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**SECOND SEMIANNUAL 2016 MONITORING REPORT
SUNSHINE CANYON CITY/COUNTY LANDFILL, SYLMAR, CALIFORNIA**

Please find enclosed the second semiannual 2016 monitoring report for the Sunshine Canyon City/County Landfill to comply with the California Regional Water Quality Control Board – Los Angeles Region (RWQCB) Waste Discharge Requirements Order Number R4-2008-0088 and Monitoring and Reporting Program CI-2043.

This report has been prepared by Geo-Logic Associates on behalf of Browning Ferris Industries (BFI) of California. It summarizes the results of groundwater, surface water, leachate, vadose zone, liquid management, and waste disposal monitoring activities completed during the July 1, 2016, to December 31, 2016, semiannual monitoring period and presents an annual summary of environmental monitoring results.

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. Matthew Eaton at (818) 362-2096 or email him at MEaton2@RepublicServices.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Rob Sherman', is written over a horizontal line.

Rob Sherman
General Manager
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SEMI-ANNUAL MONITORING REPORT SECOND SEMI-ANNUAL & ANNUAL 2016

SUNSHINE CANYON LANDFILL FACILITY WDID #L10006014618

**FEBRUARY 2017
PROJECT NO. 2016.0030**



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EXECUTIVE SUMMARY

This document presents the results of environmental monitoring activities conducted at the Sunshine Canyon City/County Landfill (SCLF) during the second semiannual 2016 monitoring period, and also presents an annual summary for the site. This report was prepared to address the site-specific reporting requirements contained in Monitoring and Reporting Program CI-2043 issued by the Los Angeles Regional Water Quality Control Board (RWQCB). A summary of principal findings of the current monitoring period are presented below.

During the second semiannual 2016 monitoring period, routine environmental monitoring was conducted on a quarterly basis in September (third quarter) and December (fourth quarter). Monitoring activities included: depth to water measurements; sampling and analysis of groundwater, surface water, vadose zone liquid, leachate, and treated liquids; and field monitoring of vadose zone gas, waste tonnage, water reuse, and drainage structures.

The Water Quality Protection Standard (WQPS) for this site is based on intrawell prediction limits for inorganic constituents. For organic constituents the WQPS is the analyte-specific Practical Quantitation Limit. The following table summarizes WQPS exceedances during the third and fourth quarter 2016 monitoring events:

WELL	ANALYTE	QUARTER(S) OF WQPS EXCEEDANCE	RETEST RESULTS
MW-1	1,4-Dioxane	3 rd and 4 th	Not Applicable
	t-Butanol	3 rd and 4 th	Not Applicable
MW-5	1,4-Dioxane	3 rd and 4 th	Not Applicable
	Ammonia-Nitrogen	4 th	Results Pending
MW-6	Ammonia-Nitrogen	4 th	Results Pending
MW-13R	1,4-Dioxane	3 rd and 4 th	Not Applicable
DW-3	Chloride	2 nd	<i>Exceeded WQPS</i>
	Alkalinity	3 rd and 4 th	<i>Exceeded WQPS/Not Applicable</i>
	Ammonia-Nitrogen	4 th	Not Applicable
	Chemical Oxygen Demand	4 th	Results Pending
DW-5	Total Organic Carbon	3 rd	Below WQPS
	Allyl Chloride	4 th	Not Applicable
	t-Butanol	4 th	Results Pending
	Naphthalene	4 th	Results Pending
PZ-4	Alkalinity	4 th	Not Applicable

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

These results are generally similar to past monitoring event results, as most analyte/well pairs were previously in tracking mode. Retest results collected during the monitoring period indicate that chloride and alkalinity at well DW-3 were confirmed at concentrations that exceed the respective WQPS. Results are currently pending for the fourth quarter WQPS exceedance of the following: ammonia-nitrogen at wells MW-5 and MW-6; chemical oxygen demand at well

DW-3; and t-butanol and naphthalene at well DW-5. Retest results will be presented in the first semiannual 2017 Water Quality Monitoring Report.

During the second semiannual 2016 monitoring period, several volatile organic compounds (VOCs) were detected in the first and second quarter samples collected from Subdrain N and Combined Subdrains. These findings are consistent with historical results, and as a result, the liquids collected at the subdrains are conveyed to the water treatment system prior to reuse.

Lysimeter LY-6 was dry during both sampling events and the pump in lysimeter LY-7 was inoperable during the fourth quarter 2016 monitoring period and could not be sampled. The third quarter 2016 sample from lysimeter LY-7 contained at seven VOCs at quantifiable concentrations. The types and concentrations of detected VOCs were similar to historical results for this monitoring point.

Leachate sampling was performed in October 2016. Based on the results obtained, no resampling is scheduled for April 2017.

During the second semiannual 2016 monitoring period, methane concentrations at all perimeter gas probes were below five 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 water treatment system to remove VOCs prior to onsite reuse for dust suppression. Combined with other liquids managed by the site, 17,073,218 gallons of liquid were collected and treated at the site during the second semiannual 2016 monitoring period.

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 water quality and waste intake monitoring and reporting activities for the active Sunshine Canyon Landfill (SCLF) in the city of Sylmar, California (Figure 1), that were completed during the second semiannual 2016 monitoring period. 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 monitoring stations during the third and fourth quarter monitoring events. The report also includes an annual summary for the SCLF. 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. The information required by MRP CI-2043 to be included in this report with the appropriate report section 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-3A and Cell CC-3B Part 1A. Cell CC-4 is currently in under construction.

2.2 Climate and Surface Water Hydrology

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

precipitation was 55.8 inches; the minimum was 10.2 inches. The maximum expected 100-year, 24-hour storm is approximately 12 inches.

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

2.3 Hydrogeologic Setting

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

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

2.4 Groundwater Geochemistry

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

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

3.0 GROUNDWATER MONITORING

This section provides a summary of the water quality monitoring program for the site, as well as the monitoring activities, results, and conclusions based on data obtained during the second semiannual 2016 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	Annual
Leachate Monitoring Points	CA-L, LR-2R, Leachate	

During the second semiannual 2016 monitoring period, groundwater monitoring was conducted between September 19 and 22, 2016 (third quarter) and between December 20 and 22, 2016 (fourth quarter). The locations of groundwater monitoring wells, piezometers, and other environmental monitoring points are shown on Figure 2.

3.2 Sampling and Laboratory Analyses

Groundwater samples were collected by GLA during the third and fourth quarter 2016 monitoring events, and submitted to TestAmerica Laboratories, Inc. (TA) of Irvine, California, a state certified laboratory under contract to BFI/Republic. During the third quarter 2016 monitoring period, samples were analyzed for the indicator parameters. During the fourth quarter 2016 monitoring period, groundwater samples were analyzed for the indicator parameters and supplemental parameters. Table 2 summarizes site monitoring parameters,

analytical methods, and monitoring frequency. The groundwater monitoring wells and leachate monitoring points were sampled in accordance with the sampling and analysis procedures detailed in Appendix A.

3.3 QA/QC Results

The quality assurance/quality control (QA/QC) program completed for the second semiannual 2016 water quality monitoring event 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:

Third Quarter 2016 Monitoring Event

- All analyses were completed within the holding times prescribed by the respective analytical method.
- As indicated on Table 3A, methylene chloride (a common laboratory contaminant) was measured in the field blank submitted with samples on September 19, 2016. Due to similar concentrations of methylene chloride at all background monitoring wells (CM-9R3, CM-10R, CM-11R, and the duplicate sample) and in the combined subdrains sample, methylene chloride has been flagged as a laboratory contaminant in these samples. No other VOCs were detected in QCAB and QCTB samples, and no analytes were detected in method blanks.
- The relative percent difference (RPD) between primary and duplicate samples was 10 percent or less for quantifiable results, which indicates good agreement.

Fourth Quarter 2016 Monitoring Event

- All analyses were completed within the holding times prescribed by the respective analytical method.
- As indicated on Table 3B, with the exception of a trace concentration of iron measured in a method blank analyzed with samples collected on December 20, 2016, no constituents were measured in QCTB, QCAB, or method blank samples. As a result of similar concentrations in samples from DW-1 and PZ-2, iron is flagged as a suspected laboratory contaminant in these samples.
- With the exception total organic carbon, which had a RPD of 25 percent, the RPD between primary and duplicate samples was 12 percent or less for quantifiable results, which indicates good agreement.

- Testing for 1,4-dioxane in the December 2016 sample collected at well DW-4 was canceled following notification of exceedance of quality control parameters. The well was resampled and submitted for 1,4-dioxane testing on January 10, 2017. The results are included herein.

The results of the QA/QC program completed during the second semiannual 2016 monitoring period are considered acceptable.

3.4 Groundwater Elevations and Flow Conditions

During the second semiannual 2016 monitoring period, quarterly depth to groundwater measurements were measured on September 19 and December 19, 2016. Between March 28 and September 19, 2016, the following changes in the groundwater elevation were measured:

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
MW-1	-0.88
MW-2A	+2.06
MW-2B	+9.06
MW-5	-0.68
MW-6	-0.37
MW-8	+2.07
MW-9	+5.01
MW-13R	-0.67
MW-14	-0.26
PZ-1	-0.41
PZ-2	+0.04
PZ-3	-0.96
PZ-4	-0.49

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
DW-1	No Change
DW-2	-1.54
DW-3	-1.39
DW-4	+0.10
DW-5	-0.63
CM-9R3	-5.74
CM-10R	-1.47
CM-11R	-6.82
CM-5R	-3.65

Between June 20 and December 19, 2016, the following changes in the groundwater elevation were measured:

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
MW-1	-0.23
MW-2A	+1.11
MW-2B	+8.73
MW-5	-0.04
MW-6	-0.66
MW-8	+2.01
MW-9	+1.49
MW-13R	-0.65
MW-14	+0.24
PZ-1	-0.42
PZ-2	-0.17
PZ-3	-0.93
PZ-4	-0.45

WELL/PIEZOMETER	CHANGE IN GROUNDWATER ELEVATION (FEET)
DW-1	No Change
DW-2	-0.62
DW-3	-1.05
DW-4	+2.26
DW-5	-0.70
CM-9R3	-4.50
CM-10R	-0.13
CM-11R	-6.15
CM-5R	-3.21

Groundwater equipotential surface contours were developed using the third and fourth quarter 2016 groundwater elevation data for wells screened in the bedrock are depicted on 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 0.21 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 in nearby wells screened in alluvium and bedrock suggests the possibility of vertical gradients near the mouth of the canyon. If communication between these water-bearing zones exists, then the vertical gradient near the mouth of the canyon could range from 0.1 ft/ft near wells MW-1 and DW-5 to 0.2 near wells MW-2A and DW-4.

3.5 Groundwater Chemistry Results

Groundwater samples collected from site monitoring wells were analyzed for indicator parameters during the third quarter 2016 monitoring period and for indicator and supplemental parameters during the fourth quarter 2016 monitoring period. Results are summarized on Tables 6A and 6B, and are discussed below. The field sample collection logs, laboratory data, certificates of analyses, and chain-of-custody records for the sampling program are included in Appendix B.

3.5.1 Second Quarter 2016 Retest Groundwater Chemistry Results

During the previous monitoring period (second quarter 2016), chloride results from well DW-3 were measured above the water quality protection standard (WQPS). Accordingly, retest samples were collected on July 20, 2016. Retest samples analyzed for chloride were measured at 14 mg/L, which is below the WQPS (17.534 mg/L). Accordingly, chloride at well DW-3 will remain in detection mode.

3.5.2 Third Quarter 2016 Groundwater Chemistry Results

During the third quarter 2016 monitoring event, samples from all monitoring wells were analyzed for the indicator parameters identified in Section II.B.3(a) of the MRP. These results are presented on Table 6A. Table 7A compares third quarter 2016 monitoring results with water quality protection standards (WQPS). The following table summarizes WQPS exceedances and verification retesting results (when applicable).

WELL	ANALYTE	UNITS	WQPS	3 RD QUARTER 2016 RESULT	RETEST RESULT (1)	RETEST RESULT (2)
MW-1	1,4-Dioxane	µg/L	0.99 (PQL)	19	TM	TM
	t-Butanol	µg/L	10 (PQL)	22	TM	TM
MW-5	1,4-Dioxane	µg/L	0.99 (PQL)	13	TM	TM
MW-13R	1,4-Dioxane	µg/L	0.94 (PQL)	8.1	TM	TM
DW-3	Alkalinity	mg/L	162.81	170	170	170
DW-5	Total Organic Carbon	mg/L	11.745	12	7.5	7.8

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 November 15, 2016 for analyses of alkalinity at well DW-3 and for total organic carbon at well DW-5. Retest results confirm elevated alkalinity at well DW-3. Accordingly, this well/constituent pair has been placed in tracking mode. Retest results for total organic carbon at well DW-5 were measured at concentrations below respective WQPS. Accordingly, total organic carbon at well DW-5 will remain in detection monitoring mode. All other constituents exceeding the respective WQPS listed in the previous table have historically been detected and 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, a trace concentration of tetrahydrofuran was measured in the sample from well MW-1. With respect to corrective action evaluation monitoring wells, four VOCs were detected in the sample from well MW-9 (Table 6A).

With the exception of the total dissolved solids concentrations in samples from all monitoring wells, none of the analyte concentrations measured in samples collected during the third quarter 2016 monitoring period exceeded a State of California drinking water standard or Federal Maximum Contaminant Level (Table 6A).

3.5.3 Fourth Quarter 2016 Groundwater Chemistry Results

During the fourth quarter 2016 monitoring event, samples from all monitoring wells were analyzed for the indicator and supplemental parameters. These results are presented on Table 6B. As shown on Table 7B and summarized below, the following wells/constituents exceeded a WQPS.

WELL	ANALYTE	UNITS	WQPS	4 TH QUARTER 2016 RESULT
MW-1	1,4-Dioxane	µg/L	0.94 (PQL)	19
	t-Butanol	µg/L	10	20
MW-5	1,4-Dioxane	µg/L	0.94(PQL)	11
	Ammonia-Nitrogen	mg/L	5.714	6.6
MW-6	Ammonia-Nitrogen	mg/L	1.337	1.4
MW-13R	1,4-Dioxane	µg/L	0.95 (PQL)	6.2
DW-3	Alkalinity	mg/L	162.81	170
	Ammonia-Nitrogen	mg/L	0.7564	0.76
	Chemical Oxygen Demand	mg/L	15.206	17j
DW-5	Allyl Chloride	µg/L	1.0 (PQL)	2.3
	t-Butanol	µg/L	5.0 (MDL)	5.0j
	Naphthalene	µg/L	0.40 (MDL)	0.86j
PZ-4	Alkalinity	mg/L	341.13	350

Note: j – Trace concentration (measured between the MDL and PQL).

Many of the well/constituent pairs listed above are currently in “tracking mode”. Retesting is currently scheduled for the following: Total organic carbon at well MW-1; Ammonia-nitrogen at wells MW-5 and MW-6; chemical oxygen demand at well DW-3; and for t-butanol and naphthalene at well DW-5. Retest results will be presented in the first semiannual 2017 Monitoring Report.

In addition to quantifiable VOCs measured in samples from the detection monitoring wells shown in the table above, a trace concentration of t-butanol was measured in the sample from

well MW-13R. With respect to corrective action evaluation monitoring wells, four VOCs 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 suggest significant natural spatial variability exists at the site.

3.5.4 Tracking Mode Evaluation

Verification retest results obtained during the current monitoring period confirm the presence of alkalinity that exceed the WQPS at well DW-3. Accordingly, this constituent/well pair has been placed in “tracking mode”. 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, t-Butanol	Total Organic Carbon	Retest for Total Organic Carbon; Continue Quarterly Monitoring
MW-5	1,4-Dioxane, t-Butanol	1,4-Dioxane	Ammonia-N	Retest for Ammonia-N; Continue Quarterly Monitoring
MW-6	Chemical Oxygen Demand	None	Ammonia-N	Retest for Ammonia-N; Continue Quarterly Monitoring
MW-13R	1,4-Dioxane	1,4-Dioxane	None	Continue Quarterly Monitoring
MW-14	Vinyl Chloride	None	None	Continue Quarterly Monitoring
DW-1	Chloride	None	None	Continue Quarterly Monitoring
DW-3	Alkalinity, Ammonia-N	Alkalinity, Ammonia-N	Chemical Oxygen Demand	Retest for Chemical Oxygen Demand; Continue Quarterly Monitoring
DW-5	Ammonia-N, Allyl Chloride	Allyl Chloride	t-butanol, Naphthalene	Retest for t-butanol and naphthalene; Continue Quarterly Monitoring
PZ-4	Alkalinity	Alkalinity	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	3 RD QUARTER RESULTS	4 TH QUARTER RESULTS	HISTORICAL TRENDS AND OBSERVATIONS
MW-1: 1,4-Dioxane	PQL	19	19	Variable concentrations; increasing overall since 2014.
MW-1: t-Butanol	PQL	22	20	Variable concentrations.
MW-5: 1,4-Dioxane	PQL	13	11	Variable concentrations (long-term); decreasing trend during the past year.
MW-5: t-Butanol	PQL	ND	ND	Only one observation exceeding the WQPS. Not detected during past three monitoring events.
MW-6: Chemical Oxygen Demand	75.338 mg/L	ND	17j	One result significantly over concentration limit. Results are suspect.
MW-13R: 1,4-Dioxane	PQL	8.1	6.3	Variable concentrations.
MW-14: Vinyl Chloride	PQL	ND	ND	Intermittent detections, generally below the WQPS. Non-detect during the monitoring period.
DW-1: Chloride	17.737 mg/L	14	13	One anomalous result over the concentration limit.
DW-3: Alkalinity	162.81 mg/L	170	170	Slight increasing trend over past two years.
DW-3: Ammonia as N	0.7564 mg/L	0.52	0.76	Slight increasing long-term trend, concentrations are generally near the WQPS.
DW-5: Ammonia as N	0.3918 mg/L	0.35j	0.27j	Variable concentrations.
DW-5: Allyl Chloride	PQL	ND	2.3	Intermittent Detections.
PZ-4: Alkalinity, total	341.13 mg/L	340	350	Concentrations are generally below 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, though, concentrations of some VOCs at wells MW-1 and MW-5 are variable to slightly increasing. Constituents in tracking mode that have not exceeded a respective concentration limit in more than three years are removed from tracking mode and re-verified if detected in the future.

4.0 VADOSE ZONE MONITORING

Monitoring of the vadose zone at the SCLF is accomplished by collecting samples of the subdrains beneath composite liner systems at the site as well as 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, 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 are submitted for analysis for Subdrain N and Combined Subdrains.

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 located southeast of disposal Cell CC-3A, Part 1. The CC2-5AC liquid samples represent groundwater seepage to a subdrain liquid collection system that underlies the southwest corner of Cell CC-2, at a depth 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 SCLF water treatment system. Subdrain CC2-3A liquid samples are collected from pumped discharge from this angled riser.

4.1.2 Third Quarter 2016 Subdrain Monitoring Results

During the third quarter 2016 monitoring event, samples from each subdrain monitoring point were collected on September 19, 2016. 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 28.18 µg/L. The sample from Combined Subdrains contained one VOC (and one VOC flagged as a laboratory contaminant [methylene chloride]) with a concentration of 1.4 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 Subdrain samples and the field-measured pH value from Subdrain N exceeded the state secondary drinking water standard.

4.1.3 Fourth Quarter 2016 Subdrain Monitoring Results

During the fourth quarter 2016 monitoring event, samples from subdrain monitoring points were collected on December 20, 2016. Samples were delivered to TestAmerica Labs for the analysis of indicator and supplemental parameters.

As shown on Table 8B, five VOCs were detected in the sample from Subdrain N, and six VOCs were detected in the sample from Combined Subdrains, with total VOC concentrations of 35.61 µg/L and 66.60 µg/L (respectively). Samples from Combined Subdrains have historically contained numerous VOCs at concentrations similar to those measured during the fourth quarter 2016. All other VOC concentrations were measured below State and federal drinking water standards.

