained in Company's written notice of approval of Special Waste Disposal. Title to any and all Waste handled or disposed of by Company shall at all times remain with Generator and Broker (if a Broker is involved).
8. **Rights of Refusal/Rejection.** The Generator shall inspect all Waste at the place(s) of collection and shall remove any and all Unacceptable Waste. Company has the right to refuse, or to reject after acceptance, any load(s) of Waste(s) delivered to its Facility including if the Company believes the Generator has breached (or is breaching) its representations, warranties, covenants or agreements hereunder, or any applicable federal, state or local laws, regulations, rules or orders, even if only a portion of such Waste load is unacceptable. The Company shall have the right to inspect all vehicles and containers of Waste haulers, including the Generator's vehicles, in order to determine whether the Waste is Acceptable Waste or Unacceptable Waste pursuant to this Agreement and all applicable federal, state and local laws, rules and regulations. The Company's exercise, or failure to exercise, its rights hereunder shall not operate to relieve the Generator of its responsibilities or liability under this Agreement. The Generator shall be responsible for, and bear all reasonable expenses and damages incurred by the Company, as a result of the Unacceptable Waste and in the reloading and removal of Unacceptable Waste disposed in the Facility. The Company, may also, in its sole discretion, require the Generator to promptly remove the Unacceptable Waste.
9. **Limited License to Enter.** This Agreement provides Generator with a license to enter the Facility for the limited purpose of, and only to the extent necessary for, off-loading Acceptable Waste at the Facility in the manner directed by Company. Except in an emergency, Generator's personnel shall not leave the immediate vicinity of their vehicle. After off-loading the Waste, Generator's personnel shall promptly leave the Facility. Under no circumstances shall Generator or its personnel engage in any scavenging of Waste or other materials at the Facility. The Company reserves the right to make and enforce reasonable rules and regulations concerning the operation of the Facility, the conduct of the drivers and others on the Facility premises, quantities and sources of Waste, and any other matters necessary or desirable for the safe, legal and efficient operation of the Facility including, but not limited to, speed limits on haul roads imposed by the Company, and the wearing of hard hats and other personal protection equipment by all individuals allowed on the Facility premises. Generator agrees to conform to such rules and regulations as they may be established and amended from time to time. Company may refuse to accept Waste from and shall deny an entrance license to, any of Generator's personnel whom Company believes is under the influence of alcohol or other chemical substances. Generator shall be solely responsible for its employees and subcontractors performing their obligations in a safe manner when at the facility of Company.
10. **Charges and Payment.** Payment shall be made by Generator within sixty (60) days after receipt of invoice from Company. In the event that any amount is overdue, the Company may terminate this Agreement. Generator agrees to pay a finance charge equal to the maximum interest rate permitted by law. Generator shall be liable for all taxes, fees, or other charges imposed upon the disposal of the Waste by federal, state, local or provincial laws and regulations. Company, from time to time, may modify its rates upon sixty (60) days written notice to Generator.
11. **Termination.** Generator's obligations, representations, warranties and covenants regarding the Waste delivered and all indemnities shall survive termination of this Agreement. Should Generator materially default in any of its obligations hereunder, then Company may immediately terminate this Agreement and Generator shall be liable for all costs and damages incurred by the Company.
12. **Driver's Knowledge and Authority.** Generator represents, warrants and covenants that its drivers who deliver Waste to Company's Facility have been advised by Generator of the Company's prohibition on deliveries of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances or any other Unacceptable Waste to the Facility of Company's restrictions on deliveries of Special Waste to the Facility, of the definitions of "Hazardous Waste and Hazardous Substances" as provided by applicable federal, state and local law, rules and regulations and "Special Waste" as provided herein, and of the terms of this license to enter Company's Facility.
13. **Indemnification.** Generator shall indemnify, defend and hold harmless the Company and its subsidiaries, affiliates and parent corporations, as applicable and their respective officers, directors, lenders, employees, subcontractors and agents from and against any and all claims, suits, losses, liabilities, assessments, damages, fines, costs and expenses, including reasonable attorneys fees arising under federal, state or local laws, regulations or ordinances, or relating to the content of the Waste, or arising out of or in connection with any breach of this Agreement or arising out of the negligent collection, transportation and disposal of Waste by Generator or Generator's employees, agents, subcontractors or representatives thereof. Generator shall also be responsible for increased inspection, testing, study and analysis costs made necessary due to reasonable concerns of the Company as to the content of the Waste following discovery of potentially Unacceptable Waste. This indemnification and other obligations stated in this paragraph shall survive the termination of this Agreement.
14. **Insurance.** Generator shall maintain in full force and effect throughout the term of this Agreement the following types of insurance in at least the amounts specified below:

Coverages	Minimum Amounts of Insurance
Worker's Compensation	Statutory
General Liability	\$500,000 combined single limit
Automobile Liability	\$500,000 combined single limit

All insurance will be by insurers authorized to do business in the state in which the Facility is located. Prior to Generator being allowed on Facility premises, Generator shall provide the Company with certificates of insurance or other satisfactory evidence that such insurance has been procured and is in force. Said policies shall not thereafter be canceled, be permitted to expire or lapse, or be changed without thirty (30) days advance written notice to the Company. Generator warrants that it will secure the above minimum amounts of insurance from any transportation of the Waste to the Facility.

15. **Failure to Perform.** Neither party hereto shall be liable for its failure to perform hereunder due to circumstances not its fault and beyond its reasonable control, including, but not limited to, strikes or other labor disputes, riots, protests, civil disturbances or sabotage, changes in law, fires, floods, compliance with government requests, explosions, accidents, weather, lack of required natural resources, or acts of God affecting either party hereto. In the event of any of the circumstances provided for in the preceding sentence, including, but not limited to, whether any federal, state or local court or governmental authority takes any action which would (i) close or restrict operations at the Facility, (ii) limit the quantity or prohibit the disposal of Waste at the Facility, or (iii) limit the ability of or prohibit Generator from delivering Waste to the Facility, the Company shall have the right, at its option, to reduce, suspend or terminate Generator's access to the Facility immediately, without prior notice and without any additional liabilities between the parties, other than Generator's payment obligation hereunder. Neither Party is required hereunder to settle any labor dispute against its own best judgment.

16. **Other Termination.** The occurrence of any of the following events shall also constitute an event of default by the Generator and shall give the Company the right to immediately terminate this Agreement:

- (A) A petition for reorganization or bankruptcy filed by or against the Generator.
- (B) Failure by Generator to pay any amounts due to Company.
- (C) Any breach by Generator of any of its obligations pursuant to the Agreement.

Generator shall be liable for and shall indemnify, defend and hold harmless Company from any losses, claims expenses or damages incurred by the Company as a result of termination hereunder.