Except as noted, concentrations of sulfate, total dissolved solids (TDS), iron, manganese, fluoride (Combined Subdrains only), and pH value (Subdrain N only) exceeded State of California secondary drinking water standards in both fourth quarter 2016 subdrain samples.

Due to the historical presence of VOCs in the samples from Subdrain N and Combined Subdrains, the liquids discharged from these subdrains are collected by the SCLF and routed to the site's water treatment system.

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. 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 reached through a 360-foot-long inclined riser at the east side of Cell A. Lysimeter locations are shown on Figure 2.

4.2.2 Third Quarter 2016 Lysimeter Monitoring Results

During the third quarter 2016 monitoring event, sufficient liquid for sampling was present in lysimeter LY-7, and a sample was collected on September 20, 2016. Lysimeter LY-6 was dry at this time. Samples were delivered to TestAmerica Labs for the required analysis.

As shown on Table 8A, 10 VOCs were detected in the sample from LY-7. The total concentration of VOCs was 1392.75 µg/L, which is mostly composed of t-butanol (1200 µg/L). The concentrations of benzene (3.1 µg/L) and 1,2-dichloroethane (0.86 µg/L) exceeded State drinking water standards (1.0 µg/L and 0.5 µg/L, respectively). No other VOC concentrations exceeded a State or federal drinking water standard, though the concentrations of chloride and TDS exceeded State of California secondary drinking water standards. These results are generally consistent with those from the previous monitoring period.

4.2.3 Fourth Quarter 2016 Lysimeter Monitoring Results

As has been the case in recent monitoring events, lysimeter LY-6 was dry during the second quarter 2016 monitoring event. Sampling of lysimeter LY-7 was attempted on December 20, 2016, though the lysimeter pump was not operational. As a result, no lysimeter samples could be collected during the fourth quarter 2016. Republic Services is currently in the process of making repairs to the lysimeter pump for LY-7.

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 RES Environmental, Inc. 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 RES Environmental, Inc. are provided in Appendix C.

During the second semiannual 2016 monitoring period, screening of the permanent vadose zone monitoring locations (monthly) was conducted during the following dates: July 19-21, August 16-18, September 20-22, October 18-20, November 15-17, and December 13-15. Monitoring results are presented on Table 9. As shown therein, the highest methane concentration in a perimeter gas probe was measured at 2.2 %V in probe P-205R during the September monitoring event. Methane was detected monthly at probe P-205R, monthly during the last four months of 2016 in probe P-240, and once in September at probe P-228. Methane was not detected at any of the other probes during the second semiannual 2016 monitoring

period. During July through December 2016 monitoring, methane was not detected in subdrains.

6.0 SURFACE WATER MONITORING

This section of the report presents the results of the storm water, stream diversion, and seeps and spring monitoring activities conducted during the second semiannual 2016 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. Storm water sampling was performed on October 17 and December 16, 2016. The results of storm water analyses are presented in Table 10.

6.2 Stream Diversion Monitoring

During the second semiannual 2016 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 or above respective PQLs are added to the site-specific list of COCs.

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

- A vertical riser located north of the City/County line receives leachate from County Landfill Phases I through V. This location is referred to as "Leachate". Samples are collected by baling from the County leachate riser.

- Leachate sample location “CA-L” monitors leachate from City Landfill Unit 2. Grab samples are collected at a sample port at the site water treatment facility.
- Leachate sample location “LR-2R” monitors leachate accumulation near the base of unlined City Landfill Unit 1. Samples are collected from a vertical riser.

Annual leachate sampling was conducted at leachate monitoring locations “CA-L”, “Leachate”, and “LR-2R” on October 26, 2016. Based on the results obtained, no conformation retesting is scheduled for 2017.

8.0 LIQUID GENERATION AND MANAGEMENT

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

8.1 Liquid Management

During the second semiannual 2016 monitoring period, approximately 17,073,218 gallons of liquid were collected from the SCLF and transferred to the SCLF water treatment systems prior to being utilized on site for dust control (Table 12). In order to supplement the needs for dust suppression, the site purchased approximately 22,526,020 gallons of water from the City of Los Angeles Department of Water and Power (LADWP). The monthly volumes of water purchased from the LACDWP are also summarized on Table 12.

8.2 Monitoring Results For Reuse Water

Liquids used for dust control (other than potable water) are required to be monitored on a quarterly basis for pH, nitrate, select heavy metals, and VOCs to demonstrate that concentrations of these parameters are below the Primary MCLs established by the State of California for drinking water. During the second semiannual 2016 monitoring period, samples of treated liquids were collected by Invirotreat, Inc. and provided to Western Analytical Laboratories for the requisite analyses. Water quality monitoring results for these samples for the second semiannual 2016 monitoring period are presented on Tables 13A and 13B.

9.0 DRAINAGE STRUCTURE MONITORING

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

be made on a quarterly basis. Each inspection is to include the following “standard observations”:

- Evidence of surface water leaving or entering the site, including an estimate of the size of the affected area and the estimated flow rate;
- Presence or absence of odors, including characterization, source, and distance of travel from the source;
- Evidence of erosion and/or exposed refuse;
- Inspection of all storm water discharge locations for evidence of non-storm water discharges (during dry season) and integrity (during wet season);
- Evidence of ponded water at any point on the waste management facility (show affected areas on a map); and
- Assessment of compliance with the facility’s Storm Water Pollution Prevention Plan, including proper implementation of the terms of the General NPDES Storm Water Permit.

During the second semiannual 2016 monitoring period, the required standard observations were made by site personnel. The site’s NPDES certification of completion for the second semiannual 2016 monitoring period is included in Appendix D.

10.0 WASTE DISPOSAL MONITORING

During the second semiannual 2016 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)
July	197,972.93	267,530.99
August	220,208.94	297,579.65
September	199,715.19	269,885.39
October	194,083.15	262,274.53
November	181,748.66	245,606.30
December	154,723.35	209,085.61
July-December 2016 Totals:	1,148,452.22	1,551,962.46
January – June 2016 Totals:	1,190,320.52	1,608,541.24
2016 Totals	2,338,772.74	3,160,503.70

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

As summarized in the preceding table, during the second semiannual 2016 monitoring period, approximately 1,148,452.22 tons of waste were disposed at the SCLF (2,338,772.74 tons of waste over the entire 2016 year). As of December 31, 2016, the remaining capacity at the SCL is estimated at approximately 77,743,423 cubic yards. Based on the currently approved maximum tonnage acceptance rate, the site has a remaining life of approximately 24 years.

Waste placement during the second semiannual 2016 monitoring period was surveyed by Pinnacle Land Surveying, Inc. The location of waste placement during the monitoring period is presented on a map in Appendix E.

During the second semiannual 2016 monitoring period, all waste loads accepted at the site were subjected to checking at the scalehouse. 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.

Analytical results are provided in Table 15.

11.1 Second Semiannual 2016 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 14.

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.

Table 15 summarizes the sample location, sample date, sampler, and analytical results for each generator. This table also compares the analytical data for the sample to the respective TTLCs, lined cell disposal threshold limits, and unrestricted use threshold limits to illustrate that acceptance criteria were met. Certified analytical reports and waste profiling forms are provided in Appendix F.

Based on the frequency of sampling and the comparison of analytical results to the waste acceptance criteria, all special that were disposed of at the SCL during the second semiannual 2016 monitoring period met the waste acceptance requirements of the Amended WDRs and the site-specific WAP.

12.0 ANNUAL SUMMARY

During the 2016 monitoring year, groundwater elevations and chemistries were generally similar to past monitoring events. No evidence of a new release or changes in existing release conditions were identified. Concentration limits were exceeded during the 2016 monitoring year for VOCs at four of the five shallow, alluvial monitoring wells and at two of the six deep, bedrock wells. Additionally, concentration limits were exceeded for inorganic constituents at three deep, bedrock monitoring wells and three of the shallow, alluvial monitoring wells. With the exception of vinyl chloride at well MW-14 and alkalinity at well DW-3, which were added to tracking mode, all other concentration limit exceedances were for well/analyte pairs already in tracking mode (no retesting required) or retest samples did not confirm original results.

During the 2016 monitoring year, methane concentrations did not exceed 5%V at any landfill gas monitoring probe.

No new seeps were identified during the 2016 monitoring year.

Leachate, landfill gas condensate, groundwater extracted near the cut-off wall, and groundwater collected from subdrains at the SCLF are treated at the site and are subsequently used for dust control. Alternatively, the treated liquids are discharged to the Los Angeles City sanitary sewer system. Total volumes from each water source that were treated during 2016 are shown in Table 12.

During 2016 the following construction projects at the site were completed:

- Cell CC-3B Part 1A construction was completed and disposal operations began within the cell.
- Construction of cell CC-4 Part 1 commenced and is ongoing.
- High voltage power lines running through the center of the landfill were relocated to the perimeter.
- Grading of the pad for future flare 11 was completed.
- The above ground leachate collection system was upgraded.

Regular maintenance and adjustments to the gas collection system was performed by the facility throughout 2016. During 2016, the following modifications and upgrades to the facility's landfill gas collection were made:

- Continued operation of a Gas to Energy Plant: Landfill gas is now being converted into electricity; approximately 8,000 scfm of gas is converted into about 22 MW of electricity of which 18.5 MW is placed on the grid.
- 33 vertical gas wells were constructed and placed into service.
- 54 liquid extraction pumps were installed in vertical gas wells.
- 18 horizontal and slope collector gas extractions wells were installed.
- 15,150 linear feet of horizontal collector piping were installed.
- 3,250 linear feet of 12-inch header and 1,600 feet of 18-inch header were installed.

During March through July 2016, high voltage power lines running through the center of the landfill were relocated to the perimeter.

12.1 Graphical Presentation of Analytical Data

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

12.2 2016 Analytical Data

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

13.0 REFERENCES

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

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

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

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.

William B. Lopez

February 10, 2017

William B. Lopez

Date

California Certified Engineering Geologist #2143



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 11
	Stream Diversion	Section 6.2
	Spring Water	Section 6.3, Appendix D
	Leachate	Appendix B2; Table 12
	Trench Liquid	Tables 14A and 14B
	Non-Target Volatile Organic Compounds QA/QC Sample Results	Appendix B 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 E
I.A.7	Summary of total volumes of liquids, on a monthly basis, of landfill leachate, condensate, and subdrain water.	Table 13
	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 F
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 13
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 D
	Map showing monitoring locations	Figure 2; Figure 4
	Map showing groundwater contours	Figures 3A and 3B
I.B.1	Discussion of compliance record, monitoring system changes, construction plans, corrective action milestones, etc.	Section 12.0
I.B.2	Graphical Presentation of Analytical Data	Appendix H
I.B.3	Analytical data presented in tabular form	Appendix I

TABLE 2
ANALYTICAL PARAMETERS AND METHODS
SUNSHINE CANYON LANDFILL

Parameter	Typical USEPA Method	Frequency
<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 CaCO ₃	310.1	Semiannual
Boron, total	6010B	Semiannual
Bromide	300.0	Semiannual
Calcium, total	6010b	Semiannual
Carbon dioxide	SM4500-CO ₂	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 - THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
9/19/16	9/19/16	QCAB	Methylene Chloride - 0.88j µg/L
	9/19/16	QCTB	None Detected
	9/19/16	Method Blanks	None Detected
9/20/16	9/20/16	QCAB	None Detected
	9/20/16	QCTB	None Detected
	9/20/16	Method Blanks	None Detected
9/21/16	9/21/16	QCAB	None Detected
	9/21/16	QCTB	None Detected
	9/21/16	Method Blanks	None Detected
9/22/16	9/22/16	QCAB	None Detected
	9/22/16	QCTB	None Detected
	9/22/16	Method Blanks	None Detected

TABLE 3B
SUMMARY OF BLANK SAMPLE RESULTS - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Primary Sampling Date	Blank Sampling Date	Blank Sample Collection Type	Reported Analytes
12/20/16	12/20/16	QCAB	None Detected
	12/20/16	QCTB	None Detected
	12/20/16	Method Blank	Iron 0.0177j mg/L
12/21/16	12/21/16	QCAB	None Detected
	12/21/16	QCTB	None Detected
	12/21/16	Method Blanks	None Detected
12/22/16	12/22/16	QCAB	None Detected
	12/22/16	QCTB	None Detected
	12/22/16	Method Blanks	None Detected

Notes:

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

TABLE 4A
SUMMARY OF DUPLICATE SAMPLE RESULTS - THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

ANALYTE	CM-10R 9/19/2016	Duplicate 9/19/2016	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	880	870	1
Ammonia (as N)	7.5	7.5	0
Chemical Oxygen Demand	66	70	6
Chloride	11	11	0
Total Dissolved Solids	1700	1800	6
Total Organic Compound	5.7	5.6	2
METALS (mg/L):			
Potassium	10	11	10
VOLATILE ORGANIC COMPOUNDS (µg/L):			
Methylene Chloride	1.2j	1.2j	NC

TABLE 4B
SUMMARY OF DUPLICATE SAMPLE RESULTS - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

ANALYTE	DW-3 12-21-16	DUPLICATE 12-21-16	RELATIVE PERCENT DIFFERENCE
GENERAL CHEMISTRY CONSTITUENTS (mg/L):			
Alkalinity, total	170	170	0
Ammonia (as N)	0.76	0.76	0
Bicarbonate alkalinity	170	170	0
Carbon Dioxide	16	18	12
Chemical Oxygen Demand	17j	10	NC
Chloride	14	14	0
Fluoride	0.73	0.72	1
Sulfate	1200	1200	0
Total Dissolved Solids	1900	1900	0
Total Organic Carbon	0.67	0.52	25
METALS (mg/L):			
Boron	0.066	0.1	2
Calcium	320	310	3
Iron	0.81	0.91	12
Magnesium	110	110	0
Manganese	0.088	0.089	1
Potassium	9.7	9.3	4
Sodium	71	69	3
VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS (µg/L): Not 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.

** - Sampled on 7/19/16 or 7/20/16.

**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
Liquid Elevation (ft, MSL)												
3/9/12	1327.40	1360.33	1376.40	1322.39	1330.35	1342.36	1328.19	1339.36	1351.93	1496.18	1531.08	1376.48
3/28/12	1327.63	1360.34	1376.54	NM	1330.60	1343.04	1328.89	1339.40	1351.93	NM	NM	1376.50
6/22/12	1327.17	1360.29	1376.41	1322.05	1330.19	1348.06	1327.95	1338.72	1351.93	1495.28	1530.85	1376.39
9/18/12	1326.92	1359.97	1376.17	1321.72	1330.23	1349.96	1327.68	1339.11	1351.93	1493.54	1530.86	1376.23
12/17/12	1326.54	1359.75	1376.08	1322.18	1330.70	1350.76	1328.27	1339.21	1351.93	1494.59	1530.56	1376.12
3/11/13	1328.60	1360.11	1376.25	1322.58	1330.98	1348.51	1329.21	1339.71	1351.93	1495.04	1532.23	1376.08
6/25/13	1328.35	1359.97	1376.09	1322.06	1330.75	1346.75	1328.42	1339.44	1351.93	1494.24	1531.41	1375.74
9/16/13	1327.53	1359.83	1375.94	1321.71	1330.47	1346.37	1328.07	1339.27	1351.93	1493.14	1530.72	1375.67
12/16/13	1327.90	1359.90	1376.14	1321.98	1330.70	1346.31	1328.16	1339.51	1351.93	1492.44	1530.35	1375.74
3/24/14	1328.56	1359.82	1376.28	1321.60	1330.16	1350.27	1327.78	1338.77	1351.93	1492.50	1530.01	1375.81
6/9/14	1328.07	1359.75	1374.94	1322.28	1330.78	1350.69	1328.04	1339.39	1351.93	1491.45	1530.00	1375.37
9/15/14	1327.32	1359.33	1375.22	1321.75	1330.50	1351.31	1327.74	1339.40	1351.93	1490.10	1529.82	1375.15
12/15 & 23/2014	1328.09	1361.11	1377.00	1322.37	1331.15	1351.67	1327.54	1339.84	1351.93	1489.59	1529.65	1376.78
3/23/2015	1327.90	1360.06	1376.21	1322.14	1330.73	1343.28	1327.62	1339.54	1351.93	1490.35	1529.66	1376.10
6/15/2015	1327.62	1359.61	1376.41	1322.01	1330.60	1341.30	1327.44	1339.46	1351.93	1489.18	1531.29	1376.27
9/28/2015	1327.21	1359.80	1376.39	1321.51	1330.63	1343.83	1327.03	1339.39	1351.93	1488.04	1531.43	1376.16
12/1/2015	1327.44	1365.63	1380.52	1321.70	1330.62	1343.12	1326.95	1339.27	1351.93	1487.59	1530.98	1379.81
3/28/2016	1327.87	1362.66	1369.57	1322.09	1330.86	1342.85	1327.25	1339.58	1351.93	1488.36	1530.83	1367.90
6/20/2016	1327.59	1364.57	1370.46	1321.61	1330.65	1346.68	1327.17	1339.34	1351.93	1487.26	1530.03	1363.91
9/19/2016	1326.99	1364.72	1378.63	1321.41	1330.49	1347.86	1326.58	1339.32	1351.93	1486.82	1529.44	1368.00
12/19/2016	1327.36	1365.68	1379.19	1321.57	1329.99	1348.17	1326.52	1339.58	1351.93	1486.64	1528.98	1366.17

Note:

MSL = Mean Sea Level

TOC = Top of Casing

BOC = Bottom of Casing

NA = Not Available

NM = Not Measured

All wells resurveyed in 2014, except for the following: PZ-1, PZ-3, & MW-8. Well CM-5R resurveyed in 201!