17. **Assignment.** Generator may not assign, transfer or otherwise vest in any other Company, entity or person, in whole or in part, any of its rights or obligations under the Agreement without the prior written consent of the Company, provided, however, that the Company may without any such prior written consent, assign its rights and/or obligations under the Agreement to a subsidiary or affiliate corporation.
18. **Right of Disposal.** This Agreement does not grant any rights to dispose of Waste other than in accordance herewith. The Company reserves the right to immediately terminate access to the Facility by Generator and Generator's personnel in the event of breach or violation by Generator of any of the terms of this Agreement, the Company's operating rules or payment policies or any applicable laws or regulations.
19. **Continuing Compliance.** The Generator has a continuing obligation to inform the Company of any new information, or information not previously provided to the Company by Generator which may affect the acceptability of the Waste by the Company. Further, the Generator shall comply with all Company requests for evidence of Generator's continuing compliance with the terms of the Agreement including but not limited to the following: (i) providing new, updated Waste profiles on the Waste(s) offered for disposal or, (ii) providing appropriate certification that the Waste being offered for disposal is accurately reflected by the appropriate Application or, (iii) re-sample the Waste at Generator's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or, (iv) allow the Company to re-sample the Waste at Generator's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or (v) all of the above.

20. **Miscellaneous.**

- (A) This Agreement shall be governed by the laws of the State in which the Facility is located.
- (B) No waiver of a breach of any of the obligations contained in the Agreement shall be construed to be a waiver of any prior or succeeding breach of the same obligation or of any other obligation of this Agreement.
- (C) No modification, release, discharge or waiver of any provision or obligation hereof shall be of any force, or effect, unless in writing signed by all parties to this Agreement.
- (D) Generator shall treat as confidential and not disclose to others during or subsequent to the terms of this Agreement, except as is necessary to perform this Agreement, or to comply with any applicable law or regulation any information (including any technical information, experience or data) regarding the Company's plans, programs, plants, processes, products, costs, equipment or operations which may come within the knowledge of the Generator or its employees in the performance of this Agreement, without in each instance securing the prior written consent of the other Company.
- (E) If any term, phrase, obligation or provision of this Agreement shall be held to be invalid, illegal or unenforceable in any respect, this Agreement shall remain in effect and be construed without regard to such term, phrase, obligation or provision.
- (F) This Agreement constitutes the entire understanding between the parties, replacing and amending any prior agreements between the parties, and shall be binding upon all parties hereto, their successors, heirs, representatives and assigns. Any provision, term or condition in any acknowledgement, purchase order or other response by Generator which is in addition to or different from the provisions of this Agreement shall be deemed objected to by the Company and shall be of no effect.
- (G) Generator represents, warrants and covenants that it is and, during the term of this Agreement will remain, in compliance with and will perform its obligations pursuant to all applicable laws and regulations and shall indemnify, defend and hold harmless the Company from any breach thereof.
- (H) It is the understanding and agreement of the parties that the Company is an independent contractor, and is not an agent, nor an authorized representative of the Generator.

21. **Notices.** All notices herein provided for shall be considered as having been given upon being placed in the mail, certified postage prepaid addressed to the Company or Generator at the address herein set forth in this Agreement or to such other address as may be given to the other party in writing.

22. **Liquidated Damages.** In the event that this Agreement is terminated by the Generator in a manner not in accordance with paragraph 4 hereof, or terminated due to a breach of this Agreement by the Generator, the Generator shall pay, as liquidated damages, and not as a penalty, the greater of an amount equal to six (6) months' service charges or the Generator's most recent monthly charge multiplied by six (6). The Generator shall be given credit for any advance payments made hereunder, however, in computing the amount owed as liquidated damages hereunder. The Generator acknowledges that this liquidated damages clause is reasonable and is applicable to recover damages related to its investment in equipment, development of landfills and hiring of employees undertaken by the Company to service its customers including the Generator. This liquidated damages clause in no way relieves the Generator from its obligations and liability for other cost or damages as set forth elsewhere in this Agreement.

GENERATOR: E.G

Republic Services, Inc/COMPANY: Edward Antolin

May 2009



Republic Services, Inc.

18500 N. Allied Way, Phoenix, AZ 85054

SPECIAL WASTE DEPARTMENT DECISION

Waste Profile #
5123192599

Expiration Date
8/19/2019

I. Decision Request:

Initial Recertification Change

Disposal Facility: 5123 - Sunshine Canyon Landfill

Generator Name: FANTASY COOKIE COMPANY

Generator Site Address: 12322 GLADSTONE AVE

City: SYLMAR

County:

State: CA

Zip:

Name of Waste: ORGANIC & CONVENTIONAL BUTTER

Estimated Annual Volume: 40 Cubic Yards

II. Special Waste Department Decision: Approved Rejected

Management Method(s): Landfill Solidification Bioremediation Transfer Facility


Problematic Special Waste according to Republic? Yes No

If yes, which one?

Approved by Special Waste Review Committee? Yes No Not Applicable

Precautions, Conditions or Limitations on Approval

FOOD WASTE: This waste must be buried immediately upon receipt at the landfill.

Special Waste Analyst Signature: 


Name (Printed): Joseph Sorokach

Date: 2/19/2019

III. Facility Decision: Approved Rejected

Precautions, Conditions or Limitations on Approval

By signing below, the General Manager or Designee agrees that a fully executed Special Waste Service Agreement is on file for this profile and that the special waste file is complete.

General Manager or Designee: 

Name (Printed): CHRIS COYLE, GM

Date: 2/19/2019



Requested Disposal Facility: 5123 Sunshine Canyon LF CA

Waste Profile # 5123 19 2599

Saveable fill-in form. Restricted printing until all required (yellow) fields are completed.

I. Generator Information

Sales Rep #:

Generator Name: Fantasy Cookie Company			
Generator Site Address: 12322 Gladstone Avenue			
City: Sylmar	County: Los Angeles	State: California	Zip: 91342
State ID/Reg No:	State Approval/Waste Code:	(if applicable)	NAICS # :
Generator Mailing Address (if different): 12322 Gladstone Avenue			
City: Sylmar	County:	State: -- Select a State --	Zip: 91342
Generator Contact Name: Alberto Rivas		Email: Albert@fantasycookie.com	
Phone Number: 3232535948	Ext:	Fax Number:	

II. Billing Information

Bill To: Fantasy Cookie Company	Contact Name: Alberto Rivas		
Billing Address: 12322 Gladstone Avenue	Email: albert@fantasycookie.com		
City: Sylmar	State: California	Zip: 91342	Phone: 8183616901