* - Top of casing elevations are approximate. Wells MW-2A, MW-2B, and DW-4 were raised - survey pending

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

Well Number	DW-5	PZ-1	PZ-2	PZ-3	PZ-4	CM-9R3	CM-10R	CM-11R	MW-8	CM-5	CM-5R
Well Casing Elevation (ft, MSL)	1347.54	1643.76	1566.52	2029.19	1795.85	1902.40	1901.20	2010.41	1362.37	1892.84	2032.00
Total Depth of Well (ft)	101.00	103.30	160.90	230.00	125.50	29.00	110.90	31.00		60.00	60
Depth of Pump (ft)					122.00	27.40	100.00	29.80			
Well Diameter (in)	4	2	2	2	2	4	4	4		2	2
Type of Pump	Bladder		Bladder		Bladder	Bladder	Bladder	Bladder	Bladder		
Depth to Water (ft below TOC)											
3/9/12	NM	89.25	NM	215.42	110.79	12.15	NM	22.44	17.89	20.46	NM
3/28/12	14.96	NM	123.22	NM	NM	10.01	NM	23.45	NM	NM	NM
6/22/12	14.73	89.33	123.14	215.69	110.73	10.81	46.85	18.26	15.68	21.60	NM
9/18/12	15.03	NM	123.18	215.78	110.92	13.82	48.31	NM	13.80	22.03	NM
12/17/12	14.90	83.27	123.27	215.90	110.80	11.42	47.37	23.11	13.62	19.86	NM
3/11/13	14.26	89.81	123.02	NM	110.11	9.89	47.57	21.02	15.32	17.39	NM
6/25/13	14.04	90.10	122.92	NM	110.23	13.29	48.70	22.62	16.41	19.16	NM
9/16/13	13.99	89.97	122.82	NM	110.10	15.30	49.13	24.31	16.46	19.50	NM
12/16/13	14.23	90.52	122.94	NM	110.18	17.09	49.36	25.56	16.44	18.62	NM
3/24/14	14.88	90.63	122.81	NM	110.38	12.58	49.81	20.88	14.41	18.08	NM
6/9/14	19.14	90.62	122.57	NM	110.37	15.41	50.26	21.90	15.23	19.34	NM
9/15/14	14.47	90.81	122.54	NM	110.46	17.95	50.69	23.54	13.39	20.61	NM
12/15 & 23/2014	14.43	90.81	122.68	NM	110.70	9.59	50.14	23.32	13.74	NM	NM
3/23/15	14.61	91.45	122.71	216.12	110.88	12.92	51.37	19.71	18.03	ABANDONED	198.53
6/15/15	14.44	91.48	122.52	216.42	110.93	16.14	51.55	22.10	18.61	ABANDONED	201.10
9/28/15	14.53	91.82	122.50	217.06	111.14	17.56	51.98	24.40	17.68	ABANDONED	202.46
12/1/15	14.78	92.05	122.67	217.53	111.30	18.87	52.38	26.09	18.18	ABANDONED	204.25
3/28/16	14.39	91.84	122.38	217.74	111.23	12.06	52.41	20.47	18.20	ABANDONED	206.39
6/20/16	14.36	91.97	122.44	218.20	111.56	15.41	52.81	22.39	18.04	ABANDONED	208.15
9/19/16	15.02	92.25	122.34	218.70	111.72	17.80	53.88	27.29	16.13	ABANDONED	210.04
12/19/16	15.06	92.39	122.61	219.13	112.01	19.91	52.94	28.54	16.03	ABANDONED	211.36
Liquid Elevation (ft, MSL)											
3/9/12	NM	1554.51	NM	1813.77	1685.06	1890.25	NM	1987.97	1344.48	1872.38	NM
3/28/12	1332.58	NM	1443.30	NM	NM	1892.39	NM	1986.96	NM	NM	NM
6/22/12	1332.81	1554.43	1443.38	1813.50	1685.12	1891.59	1854.35	1992.15	1346.69	1871.24	NM
9/18/12	1332.51	NM	1443.34	1813.41	1684.93	1888.58	1852.89	NM	1348.57	1870.81	NM
12/17/12	1332.64	1560.49	1443.25	1813.29	1685.05	1890.98	1853.83	1987.30	1348.75	1872.98	NM
3/11/13	1333.28	1553.95	1443.50	NM	1685.74	1892.51	1853.63	1989.39	1347.05	1875.45	NM
6/25/13	1333.50	1553.66	1443.60	NM	1685.62	1889.11	1852.50	1987.79	1345.96	1873.68	NM
9/16/13	1333.55	1553.79	1443.70	NM	1685.75	1887.10	1852.07	1986.10	1345.91	1873.34	NM
12/16/13	1333.31	1553.24	1443.58	NM	1685.67	1885.31	1851.84	1984.85	1345.93	1874.22	NM
3/24/14	1332.66	1553.13	1443.71	NM	1685.47	1889.82	1851.39	1989.53	1347.96	1874.76	NM
6/9/14	1328.40	1553.14	1443.95	NM	1685.48	1886.99	1850.94	1988.51	1347.14	1873.50	NM
9/15/14	1333.07	1552.95	1443.98	NM	1685.39	1884.45	1850.51	1986.87	1348.98	1872.23	NM
12/15 & 23/2014	1333.11	1552.95	1443.84	NM	1685.15	1892.81	1851.06	1987.09	1348.63	NM	NM
3/23/2015	1332.93	1552.31	1443.81	1813.07	1684.97	1889.48	1849.83	1990.70	1344.34	ABANDONED	1833.47
6/15/2015	1333.10	1552.28	1444.00	1812.77	1684.92	1886.26	1849.65	1988.31	1343.76	ABANDONED	1830.90
9/28/2015	1333.01	1551.94	1444.02	1812.13	1684.71	1884.84	1849.22	1986.01	1344.69	ABANDONED	1829.54
12/1/2015	1332.76	1551.71	1443.85	1811.66	1684.55	1883.53	1848.82	1984.32	1344.19	ABANDONED	1827.75
3/28/2016	1333.15	1551.92	1444.14	1811.45	1684.62	1890.34	1848.79	1989.94	1344.17	ABANDONED	1825.61
6/20/2016	1333.18	1551.79	1444.08	1810.99	1684.29	1886.99	1848.39	1988.02	1344.33	ABANDONED	1823.85
9/19/2016	1332.52	1551.51	1444.18	1810.49	1684.13	1884.60	1847.32	1983.12	1346.24	ABANDONED	1821.96
12/19/2016	1332.48	1551.37	1443.91	1810.06	1683.84	1882.49	1848.26	1981.87	1346.34	ABANDONED	1820.64

Note:

MSL = Mean Sea Level

TOC = Top of Casing

BOC = Bottom of Casing

NA = Not Available

NM = Not Measured

All wells resurveyed in 2014, except for the following: PZ-1, PZ-3, & MW-8. Well CM-5R resurveyed in 2015

TABLE 6A
SUMMARY OF ANALYTICAL RESULTS - THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS							DEEP MONITORING WELLS								ARAR
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		9/19/2016	9/19/2016	9/19/2016	9/22/2016	9/21/2016	9/21/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/21/2016	9/20/2016	9/21/2016	9/22/2016	9/21/2016	9/20/2016	9/20/2016	
Alkalinity	mg/L	140	66	880	680	380	630	480	660	700	410	550	370	170	350	980	350	380	340	NV
Ammonia-Nitrogen	mg/L	3.9	1.7	7.5	3.8	2.9	4.9	1.3	4.8	6.0	0.16j	1.8	3.0	0.52	3.9	0.35j	3.2	2.9	2.0	NV
Chemical Oxygen Demand	mg/L	36	30	66	150	37	98	10	93	240	10j	22	28	10j	26	45	34	10	10	NV
Chloride	mg/L	14	12	11	290	17	160	29	200	110	24	14	11	14	14	35	14	12	8.3	500(2)
Potassium, total	mg/L	14	9.2	10	27	5.0	28	5.8	23	24	6.9	1.6	4.9	9.1	4.2	0.82	4.0	3.1	4.7	NV
Total Dissolved Solids	mg/L	4300	3500	1700	3700	2600	3200	2800	3500	2100	2600	3300	2000	1900	2800	1100	2600	4300	1100	1000(2)
Total Organic Carbon	mg/L	5.8	4.1	5.7	47	3.5	32	5.1	39	24	3.3	3.3	1.4	0.32	1.7	12.0	1.8	2.5	1.0	NV
t-Butanol	µg/L	5.0	5.0	5.0	22	5.0	5.0	5.0	20	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	0.50	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	0.28	0.26	19	0.24	13	0.24	19	8.1	0.25	0.24	0.26	0.25	0.24	0.24	0.24	0.27	0.24	NV
Methylene Chloride	µg/L	1.1j*	1.2j*	1.2j*	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	5(1,3)
Methyl tert-butyl ether	µg/L	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.36j	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	5.2j	5.0	5.0	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 - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	BACKGROUND WELLS			SHALLOW MONITORING WELLS							DEEP MONITORING WELLS								ARAR
		CM-9R3	CM-11R	CM-10R	MW-1	MW-2A	MW-5	MW-6	MW-9	MW-13R	MW-14	DW-1	DW-2	DW-3	DW-4	DW-5	MW-2B	PZ-2	PZ-4	
		12/20/16	12/20/16	12/20/16	12/22/2016	12/21/16	12/21/2016	12/20/2016	12/21/2016	12/22/2016	12/20/2016	12/20/2016	12/20/2016	12/21/2016	12/21/2016	12/22/2016	12/21/2016	12/20/2016	6/23/2016	
Inorganic Monitoring Parameters:																				
Alkalinity, total	mg/L	180	100	420	700	360	640	400	740	720	380	560	370	170	350	970	350	370	350	NV
Alkalinity, bicarbonate	mg/L	180	100	420	700	360	640	400	740	720	380	450	370	170	350	930	350	350	350	NV
Ammonia-Nitrogen	mg/L	7.3	2.2	15	3.7	3.2	6.6	1.4	4.7	6.3	0.24j	2.1	3.3	0.76	4.5	0.27j	3.5	3.3	2.5	NV
Bromide	mg/L	1.3	1.3	0.50	3.7	0.50	2.4	0.81j	4.8	1.7	0.73j	1.3	0.36j	0.25	0.50	0.67	0.50	2.5	0.25	NV
Carbon Dioxide, free	mg/L	88	48	110	300	72	190	97	270	72	62	2.0	28	16	32	2.0	35	2.0	44	NV
Chemical Oxygen Demand	mg/L	11j	10	18j	140	16j	66	17j	160	250	10	10	10	17j	10	51	10	10	10	NV
Chloride	mg/L	14	11	11	220	15	130	28	260	210	25	13	11	14	11	21	12	11	9.1	500(2)
Fluoride	mg/L	3.7	2.3j	1.8	2.5	1.8	3.2	1.9	2.9	0.59	2.2	3.5	0.25	0.73	0.50	3.7	1.6	2.5	1.3	2(1)-4(3)
Nitrate-Nitrogen	mg/L	0.28	0.79	0.11	0.11	0.11	0.11	0.11	0.28	0.055	0.11	0.28	0.055	0.055	0.11	0.055	0.11	0.55	0.055	10(1,3)
Sulfate	mg/L	3200	2400	1800	1600	1600	1500	1700	1600	680	1500	1800	1100	1200	1800	0.25	1600	2700	510	500(2)
Sulfide, total	mg/L	0.020j	0.020	4.1	0.025j	0.020	0.020	1.2	0.020	100	0.020	0.82	0.020	0.020	0.020	0.073	0.022j	0.037j	0.020	NV
Total Dissolved Solids	mg/L	4700	3600	3000	3400	2500	3100	2700	3600	2000	2600	3200	1900	1900	2800	1100	2600	4000	1100	1000(2)
Total Organic Carbon	mg/L	5.8	4.3	3.6	44	3.8	26	4.8	53	22	4.0	3.0	1.6	0.67	1.9	6.8	1.9	2.7	1.2	NV
Metals:																				
Boron	mg/L	2.2	1.8	1.1	1.3	0.60	1.0	0.69	1.3	0.88	0.43	2.0	0.61	0.066	0.59	2.8	0.58	1.4	0.18	NV
Calcium	mg/L	390	160	320	460	230	430	340	440	170	350	3.0	110	320	200	5.9	190	13	130	NV
Iron	mg/L	19	1.2	0.53	63	23	19	8.3	51	0.23	0.60	0.062*	1.3	0.81	2.5	0.14	3.0	0.050*	0.95	0.3(2)
Magnesium	mg/L	260	99	210	210	120	190	170	220	160	140	1.7	72	110	130	0.95	110	11	76	NV
Manganese	mg/L	3.9	1.1	0.56	3.6	1.2	4.8	0.86	5.6	0.010	3.0	0.010	0.16	0.088	0.14	0.11	0.130	0.026	0.12	0.05(2)
Potassium, total	mg/L	15	9.1	13	33	5.9	30	6.6	26	23	7.9	1.3	4.4	9.7	4.7	0.86	4.6	2.7	4.5	NV
Sodium	mg/L	600	840	270	370	420	270	280	420	210	280	1000	460	71	480	480	450	1300	110	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	2.3	0.50	0.50	0.50	NV
t-Butanol	µg/L	5.0	5.0	5.0	20	5.0	5.0	5.0	33	6.3j	5.0	5.0	5.0	5.0	5.0	5.0j	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	0.54	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	0.28	0.24	19	0.24	11	0.25	23	6.2	0.25	0.24	0.24	0.24	0.25	0.26	0.24	0.26	0.24	NV
Naphthalene	µg/L	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.86j	0.40	0.40	0.40	NV
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.2j	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	NV

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

0.25

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

2500

 Analyte concentration exceeds ARAR value.

TABLE 7A
COMPARISON OF INTRAWELL WATER QUALITY PROTECTION STANDARDS TO ANALYTICAL RESULTS - THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	WELL																					
		MW-1		MW-5		MW-6		MW-13R		MW-14		DW-1		DW-2		DW-3		DW-5		PZ-2		PZ-4	
		Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS	Result	WQPS
Alkalinity	mg/L	680	844.76	630	727.34	480	571.59	700	972.24	410	587.83	550	658.76	370	410.47	170	162.81	980	1009.98	380	411.93	340	341.13
Ammonia-Nitrogen	mg/L	3.8	10.634	4.9	5.714	1.3	1.337	6.0	7.732	0.16j	0.5703	1.8	2.4	3.0	4.308	0.52	0.7564	0.35j	0.3918	2.9	3.598	2.0	2.976
Chemical Oxygen Demand	mg/L	150	202.056	98	135.7	10	75.338	240	407.58	10j	54.674	22	49.801	28	52.743	10j	15.206	45	76.47	10	26.386	10	24.85
Chloride	mg/L	290	408.469	160	469.603	29	70.829	110	213.802	24	88.987	14	17.737	11	15.462	14	17.534	35	101.838	12	16.398	8.3	11.706
Potassium, total	mg/L	27	54.763	28	34.393	5.8	10.679	24	27.224	6.9	12.508	1.6	3.838	4.9	6.183	9.1	12.357	0.82	5.262	3.1	4.693	4.7	5.643
Total Dissolved Solids	mg/L	3700	4495	3200	4614.2	2800	4486.5	2100	3450.9	2600	5128.5	3300	3600.2	2000	2178.3	1900	2313.1	1100	1417.3	4300	4403.2	1100	1529.5
Total Organic Carbon	mg/L	47	75.928	32	50.696	5.1	15.408	24	54.233	3.3	13.006	3.3	9.947	1.4	3.499	0.32	2.115	12	11.745	2.5	2.887	1.0	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
t-Butanol	µg/L	22	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	5.0	10
1,4-Dioxane	µg/L	19	0.99	13	0.99	0.24	1.0	8.1	0.94	0.25	0.95	0.24	10	0.26	0.99	0.25	0.94	0.24	0.95	0.27	1.1	0.24	0.97
Tetrahydrofuran	µg/L	5.2j	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	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 - FOURTH QUARTER 2016
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	
		12/22/2016	WQPS	12/21/2016	WQPS	12/20/2016	WQPS	12/22/2016	WQPS	12/20/2016	WQPS	12/20/2016	WQPS	12/20/2016	WQPS	12/21/2016	WQPS	12/22/2016	WQPS	12/20/2016	WQPS	12/20/2016	WQPS
Alkalinity	mg/L	700	844.76	640	727.34	400	571.59	720	972.24	380	587.83	560	658.76	370	410.47	170	162.81	970	1009.98	370	411.93	350	341.13
Ammonia-Nitrogen	mg/L	3.7	10.634	6.6	5.714	1.4	1.337	6.3	7.732	0.24j	0.5703	2.1	2.4	3.3	4.308	0.76	0.7564	0.27j	0.3918	3.3	3.598	2.5	2.976
Chemical Oxygen Demand	mg/L	140	202.056	66	135.7	17j	75.338	250	407.58	10	54.674	10	49.801	10	52.743	17j	15.206	51	76.47	10	26.386	10	24.85
Chloride	mg/L	220	408.469	130	469.603	28	70.829	210	213.802	25	88.987	13	17.737	11	15.462	14	17.534	21	101.838	11	16.398	9.1	11.706
Potassium, total	mg/L	33	54.763	30	34.393	6.6	10.679	23	27.224	7.9	12.508	1.3	3.838	4.4	6.183	9.7	12.357	0.86	5.262	2.7	4.693	4.5	5.643
Total Dissolved Solids	mg/L	3400	4495	3100	4614.2	2700	4486.5	2000	3450.9	2600	5128.5	3200	3600.2	1900	2178.3	1900	2313.1	1100	1417.3	4000	4403.2	1100	1529.5
Total Organic Carbon	mg/L	44	75.928	26	50.696	4.8	15.408	22	54.233	4.0	13.006	3.0	9.947	1.6	3.499	0.67	2.115	6.8	11.745	2.7	2.887	1.2	2.085
Volatile Organic Compounds: (The WQPS is the PQL for any single VOC detected.)																							
Allyl Chloride	µg/L	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	0.50	1.0	2.3	1.0	0.50	1.0	0.50	1.0
t-Butanol	µg/L	20	10	5.0	10	5.0	10	6.3j	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0j	10	5.0	10	5.0	10
1,4-Dioxane	µg/L	19	0.94	11	0.94	0.25	0.99	6.2	0.95	0.25	1.0	0.24	0.94	0.24	0.94	0.24	1.0	0.25	0.98	0.26	1.0	0.25	0.96
Naphthalene	µg/L	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.40	1.0	0.86j	1.0	0.40	1.0	0.40	1.0

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

0.25	Analyte was not detected. Value listed is the Method Detection Limit.
2500	Analyte concentration exceeds intrawell WQPS.

* Field/Laboratory containment (detected in blank samples, see Table 3B)

TABLE 8A
SUMMARY OF ANALYTICAL RESULTS FOR VADOSE ZONE LIQUID MONITORING POINTS
THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		9/19/2016	9/19/2016	9/21/2016	9/20/2016	
Field Parameters:						
Electrical Conductivity	mS/cm	3200	2330	Dry	1140	NV
Oxidation Reduction Potential	mV	-23	170	Dry	-60	NV
Oxygen, dissolved	mg/L	2.56	2.52	Dry	2.03	NV
pH	Units	6.22	6.84	Dry	6.74	6.5-8.5(2)
Temperature	°C	29.98	34.83	Dry	25.29	NV
Turbidity	NTU	0.0	11.9	Dry	55.2	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	520	340	Dry	2300	NV
Ammonia-Nitrogen	mg/L	3.1	0.52	Dry	190	NV
Chemical Oxygen Demand	mg/L	75	27	Dry	960	NV
Chloride	mg/L	110	29	Dry	2200	500(2)
Total Dissolved Solids	mg/L	2600	1900	Dry	9300	1000(2)
Total Organic Carbon	mg/L	24	3.9	Dry	310	NV
Metals:						
Potassium	mg/L	7.9	5.2	Dry	130	NV
Volatile and Semivolatile Organic Compounds:						
Benzene	µg/L	0.44j	0.25	Dry	3.1	1(1)-5(3)
Acetone	µg/L	10	10	Dry	13j	NV
t-Butanol	µg/L	16	5.0	Dry	1200	NV
1,2-Dichloroethane	µg/L	0.25	0.25	Dry	0.86	0.5(1)-5(3)
1,2-Dichloropropane	µg/L	0.25	0.25	Dry	0.31j	5(1,3)
cis-1,2-Dichloroethene	µg/L	0.69	0.25	Dry	1.6	6(1)-70(3)
1,4-Dichlorobenzene	µg/L	0.70	0.25	Dry	3.3	5(1)-75(3)
1,4-Dioxane	µg/L	9.6	1.4	Dry	160	NV
Methylene Chloride	µg/L	0.88	1.1j*	Dry	0.88	5(1,3)
Methyl tert-butyl ether	µg/L	0.75	0.25	Dry	0.98	13(1)/5(2)
Tetrahydrofuran	µg/L	5.0	5.0	Dry	9.6j	NV

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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