III. Waste Stream Information

Name of Waste: Organic & Conventional Butter	
Process Generating Waste: Butter, requesting certificate of disposal. <small>Butter not frozen per inspector</small>	
Type of Waste:	<input checked="" type="checkbox"/> INDUSTRIAL PROCESS WASTE <input type="checkbox"/> POLLUTION CONTROL WASTE
Physical State:	<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> SEMI-SOLID <input type="checkbox"/> POWDER <input type="checkbox"/> LIQUID
Method of Shipment:	<input checked="" type="checkbox"/> BULK <input type="checkbox"/> DRUM <input type="checkbox"/> BAGGED <input type="checkbox"/> OTHER:
Estimated Annual Volume:	40 Cubic Yards
Frequency:	<input checked="" type="checkbox"/> ONE TIME <input type="checkbox"/> ONGOING
Disposal Consideration:	<input checked="" type="checkbox"/> LANDFILL <input type="checkbox"/> SOLIDIFICATION <input type="checkbox"/> BIOREMEDIATION

IV. Representative Sample Certification

NO SAMPLE TAKEN

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?	<input type="checkbox"/> YES or <input type="checkbox"/> NO
Type of Sample:	<input type="checkbox"/> COMPOSITE SAMPLE <input type="checkbox"/> GRAB SAMPLE
Sample Date:	
Sample ID Numbers:	

Waste Profile #

V. Physical Characteristics of Waste

Characteristic Components		% by Weight (range)			
1. Butter		80	AR		
2. Cardboard/plastic wrapping		20			
3.					
4.					
5.					
Color	Odor (describe)	Does Waste Contain Free Liquids?	% Solids	pH:	Flash Point
Yellow	No Smell AR	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO	100	5-6	600°F °F

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) Including Chain of Custody and Required Parameters Provided for this Profile

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Does this waste contain reactive sulfides (greater than 500 ppm) or reactive cyanide (greater than 250 ppm)[reference 40 CFR 261.23(a)(5)]?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Does this waste contain concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Does this waste exhibit a Hazardous Characteristic as defined by Federal and/or State regulations?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCDD), or any other dioxin as defined in 40 CFR 261.31?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Is this waste a reactive or heat generating waste?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Does the waste contain sulfur or sulfur by-products?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Is this waste generated at a Federal Superfund Clean Up Site?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No
Is this waste from a TSD facility, TSD like facility or consolidator?	<input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No

VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services Inc.

Alberto Rivas - VP of operations

Fantasy Cookie Company

Authorized Representative Name and Title (Type or Print)

Company Name

Alberto Rivas

02/19/2019

Authorized Representative Signature

Date



Temporary Service Agreement

AGREEMENT NUMBER

ACCOUNT NUMBER

INVOICE TO

CUSTOMER NAME: **FANTASY COOKIE COMPANY**

ATTN:

ADDRESS: **12800 ARROYO ST**

CITY STATE: **Sylmar CA**

ZIP CODE: **91342**

TEL. NO.: **818 361 6901** FAX NO.:

SITE LOCATION

SITE NAME: **FANTASY COOKIE COMPANY**

ADDRESS: **12800 Arroyo St**

CITY STATE: **Sylmar CA**

ZIP CODE: **91342**

TEL. NO.: **818 3616901** FAX NO.:

AUTHORIZED BY:

CONTACT:

DATE	TIME	UNIT	QTY	DESCRIPTION	REMARKS	STATUS	DATE	TIME	UNIT	QTY	DESCRIPTION	REMARKS	STATUS	DATE	TIME	UNIT	QTY	DESCRIPTION	REMARKS	STATUS	
HEREINAFTER REFERRED TO AS THE "COMPANY"																					

BY: **Jeff Cole** TITLE: _____

(AUTHORIZED SIGNATURE)

The undersigned individual signing this Agreement on behalf of Customer acknowledges that he or she had read and understands the terms and conditions of this Agreement and that he or she had the authority to sign the Agreement on behalf of Customer.

BY: _____ TITLE: _____

(AUTHORIZED SIGNATURE)

CUSTOMER NAME (PLEASE PRINT) _____ DATE OF AGREEMENT _____

COMMENTS
Waive fees. Special Waste Load

Rate based on _____ lbs./yd.

DOES FACILITY HAVE A HAZARDOUS WASTE GENERATOR I.D. NUMBER?

YES NO

FOR OFFICE USE ONLY

ACCOUNT NUMBER	CUSTOMER CATER	EXACT TOLERANCE	SURFERS	CREDIT AMOUNT
SITE NUMBER	OFFICIAL CREDIT	ISSUE DATE	CITY STATE	FACILITY OPERATOR
TRUCKER	SALES REPRESENTATIVE	TAX CODE	TAX EXEMPTION NUMBER	HAZARDOUS
PERMITS	USE OF APPROPRIATE	USE OF TIME	CONTRACT APPROVAL	SIGNED BY
DATE				

TERMS AND CONDITIONS

SERVICES. Customer grants to Company the exclusive right to collect and dispose of all of Customer's non-hazardous solid waste materials (including recyclables) (collectively, "Waste Materials"), and Company agrees to furnish such services.

TERM. THE TERM OF THIS AGREEMENT SHALL START ON THE DATE OF THIS AGREEMENT AND SHALL CONTINUE UNTIL CUSTOMER GIVES WRITTEN NOTICE TO COMPANY OF THE FINAL PULL UNDER THIS AGREEMENT. COMPANY MAY TERMINATE THIS AGREEMENT AT ANY TIME BY ORAL OR WRITTEN NOTICE TO CUSTOMER.

WASTE MATERIALS. The Waste Materials shall not contain any hazardous materials, wastes or substances; toxic substances; wastes or pollutants; contaminants; pollutants; infectious wastes; medical wastes; or radioactive wastes (collectively, "Excluded Waste"), each as defined by applicable federal, state or local laws or regulations (collectively, "Applicable Laws"). Customer shall indemnify, defend and hold harmless Company from and against any and all claims, damages, suits, penalties, fines, remediation costs, and liabilities (including court costs and reasonable attorneys' fees) ("collectively, "Losses") resulting from the inclusion of Excluded Waste in the Waste Materials.

TITLE. Company shall acquire title to Waste Materials when they are loaded into Company's truck. Title to and liability for any Excluded Waste shall remain with Customer and shall at no time pass to Company.

The Terms and Conditions continue on the reverse side of this page.



Republic Services, Inc.

18500 N. Allied Way, Phoenix, AZ 85054

SPECIAL WASTE DEPARTMENT DECISION

Waste Profile # 5123153583

Expiration Date 3/5/2020

I. Decision Request:

Initial [] Recertification [x] Change []

Disposal Facility: 5123 - Sunshine Canyon Landfill

Generator Name: Medical Waste Services LLC

Generator Site Address: 7321 Quimby Street

City: Paramount

County:

State: CA

Zip:

Name of Waste: Treated Medical Waste Treated APHIS Foreign Garbage FDA Confiscated Materials

Estimated Annual Volume: 2100 Tons

II. Special Waste Department Decision: [x] Approved [] Rejected

Management Method(s): [x] Landfill [] Solidification [] Bioremediation [] Transfer Facility

Problematic Special Waste according to Republic? [] Yes [x] No

If yes, which one?

Approved by Special Waste Review Committee? [] Yes [] No [x] Not Applicable

Precautions, Conditions or Limitations on Approval

The generator must comply with all Federal, State and Local regulations regarding Disinfected (Steam Sterilized, Microwaved, Treated) Medical/APHIS Waste.

With each shipment the generator must provide a Certification demonstrating the waste has been autoclaved (Certificate of Treatment).

This material must be buried immediately upon receipt at the landfill.

Special Waste Analyst Signature: [Signature]

Date: 2/5/2019

Name (Printed): Holly Wilson

III. Facility Decision:

[x] Approved [] Rejected

Precautions, Conditions or Limitations on Approval

By signing below, the General Manager or Designee agrees that a fully executed Special Waste Service Agreement is on file for this profile and that the special waste file is complete.

General Manager or Designee: [Signature]

Date: 2/5/2019

Name (Printed): Charles Ceyle



SPECIAL WASTE PROFILE - RECERTIFICATION

Saveable fill-in form. Restricted printing until all required (yellow) fields are completed.

Disposal Facility: 5123 Sunshine Canyon LF CA

Waste Profile #
5123153583

I. Generator Information

Generator Name: <u>Medical Waste Services, LLC</u>			
Generator Site Address: <u>7321 Quimby Street</u>			
City: <u>Paramount</u>	County: <u>Los Angeles</u>	State: <u>California</u>	Zip: <u>90723</u>
State ID/Reg No: <u>TS/OST-94</u>	State Approval/Waste Code:		NAICS #: <u>56221</u>
Generator Mailing Address (if different): <input type="checkbox"/> <u>7321 Quimby Street</u>			
City: <u>Paramount</u>	County:	State: <u>California</u>	Zip: <u>90723</u>
Generator Contact Name: <u>Terry Shain</u>		Email: <u>tshain@mws-1.com</u>	
Phone Number: <u>(888) 610-1311</u>		Fax Number: <u>(562) 529-3717</u>	

II. Waste Stream Information

Name of Waste: <u>Treated Medical Waste, Treated APHIS Waste/Foreign Garbage, FDA Confiscated Materials</u>	
Check Section 1 OR Section 2 below:	
1. <input type="checkbox"/>	<p><u>There has been a change</u> in the characteristics of the waste stream due to the following:</p> <ul style="list-style-type: none"> a. Change of a raw material used in the waste generating process. b. Change in the waste generating process itself. c. Change in a physical characteristic of the waste. d. New information has been documented concerning the human health effects of exposure to the waste. <p>If any of these changes have occurred, a new laboratory analysis and profile sheet must be completed. Attach copies of the new chemical analysis and new Special Waste Profile with the appropriate signatures.</p>
2. <input checked="" type="checkbox"/>	<p><u>There have been no changes</u> that would alter the physical characteristics of the special waste stream. Updated analytical may be required.</p>

III. Representative Sample Certification

No Sample Taken

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?	<input type="checkbox"/> YES or <input type="checkbox"/> NO
Type of Sample: <input type="checkbox"/> COMPOSITE SAMPLE <input type="checkbox"/> GRAB SAMPLE	
Sample Date:	
Sample ID Numbers:	

IV. Certification

I hereby certify that to the best of my knowledge and belief, the information contained in the Special Waste Profile - Recertification and the information in the Original Special Waste Profile is true, complete and accurate.	
<p>Terry Shain, Vice President, Operations</p> <p>Authorized Representative Name And Title (Printed)</p> <p></p> <p>_____ Authorized Representative Signature</p>	<p>Medical Waste Services, LLC</p> <p>Company Name</p> <p>02/04/2019</p> <p>Date</p>



SPECIAL WASTE SERVICE AGREEMENT NON-HAZARDOUS WASTES

Special Waste Profile Number: 5123153583

Generator Billing Information

Name: MEDICAL WASTE SERVICES
(ACCOUNT #100378)
Address: 7321 QUIMBY STREET
City: PARAMOUNT
State: CA Zip: 90723
Phone: 562.324.4408 Fax: 562.529.3717
Contact: TERRY SHAIN

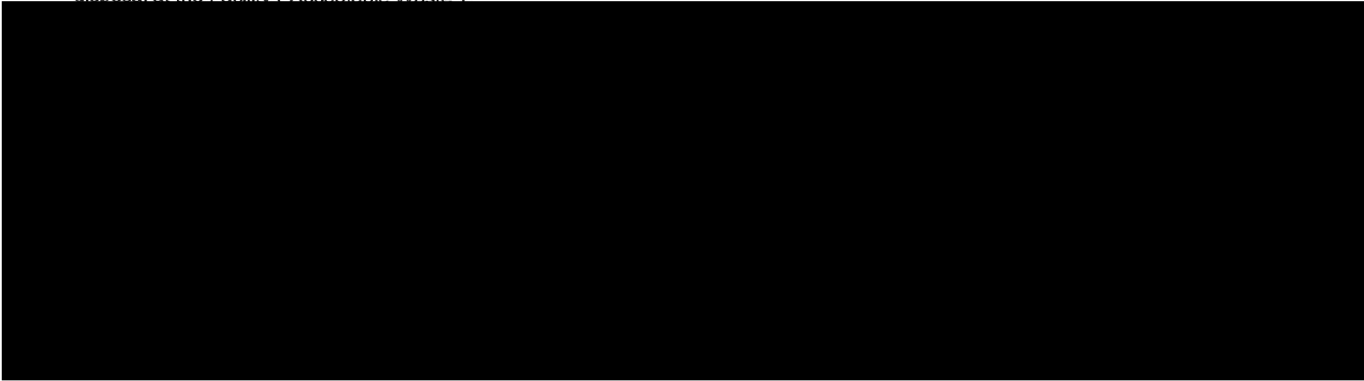
Republic Waste Location (Company)

SUNSHINE CANYON LANDFILL (5123)
14747 SAN FERNANDO ROAD
SYLMAR, CA 91342
818.362.2141

Project: TREATED MEDICAL/APHIS WASTE County and State of Origin: LOS ANGELES, CA

Additional Information: _____

- Special Waste Service.** Subject to the terms and conditions contained herein, the Company and the Generator agree to be legally bound hereby and the Company agrees to accept at its Facility, Acceptable Waste (hereinafter referred to as "Special Waste" or "Waste") delivered by Generator, and which is acceptable to the Company as herein provided.
- Acceptable Waste.** Only those Special Wastes described in Paragraph 3 herein and in any Special Waste Profile(s) which number is identical to the contract number referenced above, and which Profile(s) are hereby incorporated by reference herein, and which Waste is subsequently approved by the Company and is otherwise in accordance with all laws, regulations and permits, shall be acceptable for disposal at the Facility ("Acceptable Waste").