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

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
FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	SUBDRAIN MONITORING POINTS		LYSIMETERS		ARAR
		Subdrain N	Combined Subdrains	LY-6	LY-7	
		12/20/2016	12/20/2016	12/20/2016	12/20/2016	
Field Parameters:						
Electrical Conductivity	mS/cm	2550	3330	Dry	NS	NV
Oxidation Reduction Potential	mV	36	-28	Dry	NS	NV
Oxygen, dissolved	mg/L	3.41	2.81	Dry	NS	NV
pH	Units	6.23	6.56	Dry	NS	6.5-8.5(2)
Temperature	°C	18.10	19.93	Dry	NS	NV
Turbidity	NTU	0.6	32.4	Dry	NS	5(2)
General Chemistry Parameters:						
Alkalinity, total	mg/L	920	830	Dry	NS	NV
Alkalinity, bicarbonate	mg/L	4.0	830	Dry	NS	NV
Ammonia-Nitrogen	mg/L	3.9	4.6	Dry	NS	NV
Bromide	mg/L	1.6J	2.5	Dry	NS	NV
Carbon dioxide	mg/L	250	380	Dry	NS	NV
Chemical Oxygen Demand	mg/L	59	81	Dry	NS	NV
Chloride	mg/L	120	130	Dry	NS	500(2)
Fluoride	mg/L	1.3	2.5	Dry	NS	2(1)-4(3)
Nitrate as Nitrogen	mg/L	0.28	0.11	Dry	NS	10(1,3)
Sulfate	mg/L	1300	1700	Dry	NS	500(2)
Total Dissolved Solids	mg/L	3000	3500	Dry	NS	1000(2)
Total Organic Carbon	mg/L	24	29	Dry	NS	NV
Metals						
Boron	mg/L	0.51	1.0	Dry	NS	NV
Calcium	mg/L	260	390	Dry	NS	NV
Iron	mg/L	13	53	Dry	NS	0.3(2)
Magnesium	mg/L	180	210	Dry	NS	NV
Manganese	mg/L	3.1	4.7	Dry	NS	0.05(2)
Potassium	mg/L	7.6	17	Dry	NS	NV
Sodium	mg/L	250	360	Dry	NS	NV
Volatile and Semivolatile Organic Compounds:						
t-Butanol	µg/L	19	36	Dry	NS	NV
cis-1,2-Dichloroethene	µg/L	0.48J	2.3	Dry	NS	6(1)-70(3)
1,4-Dichlorobenzene	µg/L	0.68	0.80	Dry	NS	5(1)-75(3)
1,4-Dioxane	µg/L	15.0	19	Dry	NS	NV
Methyl tert-butyl ether	µg/L	0.45J	1.3	Dry	NS	13(1)/5(2)
Tetrahydrofuran	µg/L	5.0	7.2J	Dry	NS	NV

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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

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

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

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 9
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2016 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	7/19-21/16	8/16-18/16	9/20-22/16	10/18-20/2016	11/15-17/2016	12/13-15/16
P-202	A	10-15	DECOMMISSIONED					
	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	0.2	0.3	0.4	0.2	0.2	0.2
	C	33-38	1.2	1.2	1.2	1.3	1.1	1.2
	D	48-53	1.9	2.1	2.2	2.1	2.0	2.1
	E	62-67	1.9	1.9	1.8	1.6	1.8	1.2
P-206	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-207	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-208	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-210	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	25-30	0.0	0.0	0.0	0.0	0.0	0.0
	C	40-45	0.0	0.0	0.0	0.0	0.0	0.0
P-213	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	23-31	0.0	0.0	0.0	0.0	0.0	0.0
	C	39-47	0.0	0.0	0.0	0.0	0.0	0.0
	D	55-62	0.0	0.0	0.0	0.0	0.0	0.0
	E	71-80	0.0	0.0	0.0	0.0	0.0	0.0
P-214	A	7-16	0.0	0.0	0.0	0.0	0.0	0.0
	B	23-32	0.0	0.0	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	0.0	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 - SECOND SEMIANNUAL 2016 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)						
			7/19-21/16	8/16-18/16	9/20-22/16	10/18-20/2016	11/15-17/2016	12/13-15/16
P-218	A	5-8	REMOVED DUE TO CONSTRUCTION					
P-219	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	57-66	0.0	0.0	0.0	0.0	0.0	0.0
	C	109-117	0.0	0.0	0.0	0.0	0.0	0.0
	D	158-167	0.0	0.0	0.0	0.0	0.0	0.0
	E	209-218	0.0	0.0	0.0	0.0	0.0	0.0
P-220A	A	6.9-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	44-51	0.0	0.0	0.0	0.0	0.0	0.0
	C	79-88	0.0	0.0	0.0	0.0	0.0	0.0
	D	117-127	0.0	0.0	0.0	0.0	0.0	0.0
	E	150-159	0.0	0.0	0.0	0.0	0.0	0.0
P-220B	A	8-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-39	0.0	0.0	0.0	0.0	0.0	0.0
	C	56-61	0.0	0.0	0.0	0.0	0.0	0.0
	D	80-87	0.0	0.0	0.0	0.0	0.0	0.0
	E	104-111	0.0	0.0	0.0	0.0	0.0	0.0
P-221	A	5-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	49-58	0.0	0.0	0.0	0.0	0.0	0.0
	C	91-101	0.0	0.0	0.0	0.0	0.0	0.0
	D	134-143	0.0	0.0	0.0	0.0	0.0	0.0
	E	176-186	0.0	0.0	0.0	0.0	0.0	0.0
P-222	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	48-57	0.0	0.0	0.0	0.0	0.0	0.0
	C	88-98	0.0	0.0	0.0	0.0	0.0	0.0
	D	132-141	0.0	0.0	0.0	0.0	0.0	0.0
	E	173-181	0.0	0.0	0.0	0.0	0.0	0.0
P-223	A	7-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	32-41	0.0	0.0	0.0	0.0	0.0	0.0
	C	51-64	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
P-224	A	5-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	60-70	0.0	0.0	0.0	0.0	0.0	0.0
	C	115-125	0.0	0.0	0.0	0.0	0.0	0.0
	D	168-180	0.0	0.0	0.0	0.0	0.0	0.0
	E	223-236	0.0	0.0	0.0	0.0	0.0	0.0
P-225	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	65-73	0.0	0.0	0.0	0.0	0.0	0.0
	C	124-133	0.0	0.0	0.0	0.0	0.0	0.0
	D	184-192	0.0	0.0	0.0	0.0	0.0	0.0
	E	243-250	0.0	0.0	0.0	0.0	0.0	0.0
P-226	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	58-68	0.0	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	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2016 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)	7/19-21/16	8/16-18/16	9/20-22/16	10/18-20/2016	11/15-17/2016	12/13-15/16
P-227	A	6-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	46-55	0.0	0.0	0.0	0.0	0.0	0.0
	C	85-95	0.0	0.0	0.0	0.0	0.0	0.0
	D	126-134	0.0	0.0	0.0	0.0	0.0	0.0
	E	164-172	0.0	0.0	0.0	0.0	0.0	0.0
P-228	A	7-14	0.0	0.0	0.0	0.0	0.0	0.0
	B	56-65	0.0	0.0	0.0	0.0	0.0	0.0
	C	107-115	0.0	0.0	0.0	0.3	0.0	0.0
	D	156-165	0.0	0.0	0.0	0.0	0.0	0.0
	E	203-214	0.0	0.0	0.0	0.0	0.0	0.0
P-229	A	4-15	0.0	0.0	0.0	0.0	0.0	0.0
	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	0.0	0.0	0.0
P-230R	A	7-14	DECOMMISSIONED					
	B	35						
	C	50						
P-231	A	4-14	DECOMMISSIONED					
	B	20-27						
	C	33-40						
	D	45-53						
	E	58-67						
P-239	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	47-52	0.0	0.0	0.0	0.0	0.0	0.0
	C	78-83	0.0	0.0	0.0	0.0	0.0	0.0
	D	109-114	0.0	0.0	0.0	0.0	0.0	0.0
	E	140-145	0.0	0.0	0.0	0.0	0.0	0.0
P-240	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	69-74	0.0	0.0	0.0	0.0	0.0	0.0
	C	133-138	0.0	0.0	0.0	0.0	0.0	0.0
	D	206-211	0.0	0.0	0.0	0.0	0.0	0.0
	E	268-273	0.6	0.0	0.2	0.9	0.6	0.2
P-241	A	10-15	0.0	0.0	0.0	0.0	0.0	0.0
	B	37-42	0.0	0.0	0.0	0.0	0.0	0.0
	C	61-66	0.0	0.0	0.0	0.0	0.0	0.0
	D	85-90	0.0	0.0	0.0	0.0	0.0	0.0
	E	109-114	0.0	0.0	0.0	0.0	0.0	0.0
P-242	C	42-47	0.0	0.0	0.0	0.0	0.0	0.0
	D	60-65	0.0	0.0	0.0	0.0	0.0	0.0
	E	78-83	0.0	0.0	0.0	0.0	0.0	0.0
P-243	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	20-29	0.0	0.0	0.0	0.0	0.0	0.0
	C	33-38	0.0	0.0	0.0	0.0	0.0	0.0
P-244	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	21-26	0.0	0.0	0.0	0.0	0.0	0.0
	C	36-41	0.0	0.0	0.0	0.0	0.0	0.0

NR - No reading available.

TABLE 9, CONTINUED
SUMMARY OF VADOSE ZONE GAS MONITORING - SECOND SEMIANNUAL 2016 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Probe ID	Interval	Depth (ft bgs)						
			7/19-21/16	8/16-18/16	9/20-22/16	10/18-20/2016	11/15-17/2016	12/13-15/16
P-245	A	6-11	0.0	0.0	0.0	0.0	0.0	0.0
	B	20-25	0.0	0.0	0.0	0.0	0.0	0.0
	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	DECOMMISSIONED					
	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
SECOND SEMI-ANNUAL 2016 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Analyte	Units	STORMWATER SAMPLES	
		SW-1	SW-2
		10/17/2016	12/16/2016
General Chemistry Parameters:			
Ammonia-Nitrogen	mg/L	2.1	1.5
Biochemical Oxygen Demand	mg/L	40	8.2
Chemical Oxygen Demand	mg/L	240	73
Chloride	mg/L	78	29
Fluoride	mg/L	1.1	1.2
Nitrate as N	mg/L	1.9	1.1
Nitrite as N	mg/L	0.24	0.07
Nitrate+Nitrite as N	mg/L	2.1	1.1
Oil & Grease (HEM)	mg/L	1.3	1.3
Total Suspended Solids	mg/L	600	110
Metals:			
Aluminum	mg/L	16	3.9
Antimony	mg/L	0.0020	0.00052j
Arsenic	mg/L	0.0092	0.0020
Beryllium	mg/L	0.00052	0.00025
Cadmium	mg/L	0.0019	0.0010
Copper	mg/L	0.043	0.0096
Iron	mg/L	30	6.4
Lead	mg/L	0.011	0.0020
Manganese	mg/L	0.92	2.1
Mercury	mg/L	0.00010	0.00010
Nickel	mg/L	0.067	0.064
Phosphorus	mg/L	0.16	0.17
Selenium	mg/L	0.0045	0.0038
Silver	mg/L	0.0005	0.0025
Zinc	mg/L	0.19	0.039
Volatile Organic Compounds (8260):			
Acrylonitrile	µg/L	1.0	1.0
Alpha-Terpineol	µg/L	3.1	3.1
Benzene	µg/L	2.5	2.5
Ethylbenzene	µg/L	2.5	2.5
Toluene	µg/L	2.5	2.5
Trichloroethene	µg/L	2.5	2.5
Semivolatile Organic Compounds (8270C):			
Benzoic Acid	µg/L	55	10j
Polychlorinated Biphenyls (8082): None detected.			

Notes:

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

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

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

NA Analyte was not analyzed.

173 Analyte was detected. Value reported by laboratory.

TABLE 11
SUMMARY OF ANALYTICAL RESULTS FOR LEACHATE MONITORING POINTS - OCTOBER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	LEACHATE MONITORING POINTS			ARAR
		LR-2R	CA-L	LEACHATE	
		10/26/2016	10/26/2016	10/26/2016	
General Chemistry Parameters:					
Cyanide	mg/L	0.013	NA	NA	0.15(1)-0.2(3)
Metals:					
Antiomny	mg/L	0.0060	0.0060	0.0060	0.006(1,3)
Arsenic	mg/L	0.034	0.0050	0.0052j	0.01(1,3)
Beryllium	mg/L	0.0010	0.0020	0.0010	0.004(1,3)
Cadmium	mg/L	0.0050	0.0050	0.0020	0.005(1,3)
Copper	mg/L	0.0050	NA	NA	1.3(1,3)-1.0(2)
Lead	mg/L	0.0025	NA	0.0025	0.015(1,3)
Mercury	mg/L	0.00010	0.00010	0.0010	0.002(1,3)
Thallium	mg/L	0.0050	0.005	0.0050	0.002(1,3)
Tin	mg/L	0.012	0.012	0.012	NV
Volatile Organic Compounds (8260B):					
Acetone	µg/L	15j	44	250	NV
Benzene	µg/L	4.0	2.9	6.3	1(1)-5(3)
t-Butanol	µg/L	490	1400	980	NV
2-Butanone (MEK)	µg/L	2.5	24	2600	NV
Chlorobenzene	µg/L	37	0.38j	6.3	70(1)-100(3)
1,1-Dichloroethene	µg/L	0.25	0.42j	6.3	6(1)-7(3)
1,2-Dichlorobenzene	µg/L	2.3	0.25	6.3	600(1,3)
1,3-Dichlorobenzene	µg/L	0.47j	0.25	6.3	NV
1,4-Dichlorobenzene	µg/L	6.5	6.7	6.3	5(1)-75(3)
1,2-Dichloroethane	µg/L	0.25	0.70	6.3	0.5(1)-5(3)
1,2-Dichloropropane	µg/L	0.25	0.26j	6.3	5(1,3)
cis-1,2-Dichloroethene	µg/L	0.25	1.6	6.3	6(1)-70(3)
Ethylbenzene	µg/L	0.28j	0.25	6.3	300(1)-700(3)
4-Methyl-2-pentanone (MIBK)	µg/L	2.5	2.5	66j	NV
Isobutyl alcohol	µg/L	13	13	24000	NV
Methyl tert-butyl ether	µg/L	0.25	0.76	6.3	5(2)-13(1)
Naphthalene	µg/L	7.7	0.40	10	NV
Tetrahydrofuran	µg/L	160	10	520	NV
Toluene	µg/L	0.49j	0.25	21	150(1)-1000(3)
Xylenes, o	µg/L	0.64	0.25	6.3	1750(1)-10000(3)
Semivolatile Organic Compounds (8270):					
Benzoic acid	µg/L	24	250	14000	NV
1,4-Dioxane	µg/L	120	97	59	NV
3-Methylphenol + 4-Methylphenol	µg/L	24	97	4500	NV
Phenol	µg/L	5.9	17	8000	NV
Organophosphorus Compounds (8141): None Detected					
Chlorinated Herbicides (8151A):					
Pentachlorophenol	µg/L	0.078	1.077	2.4	1(1,3)
Silvex (2,4,5-TP)	µg/L	0.11	0.77j	0.11	50 (1,3)
Organochlorine Pesticides (8081): None Detected					
Polychlorinated Biphenyls (8082): None Detected					

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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

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

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

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 12
SUMMARY OF COLLECTED WATER SOURCES - SECOND SEMIANNUAL 2016 MONITORING PERIOD
SUNSHINE CANYON LANDFILL

Month	Total Purchase Water	Subdrains	Landfill Leachate	Landfill Gas Condensate	Extraction Trench & Seep Collectors	MONTHLY TOTALS
July	3,378,716	478,584	885,364	218,158	616,558	5,577,380
August	5,301,824	643,401	1,456,112	207,409	619,136	8,227,882
September	4,826,844	541,942	1,231,233	156,105	1,034,041	7,790,165
October	4,929,320	582,660	1,098,260	199,026	887,065	7,696,331
November	2,767,600	452,448	1,197,509	116,564	1,043,248	5,577,369
December	1,321,716	239,933	1,899,129	123,146	1,146,187	4,730,111
July-December 2016 Totals	22,526,020	2,938,968	7,767,607	1,020,408	5,346,235	39,599,238
January-June 2016 Totals:	10,671,716	5,999,797	2,405,831	825,976	2,995,191	22,898,511
2016 Annual Totals:	33,197,736	8,938,765	10,173,438	1,846,384	8,341,426	62,497,749

TABLE 13A
SUMMARY OF ANALYTICAL RESULTS FOR TREATED WATER SAMPLES - THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	T-402	T-101	T-102	PW-DWP	Treated Leachate	ARAR
		Samples collected on July 7, 2016					
Volatile Organic Compounds (8260):							
1,1-Dichloropropene	µg/L	5.0	5.0	5.0	-	0.7	NV
Acetone	µg/L	12.0	24.0	5.0	-	8.0	NV
Bromochloromethane	µg/L	5.0	5.0	3.1	-	5.0	80 (1,3)
Bromodichloromethane	µg/L	0.5	0.8	0.5	-	0.5	80 (1,3)
Bromoform	µg/L	0.5	1.1	3.3	-	0.5	80 (1,3)
Chloroform	µg/L	2.6	1.3	2.5	-	1.3	80 (1,3)
Chloromethane	µg/L	0.6	0.5	1.0	-	0.5	NV
Dibromochloromethane	µg/L	0.5	1.8	5.0	-	0.5	80 (1,3)
Tetrachloroethene	µg/L	0.5	0.5	0.5	-	0.6	5 (1,3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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 13A
SUMMARY OF ANALYTICAL RESULTS FOR TREATED WATER SAMPLES - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	T-402	T-101	T-102	PW-DWP	Treated Leachate	ARAR
		Samples collected on August 4, 2016					
General Chemistry Parameters:							
Nitrate (as N)	mg/L	6	0.63	0.6	0.07	0.28	10(1,3)
Nitrite (as N)	mg/L	0.14	0.33	0.07	0.007	0.35	1(1,3)
pH	Units	7.40	8.20	8.00	8.20	7.60	6.0-9.0(2)
Metals:							
Aluminum	mg/L	0.026	0.02	0.005	0.007	0.016	1(1)
Antimony	mg/L	0.001	0.0012	0.0006	0.0005	0.001	0.006(1,3)
Arsenic	mg/L	0.002	0.003	0.004	0.0005	0.011	0.01(1)
Barium	mg/L	0.024	0.022	0.020	0.043	0.056	1(1)-2(3)
Boron	mg/L	0.71	0.5	0.4	0.4	1.70	NV
Calcium	mg/L	280	110	25	18	400	NV
Chromium, total	mg/L	0.0005	0.001	0.0005	0.0003	0.001	0.05(1)-0.1(3)
Cobalt	mg/L	0.007	0.002	0.0005	0.0005	0.009	NV
Copper	mg/L	0.0007	0.004	0.100	0.052	0.0007	1.3(1)
Iron	mg/L	10	1	0.12	1.3	37	0.3(2)
Lead	mg/L	0.0005	0.0005	0.0026	0.022	0.0005	0.015(1,3)
Magnesium	mg/L	180	65	9	7	220	NV
Manganese	mg/L	2.2	0.7	0.007	0.05	2.9	0.05(2)
Nickel	mg/L	0.02	0.007	0.001	0.0026	0.025	0.1(1)
Potassium	mg/L	14	6.2	4	4	43	NV
Silica	mg/L	40	23	14	2.6	39	NV
Sodium	mg/L	230	110	56	57	450	NV
Vanadium	mg/L	0.001	0.001	0.002	0.001	0.001	NV
Zinc	mg/L	0.005	0.01	0.490	0.066	0.003	5(2)
Volatile Organic Compounds (8260):							
Acetone	µg/L	7.0	5.0	5.0	5.0	5.0	NV
Bromodichloromethane	µg/L	0.5	2.1	4.2	0.5	0.5	80 (1,3)
Bromoform	µg/L	0.5	3.6	5.0	0.5	0.5	80 (1,3)
Chloroform	µg/L	2.9	1.6	3.7	4.3	3.0	80 (1,3)
Tetrachloroethene	µg/L	0.5	0.5	4.6	9.4	0.5	5 (1,3)
Trichlorofluoromethane	µg/L	1.3	0.5	0.5		0.5	150 (1)
Methylene Chloride	µg/L	0.5	0.5	0.5	0.7	0.5	5 (1,3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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 13A
SUMMARY OF ANALYTICAL RESULTS FOR TREATED WATER SAMPLES - THIRD QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	T-402	T-101	T-102	PW-DWP	Treated Leachate	ARAR
		Samples collected on Septemer 15, 2016					
Volatile Organic Compounds (8260):							
1,1-Dichloropropene	µg/L	0.5	0.5	0.5	-	0.7	NV
Acetone	µg/L	5.0	7.0	5.0	-	5.0	NV
Bromochloromethane	µg/L	0.5	0.5	5.0	-	0.5	80 (1,3)
Bromodichloromethane	µg/L	0.5	29.0	0.5	-	0.5	80 (1,3)
Bromoform	µg/L	0.5	2.2	3.3	-	0.5	80 (1,3)
Chloroform	µg/L	0.7	1.9	1.8	-	0.5	80 (1,3)
Dibromochloromethane	µg/L	0.5	5.6	8.3	-	0.5	80 (1,3)
Tetrachloroethene	µg/L	0.5	0.5	0.5	-	0.6	5 (1,3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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 13B
SUMMARY OF ANALYTICAL RESULTS FOR TREATED WATER SAMPLES - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	T-402	T-101	T-102	PW-DWP	Treated Leachate	ARAR
		Samples collected on October 6, 2016					
Volatile Organic Compounds (8260):							
1,1-Dichloropropene	µg/L	0.5	0.5	0.5	-	0.7	NV
cis-1,2-Dichloroethene	µg/L	0.7	0.5	0.5	-	0.6	6 (1) / 70 (3)
Acetone	µg/L	5.0	7.0	5.0	-	13.0	NV
Bromochloromethane	µg/L	0.5	0.5	4.4	-	0.5	80 (1,3)
Bromodichloromethane	µg/L	0.5	2.6	0.5	-	0.5	80 (1,3)
Bromoform	µg/L	0.5	4.1	3.9	-	0.5	80 (1,3)
Chloroform	µg/L	0.5	1.8	2.5	-	1.1	80 (1,3)
Dibromochloromethane	µg/L	0.5	6.3	7.8	-	0.5	80 (1,3)
Dibromomethane	µg/L	0.5	0.5	0.5	-	0.5	80 (1,3)