(B) **Incorporation by Reference.** In addition to Special Waste Profile(s), the following documents are incorporated by reference into this Agreement as if fully set forth herein.

- 1) N/A
- 2) N/A

4. **Term of Agreement.** This Agreement is effective for 13 months, commencing 2/5/2019 and shall automatically be renewed for a similar term thereafter unless either party shall give written notice (via certified mail) of termination to the other party at least thirty (30) days prior written notice.


THE COMPANY AND THE GENERATOR, IN CONSIDERATION OF THE MUTUAL OBLIGATIONS CONTAINED HEREIN, AGREE THAT THIS IS A LEGALLY BINDING AGREEMENT WHICH IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON THIS PAGE AND ON THE REVERSE SIDE OF THIS DOCUMENT. IN ADDITION, THE GENERATOR IS CERTIFYING THE ATTACHED TERMS AND CONDITIONS HAVE BEEN REVIEWED AND INITIALLED AT THE BOTTOM OF THE PAGE.

GENERATOR

SIGNATURE (AUTHORIZED REPRESENTATIVE)
Terry Shain, Vice President, Operations

NAME AND TITLE (PLEASE PRINT)
2/5/19

DATE

REPUBLIC SERVICES, INC/COMPANY *Edward Antolin*

SIGNATURE (AUTHORIZED REPRESENTATIVE)
EDWARD ANTOLIN, MESE

NAME AND TITLE (PLEASE PRINT)
2/5/19

DATE



Republic Services, Inc.

18500 N. Allied Way, Phoenix, AZ 85054

SPECIAL WASTE DEPARTMENT DECISION

Waste Profile #
5123191146

Expiration Date
1/23/2020

I. Decision Request:

Initial Recertification Change

Disposal Facility: 5123 - Sunshine Canyon Landfill

Generator Name: GREENSTONE INVESTMENTS - 12211 LLC, C/O DAVID LAPIN

Generator Site Address: 12211 GREENSTONE AVE

City: SANTA FE SPRINGS

County:

State: CA

Zip:

Name of Waste: WEATHERED WOOD

Estimated Annual Volume: 17 Cubic Yards

II. Special Waste Department Decision: Approved Rejected

Management Method(s): Landfill Solidification Bioremediation Transfer Facility

Problematic Special Waste according to Republic? Yes No

If yes, which one? _____

Approved by Special Waste Review Committee? Yes No Not Applicable

Precautions, Conditions or Limitations on Approval

Disposal of TWW must be in accordance with the California Health and Safety Code (HSC) sections 24143.1.5, 25150.7 and 25150.8.

Special Waste Analyst Signature: _____

Date: 1/23/2019

Name (Printed): Holly Wilson

III. Facility Decision:

Approved Rejected

Precautions, Conditions or Limitations on Approval

By signing below, the General Manager or Designee agrees that a fully executed Special Waste Service Agreement is on file for this profile and that the special waste file is complete.

General Manager or Designee: _____

Date: 1/23/2019

Name (Printed): CHRIS COYLE, GM



Requested Disposal Facility: 5123 Sunshine Canyon LF CA

Waste Profile #
5123 19 1146
Sales Rep #.

Saveable fill in form. Restricted printing until all required (yellow) fields are completed.

I. Generator Information

Generator Name: GREENSTONE INVESTMENTS - 12211, LLC, c/o DAVID LAPIN			
Generator Site Address: 12211 GREENSTONE AVE			
City: SANTA FE SPRINGS	County: LOS ANGELES COUN	State: California	Zip: 90670
State ID/Reg No:	State Approval/Waste Code:	(if applicable)	NAICS #.
Generator Mailing Address (if different): 9201 W. OLYMPIC BLVD			
City: BEVERLY HILLS	County: LOS ANGELES COUN	State: California	Zip: 90212
Generator Contact Name: DAVID LAPIN		Email: DLAPIN@LAPINLAW.COM	
Phone Number:	Ext: (310) 248-3200	Fax Number: (310) 248-3201	

II. Billing Information

Bill To: TETRA TECH BAS, INC.	Contact Name: ROBERT LARTZ		
Billing Address: 21700 COPLY DRIVE	Email: ROBERT.LARTZ@TETRATECH.CO		
City: DIAMOND BAR	State: CA	Zip: 91765	Phone: (909) 860-7777

III. Waste Stream Information

Name of Waste: <small>(Petroleum products-applies only to contaminated media and debris).</small>	<input type="checkbox"/> Diesel Fuel	<input checked="" type="checkbox"/> Weathered Wood	<input type="checkbox"/> Friable Asbestos
	<input type="checkbox"/> Home Heating Fuel #1-6	<input type="checkbox"/> RCRA Empty Containers	<input type="checkbox"/> Non Friable Asbestos
	<input type="checkbox"/> Kerosene	<input type="checkbox"/> Treated Medical Waste	<input type="checkbox"/> Cured Asphalt
	<input type="checkbox"/> Aviation Fuel	<input type="checkbox"/> Animal Carcass (non infectious)	<input type="checkbox"/> Tires
	<input type="checkbox"/> Hydraulic Fluid	<input type="checkbox"/> Plant Trash	<input type="checkbox"/> Food Products <small>(Including Animal Food)</small>
	<input type="checkbox"/> Unleaded Gasoline (UST Corrective Action)	<input type="checkbox"/> Meth Contaminated Debris	

Process Generating Waste: rail road ties from rail road track demolition

Method of Shipment: <input checked="" type="checkbox"/> BULK <input type="checkbox"/> DRUM <input type="checkbox"/> BAGGED <input type="checkbox"/> OTHER:
Estimated Annual Volume: 17 Cubic Yards
Frequency: <input checked="" type="checkbox"/> ONE TIME <input type="checkbox"/> ONGOING

IV. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue. I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services, Inc.

DAVID LAPIN/MANAGER AUTHORIZED PERSON	GREENSTONE INVESTMENTS - 12211, LLC
Authorized Representative Name/Title (Type or Print)	Company Name
	1/21/19
Authorized Representative Signature	Date

LLC-1

Articles of Organization of a Limited Liability Company (LLC)

201609710411

To form a limited liability company in California, you can fill out this form, and submit for filing along with:

- A \$70 filing fee.
- A separate, non-refundable \$15 service fee also must be included, if you drop off the completed form.

Important! LLCs in California may have to pay a minimum \$800 yearly tax to the California Franchise Tax Board. For more information, go to https://www.ftb.ca.gov.

LLCs may not provide "professional services," as defined by California Corporations Code sections 13401(a) and 13401.3.

Note: Before submitting the completed form, you should consult with a private attorney for advice about your specific business needs.

FILED Secretary of State State of California

MAR 29 2016

This Space For Office Use Only

For questions about this form, go to www.sos.ca.gov/business/be/filing-tips.htm.

LLC Name (List the proposed LLC name exactly as it is to appear on the records of the California Secretary of State.)

GREENSTONE INVESTMENTS - 12211, LLC

Proposed LLC Name

The name must include: LLC, L.L.C., Limited Liability Company, Limited Liability Co., Ltd. Liability Co. or Ltd. Liability Company; and may not include: bank, trust, trustee, incorporated, inc., corporation, or corp., insurer, or insurance company. For general entity name requirements and restrictions, go to www.sos.ca.gov/business/be/name-availability.htm.

Purpose

The purpose of the limited liability company is to engage in any lawful act or activity for which a limited liability company may be organized under the California Revised Uniform Limited Liability Company Act.

LLC Addresses

9201 W. OLYMPIC BLVD, SUITE 200, BEVERLY HILLS CA 90212

Initial Street Address of Designated Office in CA - Do not list a P.O. Box City (no abbreviations) State Zip

Initial Mailing Address of LLC, if different from 3a City (no abbreviations) State Zip

Service of Process (List a California resident or a California registered corporate agent that agrees to be your initial agent to accept service of process in case your LLC is sued. You may list any adult who lives in California. You may not list an LLC as the agent. Do not list an address if the agent is a California registered corporate agent as the address for service of process is already on file.)

DAVID A. LAPIN

Agent's Name

9201 W. OLYMPIC BLVD, SUITE 200, BEVERLY HILLS CA 90212

Agent's Street Address (if agent is not a corporation) - Do not list a P.O. Box City (no abbreviations) State Zip

Management (Check only one.)

- The LLC will be managed by:
[checked] One Manager
[] More Than One Manager
[] All Limited Liability Company Member(s)

This form must be signed by each organizer. If you need more space, attach extra pages that are 1-sided and on standard letter-sized paper (8 1/2" x 11"). All attachments are made part of these articles of organization.

Organizer - Sign here

David A. Lapin
Print your name here

Make check/money order payable to: Secretary of State
Upon filing, we will return one (1) uncertified copy of your filed document for free, and will certify the copy upon request and payment of a \$5 certification fee.

By Mail
Secretary of State
Business Entities, P.O. Box 944228
Sacramento, CA 94244-2280

Drop-Off
Secretary of State
1500 11th Street., 3rd Floor
Sacramento, CA 95814



AGENT SPECIAL WASTE SERVICE AGREEMENT NON-HAZARDOUS WASTES

Special Waste Profile Number: 5123 19 1146

Agent Billing Information

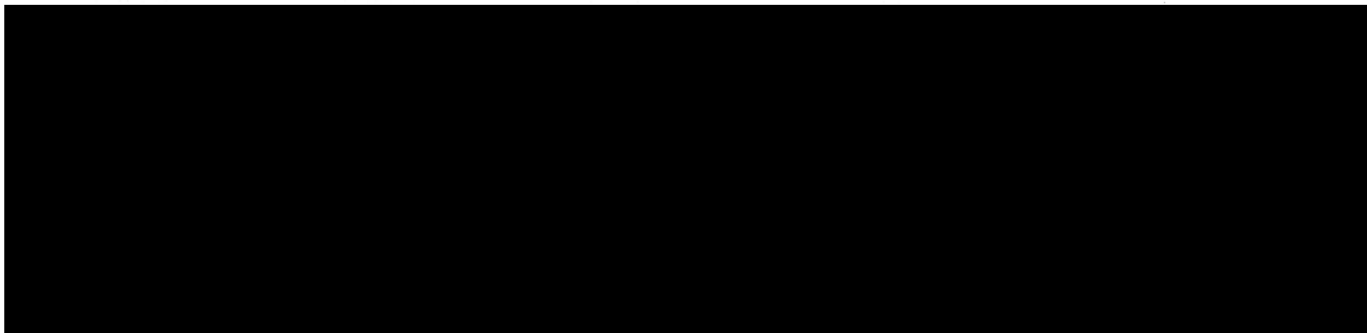
Name: TETRA TECH BAS, INC.
(ACCOUNT# CASH 321)
Address: 21700 COPLY DR
City: DIAMOND BAR
State: CA Zip: 91765
Phone: 909.860.7777 Fax: _____
Contact: ROBERT LARTZ

Republic Waste Location (Company)

SUNSHINE CANYON LANDFILL (5123)
14747 SAN FERNANDO ROAD
SYLMAR, CA 91342
818.362.2141

Project: GREENSTONE INVESTMENTS 12211 LLC County and State of Origin: LOS ANGELES, CA
Generator Address: 12211 GREENSTONE AVE, SANTA FE SPRINGS
Additional Information: CONTACT: DAVID LAPIN| PHONE: 310.248.3201

- Special Waste Service.** Subject to the terms and conditions contained herein, the Company and the Agent agree to be legally bound hereby and the Company agrees to accept at its Facility, Acceptable Waste (hereinafter referred to as "Special Waste" or "Waste") delivered by Agent, and which is acceptable to the Company as herein provided.
- Acceptable Waste.** Only those Special Wastes described in Paragraph 3 herein and in any Special Waste Profile(s) which number is identical to the contract number referenced above, and which Profile(s) are hereby incorporated by reference herein, and which Waste is subsequently approved by the Company and is otherwise in accordance with all laws, regulations and permits, shall be acceptable for disposal at the Facility ("Acceptable Waste").



- (B) **Incorporation by Reference.** In addition to Special Waste Profile(s), the following documents are incorporated by reference into this Agreement as if fully set forth herein.
- 1) N/A
 - 2) N/A

- Term of Agreement.** This Agreement is effective for **12** months, commencing **1/23/2019** and shall automatically be renewed for a similar term thereafter unless either party shall give written notice (via certified mail) of termination to the other party at least thirty (30) days prior written notice.

THE COMPANY AND THE AGENT, IN CONSIDERATION OF THE MUTUAL OBLIGATIONS CONTAINED HEREIN, AGREE THAT THIS IS A LEGALLY BINDING AGREEMENT WHICH IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON THIS PAGE AND ON THE REVERSE SIDE OF THIS DOCUMENT. IN ADDITION, THE GENERATOR IS CERTIFYING THE ATTACHED TERMS AND CONDITIONS HAVE BEEN REVIEWED AND INITIALLED AT THE BOTTOM OF THE PAGE.