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 13B
SUMMARY OF ANALYTICAL RESULTS FOR TREATED WATER SAMPLES - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	T-402	T-101	T-102	PW-DWP	Treated Leachate	ARAR
		Samples collected on November 10, 2016					
General Chemistry Parameters:							
Nitrate (as N)	mg/L	0.18	0.46	0.5	0.055	2.1	10(1,3)
Nitrite (as N)	mg/L	0.14	0.83	0.07	0.007	1.4	1(1,3)
pH	Units	7.40	7.50	7.90	8.00	7.60	6.0-9.0(2)
Silica	mg/L	49	42	48	12	53	NV
Metals:							
Aluminum	mg/L	0.061	0.01	0.008	0.006	0.025	1(1)
Arsenic	mg/L	0.005	0.002	0.002	0.0005	0.012	0.01(1)
Barium	mg/L	0.085	0.031	0.033	0.053	0.140	1(1)-2(3)
Boron	mg/L	2.5	0.4	0.23	0.2	5.30	NV
Calcium	mg/L	350	120	28	23	360	NV
Chromium, total	mg/L	0.0092	0.001	0.0005	0.0003	0.019	0.05(1)-0.1(3)
Cobalt	mg/L	0.013	0.005	0.0005	0.0005	0.008	NV
Copper	mg/L	0.025	0.003	0.014	0.005	0.025	1.3(1)
Iron	mg/L	20	2.8	0.32	2.3	8	0.3(2)
Lead	mg/L	0.025	0.025	0.0074	0.0005	0.0005	0.015(1,3)
Magnesium	mg/L	350	78	13	10	630	NV
Manganese	mg/L	3.8	1	0.013	0.13	4.1	0.05(2)
Nickel	mg/L	0.052	0.013	0.001	0.0018	0.063	0.1(1)
Potassium	mg/L	68	8.9	4	3	150	NV
Silica	mg/L	56	24	15	3.3	70	NV
Sodium	mg/L	830	150	70	61	1700	NV
Thallium	mg/L	0.0025	0.0005	0.0005	0.0005	0.0025	0.002(1,3)
Vanadium	mg/L	0.018	0.002	0.003	0.001	0.037	NV
Zinc	mg/L		0.008	0.040	0.025	0.013	5(2)
Volatile Organic Compounds (8260):							
cis-1,2-Dichloroethene	µg/L	0.7	0.5	0.5	0.5	0.6	6 (1) / 70 (3)
Acetone	µg/L	21.0	7.0	6.0	9.0	30.0	NV
Bromodichloromethane	µg/L	0.5	2.4	6.2	0.5	0.5	80 (1,3)
Bromoform	µg/L	0.5	5.4	10.4	0.5	0.5	80 (1,3)
Chloroform	µg/L	1.4	1.4	3.3	3.7	1.7	80 (1,3)
Dibromochloromethane	µg/L	0.5	6.8	15.1	0.5	0.5	80 (1,3)
Dibromomethane	µg/L	0.5	0.5	0.5	1.3	0.5	80 (1,3)
Methyl ethyl ketone	µg/L	9.0	5.0	5.0	5.0	5.0	NV
Methylene Chloride	µg/L	5.0	5.0	5.0	1.0	5.0	5 (1,3)
Tetrahydrofuran	µg/L	5.0	5.0	5.0	5.0	7.0	NV

Notes:

(1) State of California Primary Drinking Water Standard

(2) State of California Secondary Drinking Water Standard

(3) Federal Maximum Contaminant Level

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

NV: No ARAR value.

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

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

173 Analyte was detected.

2500 Analyte concentration exceeds ARAR value.

TABLE 13B
SUMMARY OF ANALYTICAL RESULTS FOR TREATED WATER SAMPLES - FOURTH QUARTER 2016
SUNSHINE CANYON LANDFILL

Analyte	Units	T-402	T-101	T-102	PW-DWP	Treated Leachate	ARAR
		Samples collected on December 22, 2016					
Volatile Organic Compounds (8260):							
cis-1,2-Dichloroethene	µg/L	5.0	0.5	0.5	-	0.6	6 (1) / 70 (3)
Acetone	µg/L	5.0	7.0	5.0	-	5.0	NV
Bromodichloromethane	µg/L	0.5	0.5	4.5	-	0.5	80 (1,3)
Bromoform	µg/L	0.5	0.5	9.8	-	0.5	80 (1,3)
Chloroform	µg/L	1.9	2.3	5.2	-	0.9	80 (1,3)
Dibromochloromethane	µg/L	0.5	0.5	11.6	-	0.5	80 (1,3)
Dibromomethane	µg/L	0.5	0.5	0.6	-	0.5	80 (1,3)
Tetrahydrofuran	µg/L	5.0	5.0	5.0	-	5	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 14
SUNSHINE CANYON LANDFILL
IMPORTED SOIL SAMPLING SUMMARY - SECOND SEMIANNUAL 2016 MONITORING PERIOD

GENERATOR	SAMPLER	WASTE TYPE	QUANTITY	CONSTITUENTS ANALYZED
Stericycle, Inc.	No Samples Taken	Treated & Sterilized Medical Waste	20,000 Tons	No Samples Taken
Charles Drew University	No Samples Taken	Treated Medical Waste	2.5 Tons	No Samples Taken
City of Long Beach - Marine Maintenance	No Samples Taken	Weathered Wood	300 Cubic Yards	No Samples Taken
Roofmaster Product Inc.	No Samples Taken	Waste Roofing Asphalt	70 Drums	No Samples Taken
Providence Saint Joseph Medical Center	No Samples Taken	Autoclave Medical Waste and Solid Waste	1130 Tons	No Samples Taken
Micro Solutions Enterprises	No Samples Taken	Spent Laser Toner and Plastic Components	840 Tons	No Samples Taken
S&S Paving Inc	No Samples Taken	Cured Asphalt	4000 Tons	No Samples Taken
Irwin Naturals	No Samples Taken	Outdated Nutritional Raw Materials And Finished Good Products	160 Cubic Yards	No Samples Taken
Precision Pavement Striping Inc	No Samples Taken	Cured Asphalt	100 Tons	No Samples Taken
Saint John's Health Center	No Samples Taken	Medical / Autoclave	570 Cubic Yards	No Samples Taken
Custom Food Inc	No Samples Taken	Food Products	6593 Pounds	No Samples Taken
Walsh Shea Corridor Constructors	No Samples Taken	Treated Wood Waste for New Construction	70 Tons	No Samples Taken
Bravo Sports	No Samples Taken	Helmet and Protective Gear	100 Tons	No Samples Taken
Puratos Corporation	No Samples Taken	Food Products	31,336 Pounds	No Samples Taken
Alphacomm Enterprises	No Samples Taken	Outdated Cell Phone Accessories	15 Tons	No Samples Taken
Justin Burbridge	No Samples Taken	Weathered Wood	400 Pounds	No Samples Taken
Optimus Construction Inc	No Samples Taken	Pressure Treated Wood Cut offs	16 Cubic Yards	No Samples Taken
Mobil Station 11 GOG c/o Palisades Village Co LLC	No Samples Taken	Cut up Fiber Gass Tanks	40 Tons	No Samples Taken
The Aleco Corporation	No Samples Taken	Weathered Wood	15 Tons	No Samples Taken
Pavement Recycling Systems	No Samples Taken	Cured Asphalt	4500 Tons	No Samples Taken
Shai and Nicole Ameil	No Samples Taken	Weather Wood	3 Cubic Yards	No Samples Taken
AR Pipeline Inc	No Samples Taken	Cured Asphalt	150 Tons	No Samples Taken
United States Coast Guard	No Samples Taken	Weather Wood	150 Tons	No Samples Taken
FS Contractors	No Samples Taken	Cured Asphalt	500 Tons	No Samples Taken
California Water Service Company	Tom Cobos	Soil with Diesel Fuel	100 Cubic Yards	Metals, VOCs, and TPH
Ready Pac Foods Inc.	No Samples Taken	Food Products	300 Pounds	No Samples Taken
Contreras Produce Fresh Fruit	No Samples Taken	Food Products	2450 Pounds	No Samples Taken
LAUSD East Los Angeles Skill Center	No Samples Taken	Weathered Wood	200 Tons	No Samples Taken
Best Oriental Produce Inc	No Samples Taken	Food Products	270 Pounds	No Samples Taken
Dai Tan Tropical Fruit Wholesale	No Samples Taken	Food Products	810 Pounds	No Samples Taken
Hammer-Down Inc	No Samples Taken	Cured Asphalt	1000 Cubic Yards	No Samples Taken
Del Rey Yacht Club	No Samples Taken	Weathered Wood	3000 Pounds	No Samples Taken
YW International Inc	No Samples Taken	Food Products	5000 Pounds	No Samples Taken
Hengshi Fiberglass USA Inc	No Samples Taken	Fiberglass Fabric Materials	243 Tons	No Samples Taken

Notes:

VOC: Volatile Organic Compound

PCB: Polychlorinated Biphenyls

PNA: 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 ex 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

TPH: Total Petroleum Hydrocarbons

SVOC: Semivolatile Organic Compound

MSDS: Material Safety Data Sheet

TABLE 15
SUNSHINE CANYON LANDFILL
GENERATOR: CALIFORNIA WATER SERVICE COMPANY
WASTE DISCHARGE SAMPLING
ESTIMATED ANNUAL QUANTITY: 40 TONS

SAMPLE	Soil with Diesel	Hazardous Level TTL TTL (mg/kg)	Lined Cell Limit (mg/kg)	Unrestricted Limit (mg/kg)
DATE SAMPLED	09/30/16			
TIME SAMPLED	-			
SAMPLED BY	Tom Cobos			
DATE ANALYZED	10/03/16			
GENERAL CHEMISTRY (mg/kg): NA				
METALS (mg/kg) METHOD 6010B/7471A:				
Antimony	0.5	500	380	30
Arsenic	5.23	500	500	12
Barium	211	10,000	10,000	5,200
Beryllium	0.5	75	75	16
Cadmium	0.5	100	100	1.7
Chromium	37.8	2,500	2,500	45
Cobalt	9.97	8,000	350	23
Copper	22.8	2,500	2,500	2,500
Lead	3.42	1,000	350	80
Lead	4.98	1,000	350	80
Lead	216	1,000	350	80
Mercury	0.049	20	20	9.4
Molybdenum	6.26	3,500	3,500	380
Nickel	17.2	2,000	2,000	1,500
Selenium	0.5	100	100	100
Silver	0.5	500	500	380
Thallium	0.5	700	111	0.78
Vanadium	58.4	2,400	2,400	390
Zinc	59.4	5,000	5,000	5,000
VOLATILE ORGANIC COMPOUNDS (mg/Kg) METHOD 8260B: N				
1,3,4-Trimethylbenzene	3.66	NS	210	49
PETROLEUM HYDROCARBONS (mg/kg) METHOD 8015B:				
*TPH DROs (C11 to C22)	6090	NS	10,000	10
*TPH OROs (C23 to C35)	10	NS	NS	500
*TPH GROs (C4 to C10)	623	NS	1,000	10

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.

**Treated wood acceptable

Only detected VOCs listed.

FIGURES

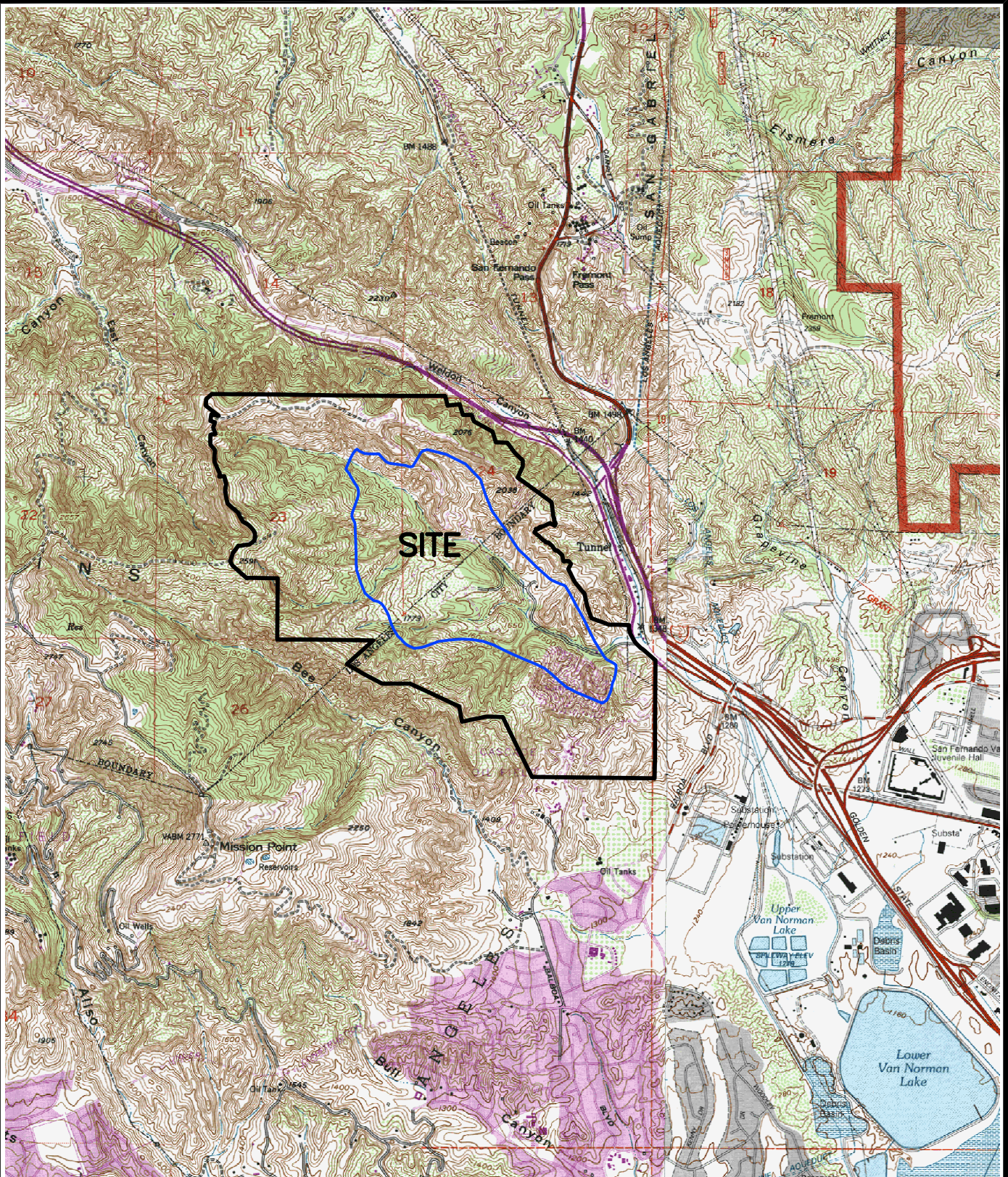
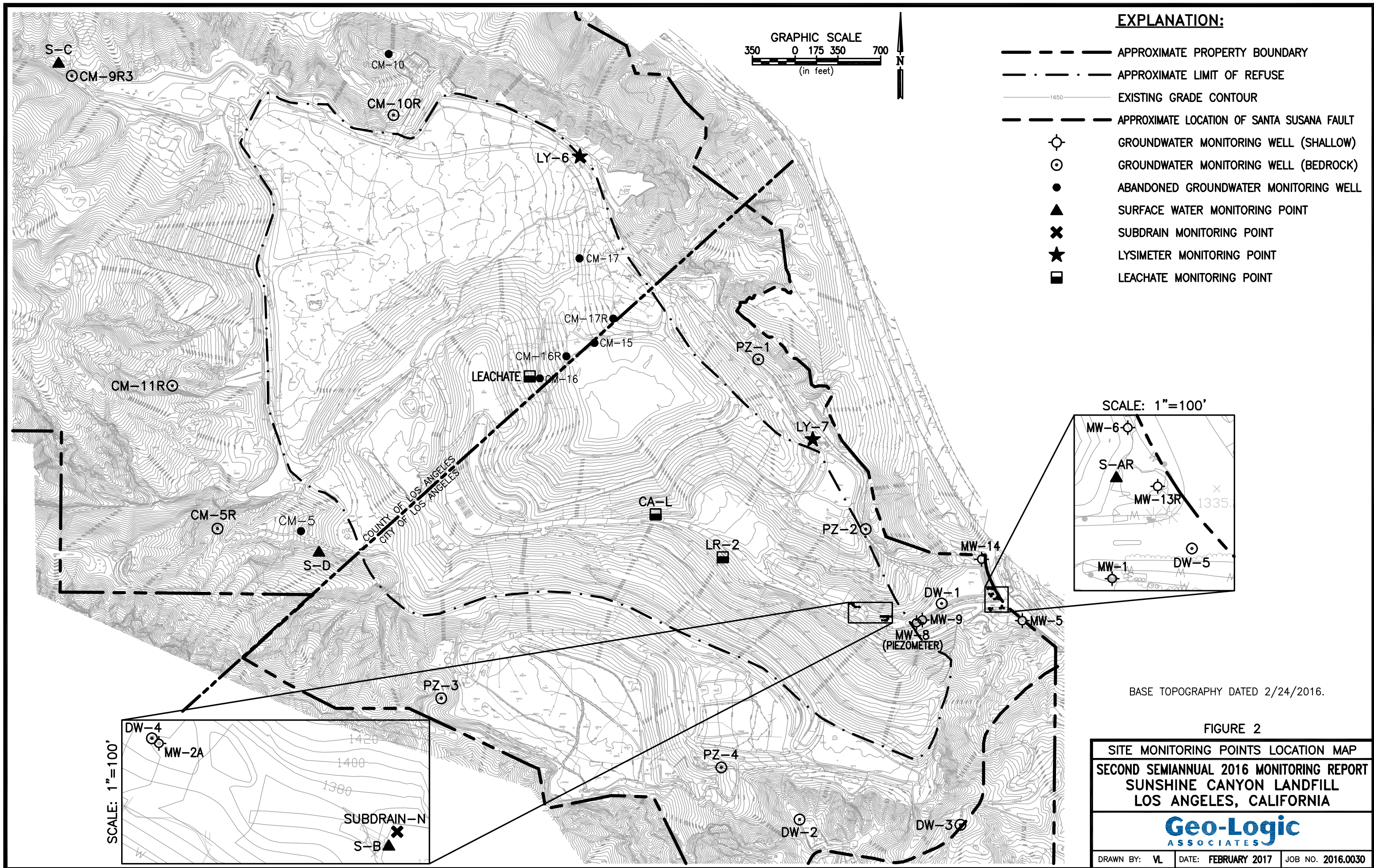


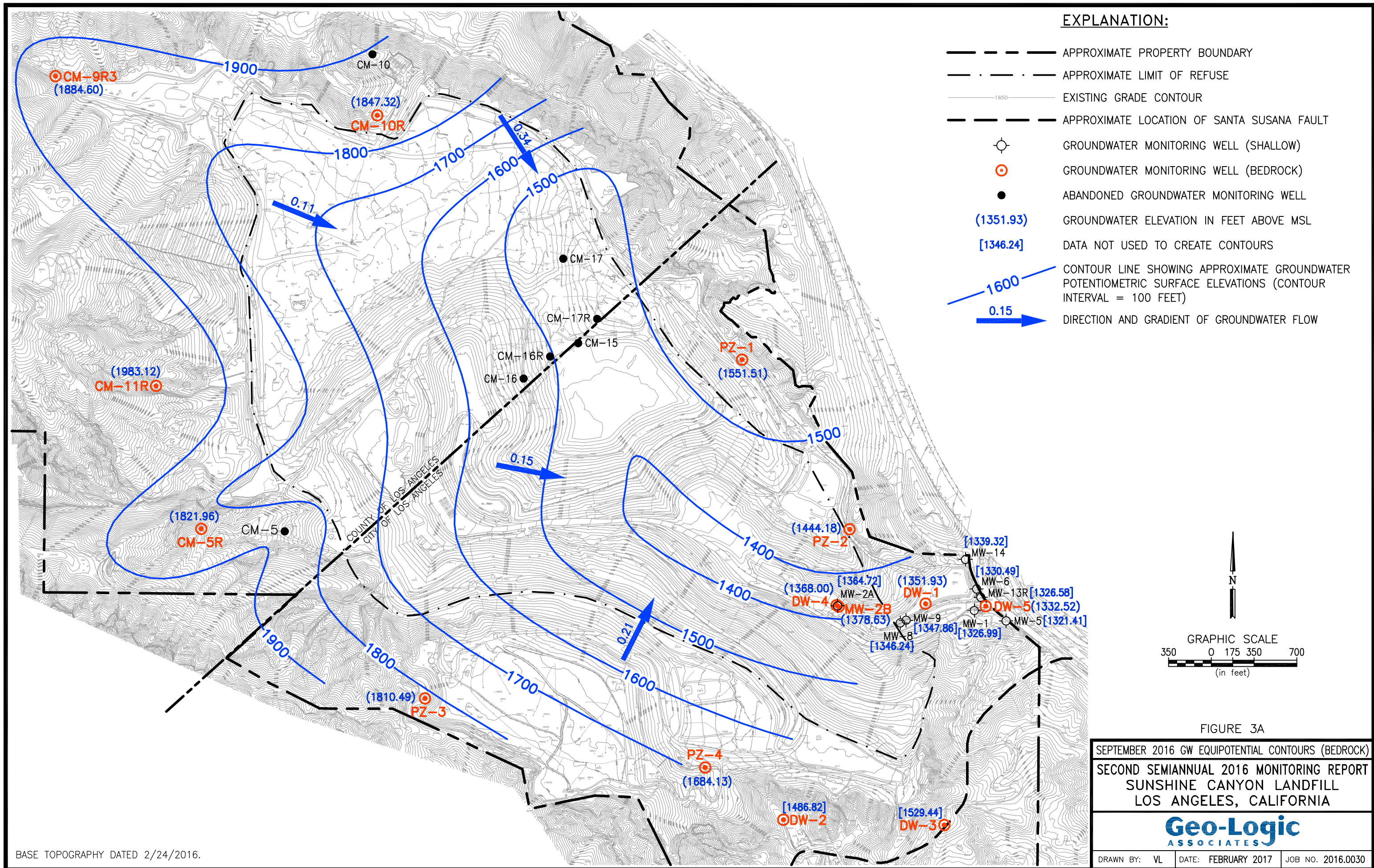
FIGURE 1

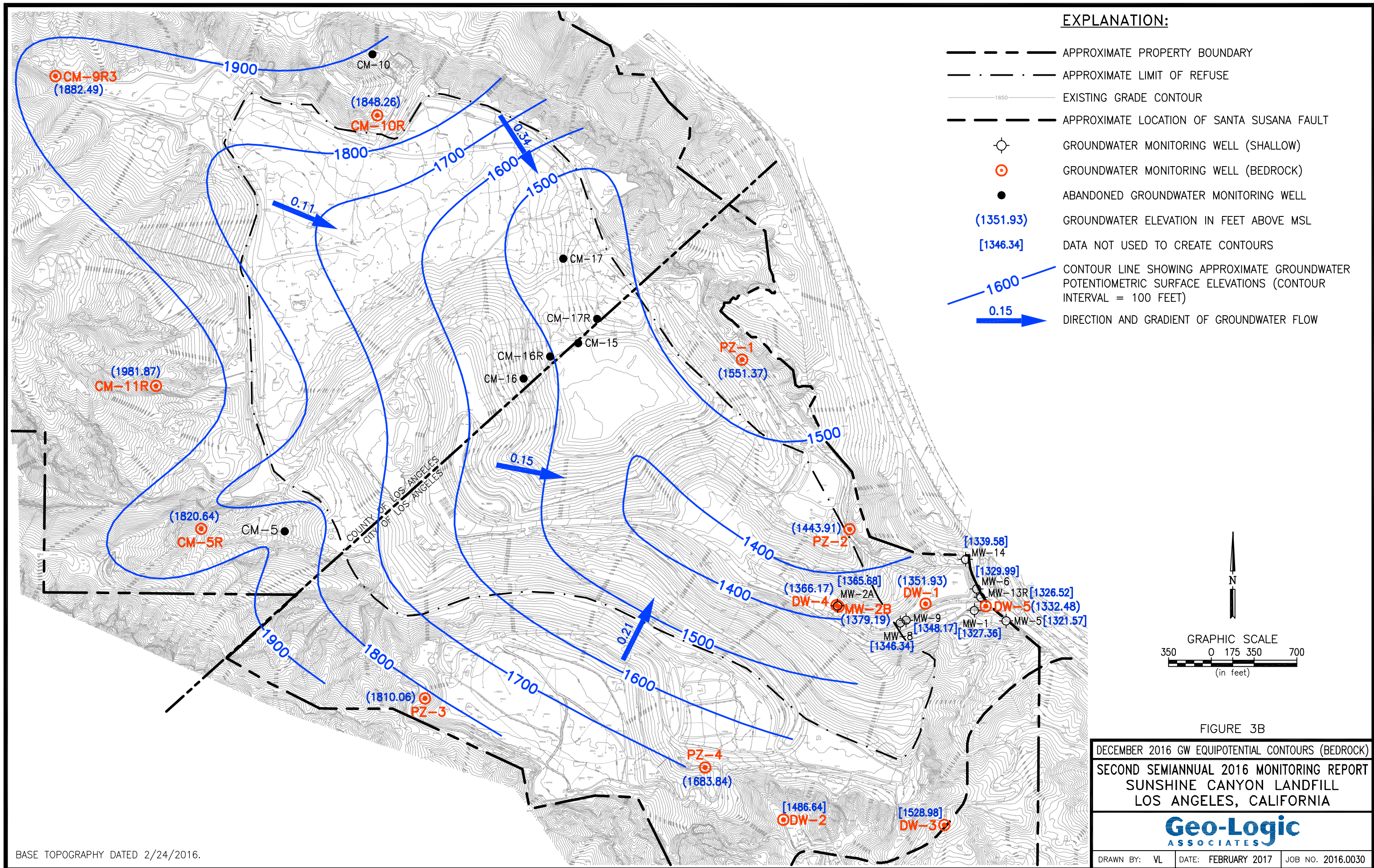


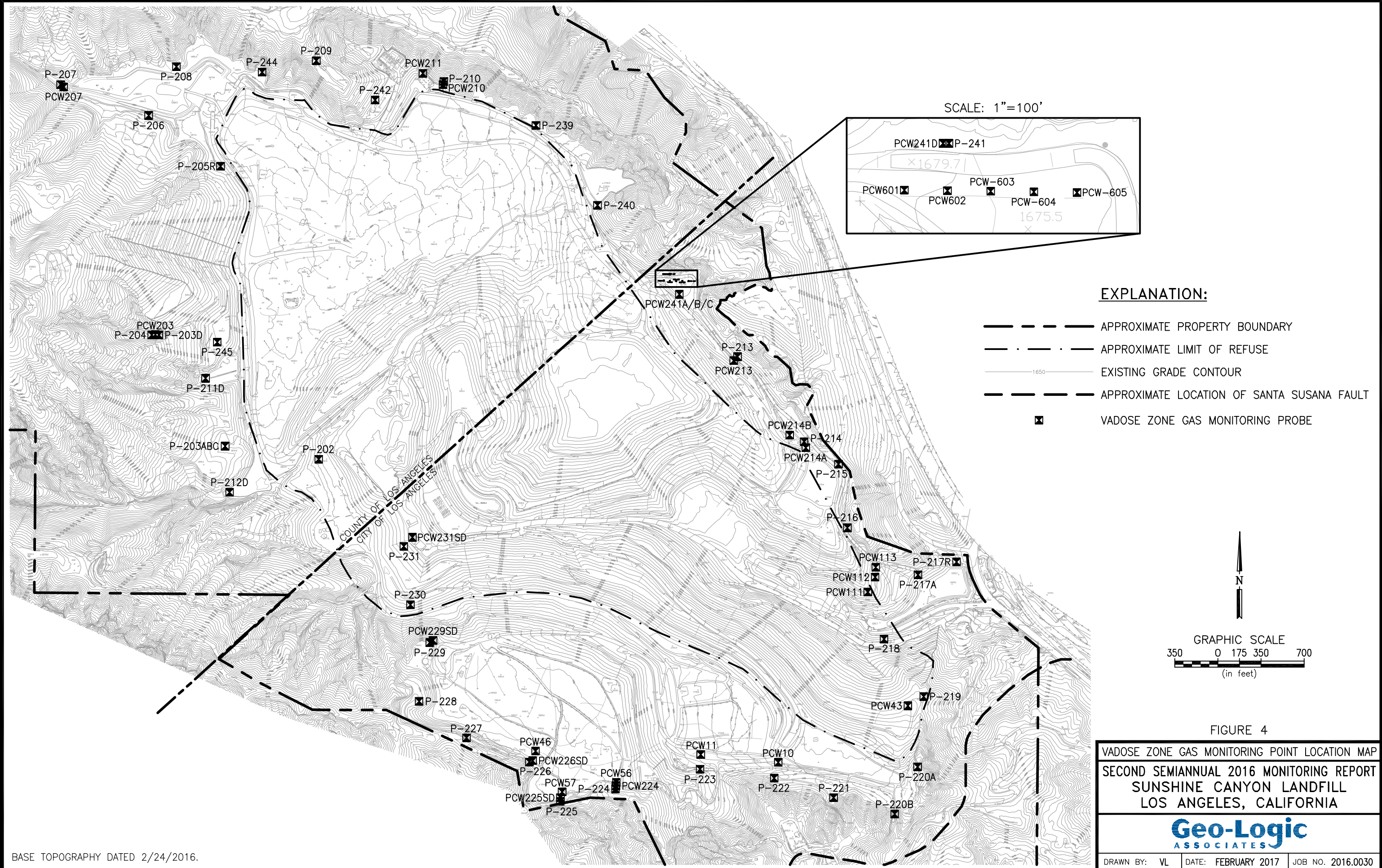
REFERENCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) OAT MOUNTAIN (1969)
AND SAN FERNANDO (1995) CALIFORNIA QUADRANGLES.

SITE LOCATION MAP		
SECOND SEMIANNUAL 2016 MONITORING REPORT SUNSHINE CANYON LANDFILL LOS ANGELES, CALIFORNIA		
DRAWN BY: VL	DATE: FEBRUARY 2017	JOB NO. 2016.0030









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

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

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

QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

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

FIELD EQUIPMENT CALIBRATION

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

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

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

Calibration Procedures

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

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

- pH: Calibration for pH is performed prior to commencement of sampling activities, using standard buffer solutions having pH values of 4, 7, and 10. Calibration checks for pH values using buffer solutions of 4, 7, and 10 will be performed daily. If the reading varies more than 0.10 of a unit between calibration checks, the meter will be recalibrated.
- Conductivity: Calibration for conductivity is performed prior to commencement of sampling activities, using potassium chloride standard solutions with conductivity values of 1,000 and 10,000 microsiemens/cm. The meter must read within one percent of full-scale to be considered calibrated. Calibration checks for conductivity will be performed daily.
- Turbidity Meter: Turbidity range calibration is performed prior to initiation of sampling activities, using turbidity gel standards of 0, 4.4, 45, and 483 NTUs. The meter is also checked daily during the sampling period with the standard most representative of the anticipated turbidity of the purged groundwater (typically 0 NTUs to 10 NTUs). If the reading varies by more than one unit between calibration checks, the meter will be recalibrated. Multiple physical conditions can cause variations in readings, including bubbles in the sampled water, wet or dirty sample containers, a wet or dirty lens, a wet or dirty optical sensor, or leakage of incidental light into the sample chamber.
- Multiple Sensor Meter (pH, Dissolved Oxygen, Conductivity, Temperature, Turbidity): A multiple sensor meter may be used for multiple parameter measurements during sampling. Calibration is performed prior to initiation of sampling activities, using manufacturer auto-calibration solution. If any of the readings are outside of the manufacturers specifications, the meter will be recalibrated for the parameter outside of the calibration range. Calibration checks will be performed daily.

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

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

Equipment Maintenance

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

APPENDIX B

FIELD SAMPLE COLLECTION LOGS AND LABORATORY ANALYTICAL DATA REPORTS

FIELD SAMPLE COLLECTION LOGS

* Refest *

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Project No.: 2016.0830
 Well I.D.: DW-3 Sampling Date: 7-20-16
 Collected By: BS Purge start Time: 0926
 Casing Diameter (inches): 4 Purge Stop time: 0951
 Starting Water Level: 152.64 Sampling (Well Recovery) Time: A/B : 1000
 Total Depth (feet): 256.60 Ending Water Level (feet): 155.98
 Water column (feet): 103.96 Total Purged (gallons): 3
 Screen Length (feet): — Duplicate Sample: YES ☐ NO ☒
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8TS49MH

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0933	3/4	153.82	7.19	1.96	0.3	4.01	21.62	24
0936	1	154.28	7.16	2.01	0.4	1.97	21.53	-35
0940	1 1/2	154.53	7.13	2.02	0.3	1.49	21.54	-32
0943	2	154.84	7.12	2.02	0.2	1.20	21.57	-34
0947	2 1/2	155.20	7.11	2.02	0.3	1.18	21.53	-35
0951	3	155.51	7.10	2.02	0.3	1.14	21.56	-35

Purge Sampling Rates: PSD 100, R:35, D:20
Clear water with no color

Well condition: OK

Additional Info/Comments: Clear, Sunny, warm.
* Refest * for chloride only A/B.

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn. Well ID: DW-3 Date: 7-20-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

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:

Barb Jones
Signed Title

7-20-16
Date

CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297

[illegible]

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297

Page 1 of 1

Client Name / Address:		Project/PO Number:		Analysis Required										Special Instructions					
Geo-Logic Analytic Services 11115 Wilshire Blvd. Suite 200, Los Angeles, CA 90025		2016.0030		EPA 210.1 - Lead EPA 210.1 - Cadmium EPA 210.1 - Arsenic EPA 210.1 - Chromium EPA 210.1 - Manganese EPA 210.1 - Nickel EPA 210.1 - Silver EPA 210.1 - Zinc EPA 210.1 - Barium EPA 210.1 - Strontium EPA 210.1 - Vanadium EPA 210.1 - Molybdenum EPA 210.1 - Cobalt EPA 210.1 - Selenium EPA 210.1 - Tellurium EPA 210.1 - Antimony EPA 210.1 - Bismuth EPA 210.1 - Thallium EPA 210.1 - Lead EPA 210.1 - Cadmium EPA 210.1 - Arsenic EPA 210.1 - Chromium EPA 210.1 - Manganese EPA 210.1 - Nickel EPA 210.1 - Silver EPA 210.1 - Zinc EPA 210.1 - Barium EPA 210.1 - Strontium EPA 210.1 - Vanadium EPA 210.1 - Molybdenum EPA 210.1 - Cobalt EPA 210.1 - Selenium EPA 210.1 - Tellurium EPA 210.1 - Antimony EPA 210.1 - Bismuth EPA 210.1 - Thallium										Lead, Cadmium, Arsenic, Chromium, Manganese, Nickel, Silver, Zinc, Barium, Strontium, Vanadium, Molybdenum, Cobalt, Selenium, Tellurium, Antimony, Bismuth, Thallium					
Project Manager:		Phone Number:		Fax Number:		Preservatives		Sampling Time		Sampling Date		# of Cont.		Container Type		Sample Matrix		Sample Description	
2016.0030		558-5131-1136		558-5131-1087		Yes		13:00		1/13/16		13		EPA 210.1		Liquid		Substrate	
2016.0030		558-5131-1136		558-5131-1087		Yes		11:30		1/13/16		13		EPA 210.1		Liquid		Combined Substrates	
2016.0030		558-5131-1136		558-5131-1087		Yes		13:25		1/13/16		13		EPA 210.1		Liquid		CM-923	
2016.0030		558-5131-1136		558-5131-1087		Yes		13:25		1/13/16		13		EPA 210.1		Liquid		CM-102	
2016.0030		558-5131-1136		558-5131-1087		Yes		13:00		1/13/16		13		EPA 210.1		Liquid		CM-112	
2016.0030		558-5131-1136		558-5131-1087		Yes		-		1/13/16		13		EPA 210.1		Liquid		Duplicate	
2016.0030		558-5131-1136		558-5131-1087		Yes		-		1/13/16		13		EPA 210.1		Liquid		Defect	
2016.0030		558-5131-1136		558-5131-1087		Yes		-		1/13/16		13		EPA 210.1		Liquid		BGRS	
Relinquished By:		Date / Time:		Received By:		Date / Time:		Turnaround Time: (Check)		same day		72 hours							
Relinquished By:		Date / Time:		Received By:		Date / Time:		Turnaround Time: (Check)		24 hours		5 days							
Relinquished By:		Date / Time:		Received in Lab By:		Date / Time:		Sample Integrity: (Check)		intact		on ice							

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

GROUNDWATER MONITORING PROGRAM WATER LEVEL SURVEY RECORD SHEET

Site Sunshine Cyn.

Project No: 2016.0030

Date 9-19-16

Field Personnel B. Salinas, A. Shaw

Page 1 of 2

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			17.49	
MW-2A			32.29	
MW-2B			20.05	
MW-5			20.01	
MW-6			16.83	
MW-8			16.13	
MW-9			15.46	
MW-13R			19.20	
MW-14			14.87	
DW-1			TTC	
DW-2			35.10	
DW-3			153.10	
DW-4			32.82	
DW-5			15.02	
CM-5R			210.04	
CM-10R			53.88	
CM-11R			27.29	
CM-9R3			17.80	
PZ-1			92.25	
PZ-2			122.34	
REMARKS: <u>Paul Salinas</u>				

GROUNDWATER MONITORING PROGRAM WATER LEVEL SURVEY RECORD SHEET

Site Sandrine Cyn.