AGENT

SIGNATURE (AUTHORIZED REPRESENTATIVE)
Robert Lartz Director
NAME AND TITLE (PLEASE PRINT)
1/29/19
DATE

REPUBLIC SERVICES, INC/COMPANY

SIGNATURE (AUTHORIZED REPRESENTATIVE)
EDWARD ANTOLIN, MESE
NAME AND TITLE (PLEASE PRINT)
1/29/19
DATE

Terms and Conditions of Agent Special Waste Service Agreement

5. **The Agreement.** This agreement of the parties ("Agreement") for the disposal of Special Waste shall consist of this Agreement, riders to the Agreement (if any) and any Application, permit and approval that may be applicable to such Waste.
6. **Waste Accepted at Facility.** Agent represents, warrants and covenants that the Waste delivered to Company at its Facility hereunder will be Acceptable Waste and will not contain any unacceptable quantity of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances, as defined by applicable federal, state, local or provincial laws or regulations. Any Waste which does not meet these requirements shall hereinafter be referred to as "Unacceptable Waste". The Agent shall in all matters relating to the collection, transportation and disposal of the Waste hereunder, comply with all applicable federal, state and local laws, regulations, rules and orders regarding the same. The word "Facility" shall mean any landfill, transfer station or other location used to transfer, process or otherwise dispose of such Waste.
7. **Special Waste.** Agent represents, warrants and covenants that the Waste delivered to Company hereunder (i) will not contain any Special Waste that is not specifically described on any Application which is attached hereto and which is subsequently approved by the Company, (ii) will meet the material description as set forth in any Application and otherwise in all significant respects and (iii) will not contain Unacceptable Waste. The parties may incorporate additional Special Waste as part of this Agreement if prior to delivery of such Waste to Company, Agent has provided an Application for such Waste and Company has approved disposal of such Waste within the limitations and conditions contained in Company's written notice of approval of Special Waste. Title to any and all Waste handled or disposed of by Company shall at all times remain with Generator and Agent.
8. **Rights of Refusal/Rejection.** The Agent shall inspect all Waste at the place(s) of collection and shall remove any and all Unacceptable Waste. Company has the right to refuse, or to reject after acceptance, any load(s) of Waste(s) delivered to its Facility including if the Company believes the Agent has breached (or is breaching) its representations, warranties, covenants or agreements hereunder, or any applicable federal, state or local laws, regulations, rules or orders, even if only a portion of such Waste load is unacceptable. The Company shall have the right to inspect all vehicles of Waste haulers, including the Agent's vehicles, in order to determine whether the Waste is Acceptable Waste or Unacceptable Waste pursuant to this Agreement and all applicable federal, state and local laws, rules and regulations. The Company's exercise, or failure to exercise, its rights hereunder shall not operate to relieve the Agent of its responsibilities or liability under this Agreement. The Agent shall be responsible for, and bear all reasonable expenses and damages incurred by the Company, as a result of the Unacceptable Waste and in the reloading and removal of Unacceptable Waste disposed in the Facility. The Company, may also, in its sole discretion, require the Agent to promptly remove the Unacceptable Waste.
9. **Limited License to Enter.** This Agreement provides Agent with a license to enter the Facility for the limited purpose of, and only to the extent necessary for, off-loading Acceptable Waste at the Facility in the manner directed by Company. Except in an emergency, Agent's personnel shall not leave the immediate vicinity of their vehicle. After off-loading the Waste, Agent's personnel shall promptly leave the Facility. Under no circumstances shall Agent or its personnel engage in any scavenging of Waste or other materials at the Facility. The Company reserves the right to make and enforce reasonable rules and regulations concerning the operation of the Facility, the conduct of the drivers and others on the Facility premises, quantities and sources of Waste, and any other matters necessary or desirable for the safe, legal and efficient operation of the Facility including, but not limited to, speed limits on haul roads imposed by the Company, and the wearing of hard hats and other personal protection equipment by all individuals allowed on the Facility premises. Agent agrees to conform to such rules and regulations as they may be established and amended from time to time. Company may refuse to accept Waste from and shall deny an entrance license to, any of Agent's personnel whom Company believes is under the influence of alcohol or other chemical substances. Agent shall be solely responsible for its employees and subcontractors performing their obligations in a safe manner when at the facility of Company.
10. **Charges and Payment.** Payment shall be made by Agent within sixty (60) days after receipt of invoice from Company. In the event that any amount is overdue, the Company may terminate this Agreement. Agent agrees to pay a finance charge equal to the maximum interest rate permitted by law. Agent shall be liable for all taxes, fees, or other charges imposed upon the disposal of the Waste by federal, state, local or provincial laws and regulations. Company, from time to time, may modify its rates upon sixty (60) days written notice to Agent. Agent hereby agrees that the Company's right to receive payments under this Agreement is unconditional and is not conditioned upon Agent first receiving payment from Generator or any other party.
11. **Termination.** Agent's obligations, representations, warranties and covenants regarding the Waste delivered and all indemnities shall survive termination of this Agreement. Should Agent materially default in any of its obligations hereunder, then Company may immediately terminate this Agreement and Agent shall be liable for all costs and damages incurred by the Company.
12. **Driver's Knowledge and Authority.** Agent represents, warrants and covenants that its drivers who deliver Waste to Company's Facility have been advised by Agent of the Company's prohibition on deliveries of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances or any other Unacceptable Waste to the Facility, of Company's restrictions on deliveries of Special Waste to the Facility of the definitions of "Hazardous Waste and Hazardous Substances" as provided by applicable federal, state and local law, rules and regulations and "Special Waste" as provided herein, and of the terms of this license to enter Company's Facility.
13. **Indemnification.** Agent shall indemnify, defend and hold harmless the Company and its subsidiaries, affiliates and parent corporations, as applicable and their respective officers, directors, lenders, employees, subcontractors and agents from and against any and all claims, suits, losses, liabilities, assessments, damages, fines, costs and expenses, including reasonable attorneys fees arising under federal, state or local laws, regulations or ordinances, or relating to the content of the Waste, or arising out of or in connection with any breach of this Agreement or arising out of the negligent collection, transportation and disposal of Waste by Agent or Agent's employees, agents, subcontractors or representatives thereof. Agent shall also be responsible for increased inspection, testing, study and analysis costs made necessary due to reasonable concerns of the Company as to the content of the Waste following discovery of potentially Unacceptable Waste. This indemnification and other obligations stated in this paragraph shall survive the termination of this Agreement.
14. **Insurance.** Agent shall maintain in full force and effect throughout the term of this Agreement the following types of insurance in at least the amounts specified below:

<u>Coverages</u>	<u>Minimum Amounts of Insurance</u>
Worker's Compensation	Statutory
General Liability	\$500,000 combined single limit
Automobile Liability	\$500,000 combined single limit

All insurance will be by insurers authorized to do business in the state in which the Facility is located. Prior to Agent being allowed on Facility premises, Agent shall provide the Company with certificates of insurance or other satisfactory evidence that such insurance has been procured and is in force. Said policies shall not thereafter be canceled, be permitted to expire, or be changed without thirty (30) days advance written notice to the Company. Agent warrants that it will secure the above minimum amounts of insurance from any transportation of the Waste to the Facility.