Project No : 2016.0030

Date 9-19-18

Field Personnel BS, AS

Page 2 of 2

[illegible]

REMARKS

Bert Salinas

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-003D

Well I.D.:

CM-9R3

Sampling Date:

9.19.16

Collected By:

AS

Purge start Time:

1256

Casing Diameter (inches):

4

Purge Stop time:

1315

Starting Water Level:

17.80

Sampling (Well Recovery) Time:

1325

Total Depth (feet):

29.00

Ending Water Level (feet):

19.08

Water column (feet):

11.20

Total Purged (gallons):

2.04

Screen Length (feet):

✓

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

U-521X-6P8GR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1300	0.50	18.44	6.41	6.85	43.8	5.49	20.31	-73
1304	1.00	18.61	6.26	6.71	10.5	4.87	19.71	-66
1307	1.25	18.69	6.20	6.62	5.8	4.36	19.88	-58
1309	1.50	18.84	6.17	6.55	4.2	4.04	19.51	-54
1312	1.75	18.89	6.15	6.51	3.8	3.99	19.49	-50
1315	2.00	19.08	6.14	6.50	4.0	3.98	19.49	-49

Purge Sampling Rates:

25 PSI ; Refill (20.0) / Discharge (10.0) /

Purge / Sample water is visually clear w/ no odor.

Well condition

O.K.

* Pump Depth: 27.4 ft.

Additional Info/Comments:

Partly Cloudy, Hot, Breezy

Name:

Adam Stiller

Signature:

AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-9R3 Date: 9.19.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☐ Inadequate: ☒
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks: No pad observed

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: Locking cap/ring is cracked and unsecured - Lid can be lifted off w/out unlocking

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:

ACM
Signed

Field Tech
Title

9.19.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Well I.D.:

Casing Diameter (inches):

Starting Water Level:

Total Depth (feet):

Water column (feet):

Screen Length (feet):

Sample Method:

Horiba Model S/N:

Project No.:

Sampling Date:

Purge start Time:

Purge Stop time:

Sampling (Well Recovery) Time:

Ending Water Level (feet):

Total Purged (gallons):

Duplicate Sample:

Micro Purge

Low Flow

U. 52 / CLKP8CRS

* Duplicate collected

[illegible]

Purge Sampling Rates:

Dunge/Sample water is clear w/ strong odor. Water left blackish residue on bucket walls.

Well condition:

* Pump Depth: 100 ft

Additional Info/Comments:

Name: _____

Signature:

Answer Sheet

acH

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-10R Date: 9.19.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

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: Pump depth: 100 ft.

Field Certification:

AC Field Tech
Signed Title

9.19.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-0030

Well I.D.:

CM-11R

Sampling Date:

9.19.16

Collected By:

AS

Purge start Time:

1409

Casing Diameter (inches):

4

Purge Stop time:

1447

Starting Water Level:

27.29

Sampling (Well Recovery) Time:

1500

Total Depth (feet):

31.00

Ending Water Level (feet):

28.00

Water column (feet):

3.71

Total Purged (gallons):

1.54

Screen Length (feet):

—

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

U-52/WAUP8APS

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1416	0.25	27.51	6.11	5.34	1.3	2.47	23.01	106
1423	0.50	27.60	6.07	5.35	1.3	2.14	22.82	109
1429	0.75	27.68	6.02	5.36	1.3	1.83	22.00	115
1435	1.00	27.79	5.99	5.36	1.3	1.89	21.85	116
1441	1.25	27.88	5.98	5.39	1.3	1.84	21.49	117
1447	1.50	28.00	5.97	5.38	1.3	1.79	21.46	117

Purge Sampling Rates:

30 PSI; Refill (30.0), Discharge (5.0).
Purge/Sample water is clear w/ no odor.

Well condition:

OK

* Pump Depth: 29.8 ft.

Additional Info/Comments:

Mostly Cloudy, Hot, Breezy

Name:

Adam Shaw

Signature:

AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cgn Well ID: CM-11R Date: 9.19.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

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:

ACM
Signed

Field Tech
Title

9.19.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cgn

Project No.:

2016.0030

Well I.D.:

MW-1

Sampling Date:

9.22.16

Collected By:

AS

Purge start Time:

0902

Casing Diameter (inches):

4

Purge Stop time:

0920

Starting Water Level:

17.49

Sampling (Well Recovery) Time:

0935

Total Depth (feet):

29.60

Ending Water Level (feet):

12.65

Water column (feet):

Total Purged (gallons):

7.00

Screen Length (feet):

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U5216608825

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0907	0.50	17.65	6.79	5.45	4.1	3.91	21.71	-129
0911	1.00	"	6.79	5.44	5.7	3.40	21.71	-141
0913	1.25	"	6.79	5.44	6.1	3.29	21.70	-143
0915	1.50	"	6.79	5.44	7.1	3.29	21.75	-143
0918	1.75	"	6.77	5.44	8.0	3.25	21.77	-145
0920	2.00	"	6.77	5.44	7.8	3.21	21.80	-145

Purge Sampling Rates:

20 PSI ; Refill (25.0) / Discharge (11.0)

Well condition:

O.K.

Additional Info/Comments:

Overcast, Cool A.M.

* (13) Batteries

Name:

Adam Smith

Signature:

AC. Smith

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-1 Date: 9.22.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☐ Inadequate: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks: Concrete pad not observed / 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:

C.C. St Field Tech
Signed Title

9.22.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-0030

Well I.D.:

MW-2A

Sampling Date:

9.21.16

Collected By:

AS

Purge start Time:

0835

Casing Diameter (inches):

4

Purge Stop time:

0915

Starting Water Level:

32.29

Sampling (Well Recovery) Time:

0930

Total Depth (feet):

41.30

Ending Water Level (feet):

33.39

Water column (feet):

—

Total Purged (gallons):

1.5 +

Screen Length (feet):

—

Duplicate Sample:

YES ☐ NO ☒

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U-52/KK6P8CR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	D.R.P. mV
0844	0.25	32.71	6.93	4.13	5.3	4.35	22.70	-96
0850	0.50	32.82	6.97	4.13	5.2	3.84	22.71	-103
0856	0.75	32.96	6.98	4.12	4.5	3.45	22.63	-106
0902	1.00	33.10	6.99	4.13	3.6	3.36	22.63	-107
0908	1.25	33.27	6.99	4.13	3.5	3.29	22.63	-108
0915	1.50	33.39	6.99	4.13	3.4	3.24	22.63	-108

Purge Sampling Rates:

25 PSI ; Refill (25.0) Discharge (9.0)

Purge/Sample water is visually clear w/ no odor.

Well condition:

O.K. - Requires hiking sampling equipment + bottles down slope to well. Pump was attended & re-installed on Mon. 9/19/16.

Additional Info/Comments:

Clear, warm A.M.

New lock put on monument

Pump Inlet: 39 ft.

Name:

ADAM SHAW

Signature:

(13) Bottles
AC

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-2A Date: 9.21.16

Access:

Accessibility: Good: _____ Fair: ☒ Poor: _____
 Vicinity of well clear of weeds and/or debris: Yes: ☒ No: _____
 Presence of depressions or standing water around well: Yes: _____ No: ☒
 Remarks: Well is mid-slope adjacent to new concrete channel - had to carry/hike equipment down slope

Concrete Pad:

Integrity: Good: ☒ Inadequate: _____
 Presence of depressions or standing water around well: Yes: _____ No: ☒
 Remarks: New 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: Pump was extended and re-installed on Monday 9-19-16.
* Pump Inlet: 39 ft.

Field Certification:

Signed

Title

Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016.0030

Well I.D.:

MW-2B

Sampling Date:

9.21.16

Collected By:

AS

Purge start Time:

1051

Casing Diameter (inches):

4

Purge Stop time:

1110

Starting Water Level:

20.05

Sampling (Well Recovery) Time:

1125

Total Depth (feet):

71.10

Ending Water Level (feet):

23.16

Water column (feet):

—

Total Purged (gallons):

2.04

Screen Length (feet):

—

Duplicate Sample:

YES ☒ NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

US21WHP8CRS1

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1056	0.50	21.33	7.61	4.12	14.3	5.11	22.57	-96
1100	1.00	22.11	7.59	4.06	2.7	4.44	22.33	-111
1102	1.25	22.32	7.58	4.08	2.8	4.21	22.30	-113
1105	1.50	22.63	7.57	4.07	2.8	3.83	22.29	-114
1108	1.75	22.85	7.57	4.07	2.6	3.80	22.28	-114
1110	2.00	23.16	7.57	4.04	2.5	3.77	22.29	-114

Purge Sampling Rates: 40 psi ; Refill /30.0/, Discharge /15.0/.

Well condition: O.K. - Requires hooking sampling equipment + bottles down slope to well - Pump extended + re-installed on 9/19/16.

Additional Info/Comments: Mostly Sunny, Warm, Winds

New lock put on monument.

Pump Inlet: 68 ft.

(13) Bottles

Name: Adam Shaw

Signature: [Signature]

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>		Well ID: <u>MW-2B</u>	Date: <u>9.21.16</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>Well is mid-slope adjacent to new concrete channel - Had to carry/lift equipment down slope.</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>New 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>Robbler</u>		
Condition:	Good: <input checked="" type="checkbox"/>	Damaged: _____	Missing: _____
Pumping Rate (gpm):	<u>N/A</u>	Current (Hz):	<u>N/A</u>
Remarks: <u>Pump was extended and re-installed on Monday 9-19-16. * Pump Inlet: 68 ft.</u>			
Field Certification: <u>C.C. [Signature]</u> Signed <u>Field Tech</u> Title <u>9.21.16</u> Date			

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn. Project No.: 2016.0030
 Well I.D.: MW-5 Sampling Date: 9-21-16
 Collected By: BS Purge start Time: 1051
 Casing Diameter (inches): 2 Purge Stop time: 1115
 Starting Water Level: 20.01 Sampling (Well Recovery) Time: 1126
 Total Depth (feet): 26.20 Ending Water Level (feet): 20.12
 Water column (feet): 6.19 Total Purged (gallons): 2.25
 Screen Length (feet): — Duplicate Sample: YES ☐ NO ☒
 Sample Method: ☒ Micro Purge ☐ Low Flow
 Horiba Model S/N: R805494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1056	1/2	20.16	6.47	3.74	2.4	3.01	21.73	-24
1059	3/4	20.20	6.44	3.71	0.4	1.47	21.42	-37
1102	1	"	6.41	3.64	0.9	1.01	21.57	-50
1105	1 1/4	"	6.39	3.64	1.8	0.96	21.56	-51
1108	1 1/2	"	6.39	3.63	2.6	0.90	21.49	-51
1111	2	"	6.39	3.63	2.8	0.89	21.46	-51
1115	2 1/4	"	6.39	3.63	2.5	0.88	21.45	-51

Purge Sampling Rates: BSR 20, R:30, D:9

Clear water

Well condition: OK - Needs weed abatement

Additional Info/Comments: clear, hot

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Bunshine Cyn. Well ID: MW-5 Date: 9-21-16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____
Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____
Presence of depressions or standing water around well: Yes: _____ No: ✓
Remarks: * Needs weed abatement.

Concrete Pad:

Integrity: Good: _____ Inadequate: _____
Presence of depressions or standing water around well: Yes: _____ No: ✓
Remarks: buried 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:

Bert Salas
Signed

G.W. Manager
Title

9-21-16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: MW-6
Collected By: AS
Casing Diameter (inches): 2
Starting Water Level: 16.81
Total Depth (feet): 23.50
Water column (feet): —
Screen Length (feet): —
Sample Method: Micro Purge Low Flow
Horiba Model S/N: U-52/6X/6P80RS/

Project No.: 2016-0030
Sampling Date: 9.20.16
Purge start Time: 0856
Purge Stop time: 0950
Sampling (Well Recovery) Time: 1000
Ending Water Level (feet): 17.13
Total Purged (gallons): 1.75 +
Duplicate Sample: YES ☐ NO ☒

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0916	0.50	17.13	7.32	4.33	13.6	3.55	26.17	-334
0918	0.75	"	7.27	4.31	12.1	3.26	25.96	-341
0926	1.00	"	7.25	4.29	13.3	3.15	25.93	-341
0934	1.25	"	7.24	4.28	11.8	3.09	25.93	-341
0942	1.50	"	7.23	4.27	12.0	3.08	25.90	-341
0950	1.75	"	7.23	4.27	12.1	3.05	25.88	-340

Purge Sampling Rates: 20 PSI ; Refill (30.0) ; Discharge (6.0) ; Low yield.

Well condition: OK - Had to carry equip. down to well * Pump Depth: 19.7 ft.

Additional Info/Comments: Partly Cloudy, Humid (13) Bottles

Name: Adam Shaw

Signature: ACS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-6 Date: 9.20.16

Access:

Accessibility: Good: _____ Fair: ☒ Poor: _____
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: _____
Presence of depressions or standing water around well: Yes: _____ No: ☒

Remarks: Carried sampling equipment down slope and across dirt path 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: Low yield

Field Certification:

AC. Sl
Signed

Field Tech
Title

9.20.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-0030

Well I.D.:

MW-9

Sampling Date:

9-20-16

Collected By:

AS

Purge start Time:

1258

Casing Diameter (inches):

4

Purge Stop time:

1331

Starting Water Level:

15.46

Sampling (Well Recovery) Time:

1341

Total Depth (feet):

26.70

Ending Water Level (feet):

15.52

Water column (feet):

Total Purged (gallons):

2.07

Screen Length (feet):

—

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

U-52 (W66P8GR5)

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1307	0.50	15.52	6.77	5.14	2.3	2.11	25.01	-102
1315	1.00	"	6.76	5.19	0.0	2.00	24.54	-106
1319	1.25	"	6.75	5.20	0.0	1.87	24.43	-106
1323	1.50	"	6.75	5.21	0.0	1.78	24.36	-106
1327	1.75	"	6.74	5.22	0.0	1.75	24.32	-106
1331	2.00	"	6.74	5.22	0.0	1.73	24.34	-106

Purge Sampling Rates:

25 PSI - Refill (20.0), Discharge (15.0)

Purge/Sample water has very slight yellowish tint w/ no odor

Well condition:

O.K.

Carried sampling equipment + bottles to well.

Additional Info/Comments:

Mostly Sunny, Clear, Winds

(13) Bottles

Name:

Adam Suter

Signature:

AS

MW-8 WL = 16.13'

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-9 Date: 9.20.16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____
 Presence of depressions or standing water around well: Yes: _____ No: ✓
 Remarks: Had to carry sampling equipment + 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 / Flush Mount
 Condition of Protective Casing: Good: ✓ Damaged: _____
 Condition of Locking Cap: Good: ✓ Damaged: _____
 Condition of Lock: Good: ✓ Damaged: _____
 Condition of Weepholes: Good: ✓ Damaged: _____
 Remarks: _____

Well Riser:

Material: PVC
 Condition of Riser: Good: ✓ Damaged: _____
 Condition of Riser Cap: Good: ✓ Damaged: _____
 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:

A.C. Sh Field Tech 9.20.16
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016.0030

Well I.D.:

MW-13R

Sampling Date:

9.20.16

Collected By:

AS

Purge start Time:

1423

Casing Diameter (inches):

4

Purge Stop time:

1458

Starting Water Level:

19.22

Sampling (Well Recovery) Time:

1510

Total Depth (feet):

27.80

Ending Water Level (feet):

20.02

Water column (feet):

Total Purged (gallons):

1.5+

Screen Length (feet):

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U-52/WK-HP8GPS

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1434	0.50	19.46	7.55	3.50	0.0	2.04	26.11	-388
1440	0.75	19.50	7.55	3.50	0.0	1.97	25.52	-390
1446	1.00	19.54	7.54	3.53	0.0	1.96	25.24	-391
1452	1.25	19.59	7.54	3.53	0.0	1.93	25.18	-391
1458	1.50	20.02	7.54	3.54	0.0	1.92	25.19	-391

Purge Sampling Rates:

30 psi ; Refill (25.0) Discharge (6.0)

Purge/Sample water is mostly clear w/ black tint & strong odor. Left black film on bucket.

Well condition:

S.K. - Monument heavily ~~eroded~~ corroded.

Additional Info/Comments:

Mostly Sunny, Warm, Winds * Pump Depth: 26.4 ft.

Name:

Adam Shaw

Signature:

AC Shaw

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-13R Date: 9.20.16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____
 Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Carried sampling equipment + batteries across road 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: ✓ Corroded.
 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:

A.C. St Field Tech 9.20.16
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2013.0030

Well I.D.:

MW-14

Sampling Date:

9.20.16

Collected By:

AS

Purge start Time:

0728

Casing Diameter (inches):

4

Purge Stop time:

0748

Starting Water Level:

14.89

Sampling (Well Recovery) Time:

0758

Total Depth (feet):

28.10

Ending Water Level (feet):

15.13

Water column (feet):

13.21

Total Purged (gallons):

2.04

Screen Length (feet):

-

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U-52/1X6P80RS

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0735	1.00	15.13	7.19	4.23	2.5	8.01	22.87	-102
0738	1.25	"	7.15	4.17	1.2	6.72	22.86	-96
0741	1.50	"	7.12	4.10	2.4	7.35	22.87	-89
0745	1.75	"	7.10	4.06	2.6	7.37	22.89	-82
0748	2.00	"	7.08	4.03	2.5	7.39	22.89	-77

Purge Sampling Rates:

20 PSI ; Refill / 20.0 / Discharge / 10.0 /

- Purge/Sample water is clear w/ no odor
- Roots on Sounder tip

Well condition:

O.K. - Required to hike sampling equipment down slope over to well

Additional Info/Comments:

Partly Cloudy, Humid

(13) Bottles

Name:

Adam Suter

Signature:

AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-14 Date: 9.20.16

Access:

Accessibility: Good: _____ Fair: ☒ Poor: _____
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: _____
Presence of depressions or standing water around well: Yes: _____ No: ☒

Remarks: Hard to carry sampling equipment down slope to well.

Concrete Pad:

Integrity: Good: ☒ Inadequate: _____
Presence of depressions or standing water around well: Yes: _____ No: _____
Remarks: _____

Protective Outer Casing:

Material: Metal

Condition of Protective Casing: Good: ☒ Damaged: _____
Condition of Locking Cap: Good: ☒ Damaged: _____
Condition of Lock: Good: ☒ Damaged: _____
Condition of Weepholes: Good: ☒ Damaged: _____

Remarks: _____

Well Riser:

Material: PVC

Condition of Riser: Good: ☒ Damaged: _____
Condition of Riser Cap: Good: ☒ Damaged: _____
Measurement reference point: Yes: ☒ No: _____

Remarks: _____

Dedicated Pump:

Type: AS-7 PVC Bladders

Condition: Good: ☒ Damaged: _____ Missing: _____
Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks: _____

Field Certification:

C. C. Sh Field Tech

Signed

Title

9.20.16

Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn
PZ-2

Project No.:

2016-0030

Well I.D.:

Sampling Date:

9-20-16

Collected By:

AS
2

Purge start Time:

1118

Casing Diameter (inches):

Purge Stop time:

1145

Starting Water Level:

122.38

Sampling (Well Recovery) Time:

1155

Total Depth (feet):

160.90

Ending Water Level (feet):

126.20

Water column (feet):

—

Total Purged (gallons):

2.04

Screen Length (feet):

—

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U-52/WCCP8CRS

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1126	0.50	124.30	8.83	6.95	0.9	6.93	27.65	-208
1132	1.00	125.07	8.93	6.99	0.0	6.90	27.25	-188
1135	1.25	125.32	8.93	6.97	0.0	6.84	27.01	-181
1138	1.50	125.61	8.93	6.97	0.0	6.67	26.94	-177
1141	1.75	125.89	8.93	6.98	0.0	6.63	26.88	-174
1145	2.00	126.20	8.93	7.00	0.0	6.59	26.85	-173

Purge Sampling Rates:

80 RL : Refill (30.0) Discharge (21.0)

Well condition:

OK - Had to hike/carry sampling equipment
across concrete channel

Additional Info/Comments:

Mostly Sunny, Warm, Windy

Name:

Adam Smith

Signature:

AC Smith

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: PZ-2 Date: 9-20-16

Access:

Accessibility: Good: ☐ Fair: ☐ Poor: ☒
 Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
 Presence of depressions or standing water around well: Yes: ☐ No: ☒

Remarks: Carried sampling equipment + batteries across concrete channel to sample well.