15. **Failure to Perform.** Neither party hereto shall be liable for its failure to perform hereunder due to circumstances not its fault and beyond its reasonable control, including, but not limited to, strikes or other labor disputes, riots, protests, civil disturbances or sabotage, changes in law, fires, floods, compliance with government requests, explosions, accidents, weather, lack of required natural resources, or acts of God affecting either party hereto. In the event of any of the circumstances provided for in the preceding sentence, including, but not limited to, whether any federal, state or local court or governmental authority takes any action which would (i) close or restrict operations at the Facility, (ii) limit the quantity or prohibit the disposal of Waste at the Facility, or (iii) limit the ability of or prohibit Agent from delivering Waste to the Facility, the Company shall have the right, at its option, to reduce, suspend or terminate Agent's access to the Facility immediately, without prior notice and without any additional liabilities between the parties, other than Agent's payment obligation hereunder. Neither Party is required hereunder to settle any labor dispute against its own best judgment.
16. **Other Termination.** The occurrence of any of the following events shall also constitute an event of default by the Agent and shall give the Company the right to immediately terminate this Agreement:
 - (A) A petition for reorganization or bankruptcy filed by or against the Agent.
 - (B) Failure by Agent to pay any amounts due to Company.
 - (C) Any breach by Agent of any of its obligations pursuant to the Agreement.

Agent shall be liable for and shall indemnify, defend and hold harmless Company from any losses, claims expenses or damages incurred by the Company as a result of termination hereunder.

17. **Assignment.** Agent may not assign, transfer or otherwise vest in any other Company, entity or person, in whole or in part, any of its rights or obligations under the Agreement without the prior written consent of the Company, provided, however, that the Company may without any such prior written consent, assign its rights and/or obligations under the Agreement to a subsidiary or affiliate corporation.
18. **Right of Disposal.** This Agreement does not grant any rights to dispose of Waste other than in accordance herewith. The Company reserves the right to immediately terminate access to the Facility by Agent and Agent's personnel in the event of breach or violation by Agent of any of the terms of this Agreement, the Company's operating rules or payment policies or any applicable laws or regulations.
19. **Continuing Compliance.** The Agent has a continuing obligation to inform the Company of any new information, or information not previously provided to the Company by Agent and/or Generator which may affect the acceptability of the Waste by the Company. Further, the Agent shall comply with all Company requests for evidence of Agent's continuing compliance with the terms of the Agreement including but not limited to the following: (i) providing new, updated Waste profiles on the Waste(s) offered for disposal or, (ii) providing appropriate certification that the Waste being offered for disposal is accurately reflected by the appropriate Application or, (iii) re-sample the Waste at Agent's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or, (iv) allow the Company to re-sample the Waste at Agent's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or (v) all of the above.
20. **Miscellaneous.**
 - (A) This Agreement shall be governed by the laws of the State in which the Facility is located.
 - (B) No waiver of a breach of any of the obligations contained in the Agreement shall be construed to be a waiver of any prior or succeeding breach of the same obligation or of any other obligation of this Agreement.
 - (C) No modification, release, discharge or waiver of any provision or obligation hereof shall be of any force, or effect, unless in writing signed by all parties to this Agreement.
 - (D) Agent shall treat as confidential and not disclose to others during or subsequent to the terms of this Agreement, except as is necessary to perform this Agreement, or to comply with any applicable law or regulation any information (including any technical information, experience or date) regarding the Company's plans, programs, plants, processes, products, costs, equipment or operations which may come within the knowledge of the Agent or its employees in the performance of this Agreement, without in each instance securing the prior written consent of the other Company.
 - (E) If any term, phrase, obligation or provision of this Agreement shall be held to be invalid, illegal or unenforceable in any respect, this Agreement shall remain in effect and be construed without regard to such term, phrase, obligation or provision.
 - (F) This Agreement constitutes the entire understanding between the parties, replacing and amending any prior agreements between the parties, and shall be binding upon all parties hereto, their successors, heirs, representatives and assigns. Any provision, term or condition in any acknowledgement, purchase order or other response by Agent which is in addition to or different from the provisions of this Agreement shall be deemed objected to by the Company and shall be of no effect.
 - (G) Agent represents, warrants and covenants that it is and during the term of this Agreement, will remain, in compliance with and will perform its obligations pursuant to all applicable laws and regulations and shall indemnify, defend and hold harmless the Company from any breach thereof.
 - (H) It is the understanding and agreement of the parties that the Company is an independent contractor, and is not an agent, nor an authorized representative of the Agent. It is the further understanding and agreement of the parties that Agent is an authorized representative of Generator.
21. **Notices.** All notices herein provided for shall be considered as having been given upon being placed in the mail, certified postage prepaid addressed to the Company or Agent at the address herein set forth in this Agreement or to such other address as may be given to the other party in writing.
22. **Liquidated Damages.** In the event that this Agreement is terminated by the Agent in a manner not in accordance with paragraph 4 hereof, or terminated due to a breach of this Agreement by the Agent, the Agent shall pay, as liquidated damages, and not as a penalty, the greater of an amount equal to six (6) months' service charges or the Agent's most recent monthly charge multiplied by six (6). The Agent shall be given credit for any advance payments made hereunder, however, in computing the amount owed as liquidated damages hereunder. The Agent acknowledges that this liquidated damages clause is reasonable and is applicable to recover damages related to its investment in equipment, development of landfills and hiring of employees undertaken by the Company to service its customers including the Agent. This liquidated damages clause in no way relieves the Agent from its obligations and liability for other cost or damages as set forth elsewhere in this Agreement.

AGENT: _____



Republic Services, INC./COMPANY: _____

Edward Antolin

May 2009



Republic Services, Inc.

18500 N. Allied Way, Phoenix, AZ 85054

SPECIAL WASTE DEPARTMENT DECISION

	Waste Profile # 5123191440	Expiration Date 1/23/2020	
I. Decision Request:	<input checked="" type="checkbox"/> Initial <input type="checkbox"/> Recertification <input type="checkbox"/> Change		
Disposal Facility: 5123 - Sunshine Canyon Landfill			
Generator Name: ABS SHORING INC			
Generator Site Address: 13755 W ROSCOE BLVD			
City: PANORAMA	County:	State: CA	Zip:
Name of Waste: WEATHERED WOOD			
Estimated Annual Volume: 30 Tons			

II. Special Waste Department Decision: Approved Rejected

Management Method(s): Landfill Solidification Bioremediation Transfer Facility

Problematic Special Waste according to Republic? Yes No

If yes, which one? _____

Approved by Special Waste Review Committee? Yes No Not Applicable

Precautions, Conditions or Limitations on Approval

Special Waste Analyst Signature: _____
Date: 1/28/2019

Name (Printed): KEITH DIAMANTI

III. Facility Decision: Approved Rejected

Precautions, Conditions or Limitations on Approval

By signing below, the General Manager or Designee agrees that a fully executed Special Waste Service Agreement is on file for this profile and that the special waste file is complete.

General Manager or Designee: _____
Date: 1/28/2019

Name (Printed): Chris Coyle