Concrete Pad:

Integrity: N/A 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): 0/12

Remarks:

Field Certification:

C. C. St Field Tech 9.20.16
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sandline Cxn.
Well I.D.: R2-4
Collected By: BS
Casing Diameter (inches): 2
Starting Water Level: 111.72
Total Depth (feet): 125.15
Water column (feet): 13.43
Screen Length (feet): —
Sample Method: Micro Purge Low Flow
Horiba Model S/N: R8JS494H

Project No.: 2016.0030
Sampling Date: 9-20-16
Purge start Time: 1018
Purge Stop time: 1035
Sampling (Well Recovery) Time: 1045
Ending Water Level (feet): 112.92
Total Purged (gallons): 1.5
Duplicate Sample: YES NO?

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1023	1/2	112.04	7.21	1.44	3.6	3.26	26.43	120
1026	3/4	112.51	6.96	1.44	6.7	1.61	25.22	-40
1029	1	112.81	6.92	1.46	4.5	1.24	25.00	53
1032	1 1/4	112.96	6.92	1.48	4.2	1.18	24.92	31
1035	1 1/2	113.08	6.93	1.48	4.4	1.12	24.96	-50

Purge Sampling Rates: PSD 80, R:30 / D: 15.
Clear looking water

Well condition: OK
13 corr. filled

Additional Info/Comments: Cloudy, hot, humid

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Gundwino Well ID: PZ-4 Date: 9-20-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☒ Inadequate: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Protective Outer Casing:

Material: Metal (Flashed manure)

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 [Signature]
Signed Title

9-20-16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cmn Project No.: 2016-0030
 Well I.D.: DW-1 Sampling Date: 9-20-16
 Collected By: BS Purge start Time: /
 Casing Diameter (inches): 4 Purge Stop time: /
 Starting Water Level: TCC Sampling (Well Recovery) Time: 0945
 Total Depth (feet): / Ending Water Level (feet): /
 Water column (feet): 6 Total Purged (gallons): /
 Screen Length (feet): / Duplicate Sample: YES (NO)
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8JSH944

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
—	6.46	—	8.73	4.46	5.8	1.55	24.43	-205

Purge Sampling Rates: Collect Samples @ discharge tube,
clear water with an echo
QC/B taken here.
 Well condition: OK

Additional Info/Comments: Cloudy, cool
13 cans filled

Name: Ben Salinas Signature: Ben Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: DW-1 Date: 9-20-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☒ Inadequate: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks: chipping @ corners

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: Casing is deteriorating @ bottom / 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: Drop tube

Condition: Good: ☒ Damaged: ☐ Missing: ☐
Pumping Rate (gpm): N/A Current (Hz): N/A

Remarks:

Field Certification:

Barb J. Kim GW Manager
Signed Title

9-20-16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 2016.0030
 Well I.D.: DW-2 Sampling Date: 9-21-16
 Collected By: RS Purge start Time: 0858
 Casing Diameter (inches): 4 Purge Stop time: 0921
 Starting Water Level: 35.10 Sampling (Well Recovery) Time: 0928
 Total Depth (feet): 37.97 Ending Water Level (feet): 35.72
 Water column (feet): 2.87 Total Purged (gallons): 2
 Screen Length (feet): — Duplicate Sample: YES ☒ NO
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8TSu944

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0904	3/4		6.60	2.66	0.2	1.38	20.02	-72
0907	1		6.79	2.45	0.0	1.26	20.00	-84
0910	1 1/4		6.85	2.65	0.2	1.21	19.98	-87
0913	1 1/2		6.93	2.65	0.0	1.12	19.94	-89
0917	1 3/4		6.95	2.65	0.1	1.10	19.95	-93
0921	2		6.98	2.64	0.1	1.08	19.94	-93

Purge Sampling Rates: PSD 45, R: 35, D: 15
water looks clear

Well condition: OK
Q&A's taken here.
 Additional Info/Comments: Sunny, hot

Name: Bert Salinas Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-2 Date: 9-21-16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____
Vicinity of well clear of weeds and/or debris: Yes: _____ No: ✓
Presence of depressions or standing water around well: Yes: _____ No: ✓
Remarks: _____

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:

Bert J. Jones G.W. Manager
Signed Title

9-21-16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cym. Project No.: 2016-0030
 Well I.D.: DW-3 Sampling Date: 9-20-16
 Collected By: BS Purge start Time: 1348
 Casing Diameter (inches): 4 Purge Stop time: 1415
 Starting Water Level: 153.10 Sampling (Well Recovery) Time: 1423
 Total Depth (feet): 256.60 Ending Water Level (feet): 157.12
 Water column (feet): 103.50 Total Purged (gallons): 2 3/4
 Screen Length (feet): — Duplicate Sample: YES ☐ NO ☒
 Sample Method: Micro Purge Low Flow
 Horiba Model S/N: R8JS494H

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1354	1/2	154.42	7.35	2.03	0.2	6.11	24.75	205
1358	3/4	154.78	7.33	2.09	0.2	2.46	23.28	8
1402	1 1/4	155.39	7.10	2.10	1.0	1.97	22.22	-40
1406	1 3/4	155.88	7.05	2.11	1.1	1.26	22.28	-39
1411	2 1/4	156.71	7.06	2.11	1.0	1.23	22.29	-39
1415	2 3/4	157.23	7.04	2.10	1.1	1.21	22.26	-39

Purge Sampling Rates: 100, 125, 150, 20
clear water

Well condition: OK

Additional Info/Comments: cloudy, hot & humid.

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-3 Date: 9-20-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

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: Bladder (BS) 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 Salas
Signed

GW Manager
Title

9-20-16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-0030

Well I.D.:

DW-4

Sampling Date:

9-21-16

Collected By:

AS

Purge start Time:

1256

Casing Diameter (inches):

4

Purge Stop time:

1322

Starting Water Level:

32.82

Sampling (Well Recovery) Time:

1335

Total Depth (feet):

134.80

Ending Water Level (feet):

35.68

Water column (feet):

101.98

Total Purged (gallons):

2.5+

Screen Length (feet):

-

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow
52 WHP8CRS

Horiba Model S/N:

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1301	0.50	33.96	7.62	4.31	26.1	3.15	22.38	-41
1305	1.00	34.37	7.58	4.30	12.6	4.96	22.22	-88
1309	1.50	34.80	7.57	4.30	11.4	4.75	22.09	-100
1311	1.75	35.05	7.57	4.30	12.8	4.46	22.03	-101
1314	2.00	35.19	7.57	4.30	10.2	4.34	22.02	-102
1317	2.25	35.47	7.57	4.30	10.8	4.32	22.02	-103
1320	2.50	35.68	7.57	4.26	10.4	4.25	22.03	-104

Purge Sampling Rates: 75 PSI ; Refill 130.0 ; Discharge 116.0

Purge / Sample water is clear w/ no odor

Well condition: OK - Requires hiking sampling equipment + Bottles

down slope to well. Pump was extended + re-installed on Mon.

Additional Info/Comments: Mostly Sunny Clear Winds 9/19/16

New lock put on monometer * 13 Bottles

Pump Inlet: 132 ft.

Name: Adam Shaw

Signature: ACM

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-4 Date: 9.21.16

Access:

Accessibility: Good: Fair: ✓ Poor:
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No:
 Presence of depressions or standing water around well: Yes: No: ✓

Remarks: Well is mid-slope adjacent to new concrete channel - had to carry/lift equipment down slope.

Concrete Pad:

Integrity: Good: ✓ Inadequate:
 Presence of depressions or standing water around well: Yes: No: ✓

Remarks: New 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: Pump was extended and re-installed on Monday 9-19-16 * Pump Inlet:

Field Certification:

AC

Signed

Field Tech

Title

9.21.16

Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cn

Project No.:

2016.0030

Well I.D.:

DW-5

Sampling Date:

9.22.16

Collected By:

AS

Purge start Time:

0745

Casing Diameter (inches):

4

Purge Stop time:

0810

Starting Water Level:

15.02

Sampling (Well Recovery) Time:

0825

Total Depth (feet):

101.00

Ending Water Level (feet):

17.99

Water column (feet):

85.98

Total Purged (gallons):

2.07

Screen Length (feet):

-

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

U-52/WXAP2GR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0752	0.50	15.81	8.44	2.10	2.6	1.87	21.43	-176
0758	1.00	16.53	8.52	2.09	4.8	1.66	21.34	-206
0801	1.25	17.02	8.51	2.10	13.6	1.56	21.13	-215
0804	1.50	17.40	8.52	2.10	8.2	1.54	21.09	-215
0807	1.75	17.73	8.50	2.11	8.1	1.50	21.05	-217
0810	2.00	17.99	8.52	2.11	8.1	1.45	21.03	-218

Purge Sampling Rates:

60PSI: Refill (35.0) Discharge (21.0)
Purge/Sample water has yellowish tint w/ strong odor.

Well condition:

OK

Additional Info/Comments:

Overcast, Cool A.M.

* (13) Bottles

* Blanks taken here

Name:

Adam C. Shaw

Signature:

ACS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Soushine Cyn</u>	Well ID:	<u>DW-5</u>	Date:	<u>9.22.16</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:	<u>Broken concrete around well monument</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>No concrete pad observed</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:

C. C. A.
Signed

Field Tech
Title

9.22.16
Date

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine Gas

Project No.: 2016.0030

Station I.D.: Extraction Trench

Sampling Date: 9-21-16

Collected By: B. Salinas

Sampling Time: 1240

Horiba Model S/N: R8J3494H

Duplicate Sample: YES ☐ NO ☒

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Turned Yellow</u>	<u>Yes</u>	<u>6.52</u>	<u>4.41</u>	<u>11.1</u>	<u>3.06</u>	<u>30.83</u>	<u>-102</u>

Surface water conditions (including stream flow rate, stream depth): collected samples & inlet side to filters.

Additional Info/Comments: Cloudy, hot

19 cans filled
1 250ml. poly unpreserved
2 (1 500ml. Amber)
2 250ml. poly w/ H₂SO₄
1 metal 250ml. w/ HNO₃
6 bags (3 pres 3 unpres.)
Bent Salinas
1 250 ml Amber glass w/ preservative

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine

Project No.: 2016.1030

Station I.D.: Combined

Sampling Date: 9-19-16

Collected By: BS

Sampling Time: 1420

Horiba Model S/N: P8559414

Duplicate Sample: YES NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Clear	yes	6.84	2.33	11.9	2.52	34.83	170

Surface water conditions (including stream flow rate, stream depth): collected samples 1 meter
side to filter.

Additional Info/Comments: Clarify, last 2 unusual

BS cart. filled

BS cart. filled

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name:

Sunshine Cyn.

Project No.:

2016.0030

Station I.D.:

Substation N

Sampling Date:

9-19-16

Collected By:

B. Salinas

Sampling Time:

1200

Horiba Model S/N:

28054944

Duplicate Sample:

YES

NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
clear	yes	6.22	3120	5	2.56	29.98	-23

Surface water conditions (including stream flow rate, stream depth):

Samples were collected @ the intake side of the cist tanks,

Q&B taken here.

Additional Info/Comments:

1st, scattered cloudy

13 cars filled

Brian Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine cyn.

Project No.: 2016.0830

Station I.D.: LY-6

Sampling Date: 9-21-16

Collected By: RS

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): gauge B dry and
no samples collected

Additional Info/Comments: Anal. not

Paul Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name:

Sunshine Cyn.

Project No.:

2016-0030

Station I.D.:

LY-7

Sampling Date:

9-20-16

Collected By:

DS

Sampling Time:

0828

Horiba Model S/N:

R8JSH944

Duplicate Sample:

YES

☒ NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Yellowish	yes	6.74	11.4	5512	2.03	25.29	-60

Surface water conditions (including stream flow rate, stream depth):

Samples taken @ 1'
discharge.

Additional Info/Comments:

Cloudy, humed

Barb J. Jelinek

FIELD CALIBRATION DOCUMENTATION FORM

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

Instrument Make/Model # <u>Hanna U-S2</u> <u>SN 06608025</u>					
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Comments
<u>9.19.16</u>	<u>4.02</u>	<u>452</u>	<u>0.7</u>	<u>7.73</u>	
Pre. Cal					
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>8.80</u>	
Calibration Successful? (Y/N)	<u>Y</u>				
Satisfies Protocol?	<u>Y</u>				
Calibration by	<u>AS</u>				
Physical Condition of Unit		<u>→ Good</u> <u>GC</u>			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sensitive Spn. PROJECT NAME / NUMBER 2016.0530

Instrument Make/Model # <u>R8JSu941H</u>					
Date/Time <u>9-19-16</u> <u>1045</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Comments
Pre. Cal	<u>7.89</u>	<u>4.54</u>	<u>0.7</u>	<u>11.12</u>	
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0</u>	<u>8.65</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 Allen</u>				Signature or initials
Physical Condition of Unit		<u>Good</u>			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>Hanna U-52</u>						
Date/Time <u>9-20-16</u> <u>0658</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	<u>3.81</u>	<u>4.81</u>	<u>0.5</u>	<u>8.94</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0.0</u>	<u>8.45</u>		
Calibration Successful? (Y/N)	<u>Y</u>	<u>Y</u>			enter YES or NO	
Satisfies Protocol?	<u>Y</u>	<u>Y</u>			Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>AS</u>				Signature or initials	<u>AC</u>
Physical Condition of Unit		<u>SD Green</u>				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Swathia Spa PROJECT NAME / NUMBER 2016, 0036

Instrument Make/Model # <u>28559414</u>						
Date/Time <u>9-20-16</u> <u>0612</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	3.94	4.52	0.4	9.76		
Calibration	4.0	4.44	0	8.56		
Calibration Successful? (Y/N)	Yes				enter YES or NO	
Satifies Protocol?	Yes				Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>Paul</u>	<u>Hein</u>			Signature or initials	
Physical Condition of Unit					<u>Good</u>	

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn. PROJECT NAME / NUMBER 806.0030

Instrument Make/Model # <u>28554914</u>						
Date/Time	pH	Electrical Conductivity (μMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>9-21-16</u> <u>0750</u>						
Pre. Cal	<u>3.92</u>	<u>4.57</u>	<u>0.5</u>	<u>11.22</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>2</u>	<u>8.58</u>		
Calibration Successful? (Y/N)	<u>Yes</u>	<u>→</u>	<u>→</u>		enter YES or NO	
Satisfies Protocol?	<u>Yes</u>	<u>→</u>	<u>→</u>		Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>Bob</u>	<u>HL</u>			Signature or initials	
Physical Condition of Unit				<u>Good</u>		

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>Hanna U-S2</u>						
Date/Time <u>9.21.16</u> <u>0900</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	<u>3.95</u>	<u>450</u>	<u>0</u>	<u>7.52</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>0</u>	<u>9.25</u>		
Calibration Successful? (Y/N)	<u>Y</u>	<u> </u>			enter YES or NO	
Satifies Protocol?	<u>Y</u>	<u> </u>			Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>AS</u>				Signature or initials	<u>ACJ</u>
Physical Condition of Unit <u> </u>					<u>Good</u>	

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Gyr PROJECT NAME / NUMBER 2016.0030

Instrument Make/Model # <u>Haniba V-52</u>						
Date/Time	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
<u>07/02</u>						
Pre. Cal	<u>4.19</u>	<u>4.41</u>	<u>φ</u>	<u>11.55</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>φ</u>	<u>8.50</u>		
Calibration Successful? (Y/N)	<u>Y</u>	<u>enter YES or NO</u>				
Satifies Protocol?	<u>Y</u>	<u>Did calibration meet criteria in the sampling protocol? (Y or N)</u>				
Calibration by	<u>AS</u>				Signature or initials	<u>CC</u>
Physical Condition of Unit					<u>→ Good</u>	

* *Re-test* *

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine
Well I.D.: DW-3
Collected By: BS
Casing Diameter (inches): 4
Starting Water Level: 153.29
Total Depth (feet): 256.60
Water column (feet): 103.31
Screen Length (feet): —
Sample Method: Micro Purge Low Flow
Horiba Model S/N: R85549414

Project No.: 2016-0830
Sampling Date: 11-15-16
Purge start Time: 1054
Purge Stop time: 1120
Sampling (Well Recovery) Time: 110 / 1125
Ending Water Level (feet): 158.28
Total Purged (gallons): 3 1/4
Duplicate Sample: YES NO

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1100	1/2	154.81	6.47	2.13	0.4	3.00	22.13	230
1103	1	155.23	6.77	2.15	0.6	1.44	21.45	-34
1107	1 1/2	155.72	6.89	2.14	0.7	1.22	21.37	-56
1111	2	156.50	6.88	2.14	0.3	1.21	21.35	-58
1114	2 1/2	156.98	6.91	2.14	0.3	1.16	21.33	-59
1118	3	157.73	6.93	2.14	0.4	1.14	21.27	-61
1120	3 1/4	158.11	6.92	2.13	0.5	1.11	21.28	-61

Purge Sampling Rates: PSD Set @ 100, 12:35 / 11:20
Clear water with no odor

Well condition: OK

Additional Info/Comments: Re-test for total Alkalinity only 310.1
scattered clays, iron

Name: Bert Salinas

Signature: Bert Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sandline Well ID: DW-3 Date: 11-15-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

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]
Signed Title

11-15-16
Date

* *Re-test* *

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sundrine
Well I.D.: DW-5
Collected By: BS
Casing Diameter (inches): 4
Starting Water Level: 15.18
Total Depth (feet): 101.00
Water column (feet): 85.82
Screen Length (feet): —
Sample Method: Micro Purge Low Flow
Horiba Model S/N: R8054944

Project No.: 2016-0030
Sampling Date: 11-15-16
Purge start Time: 11:58
Purge Stop time: 12:24
Sampling (Well Recovery) Time: AKB 1232
Ending Water Level (feet): 18.12
Total Purged (gallons): 2 3/4
Duplicate Sample: YES ☐ NO ☒

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1205	1/2	15.80	7.75	1.73	10.5	2.29	21.60	-2
1209	3/4	16.24	7.80	1.73	4.0	1.11	21.23	-60
1212	1 1/4	16.57	7.82	1.73	4.3	1.02	21.15	-71
1216	1 3/4	16.81	7.81	1.72	4.8	0.81	21.22	-92
1220	2 1/4	17.32	7.80	1.72	4.5	0.79	21.20	-93
1224	2 3/4	17.87	7.80	1.72	4.7	0.75	21.21	-98

Purge Sampling Rates: RST 60, R: 35, D: 20.

water looks clear slight yellow tint with
some odor.

Well condition: OK

Additional Info/Comments: cloudy, warm

Name: Ben Salinas

Signature: Ben Salinas

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: DW-5 Date: 11-15-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☐ No: ☒
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☐ Inadequate: ☒
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks: no 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:

Signed Bert Adams Title GW Manager

Date 11-15-16

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sumner

PROJECT NAME / NUMBER 2016, 0030

Instrument Make/Model # <u>RSS494H</u>						
Date/Time <u>11-15-16</u> <u>1020</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	5.01	4.83	6	10.60		
Calibration	4.01	4.49	6	8.71		
Calibration Successful? (Y/N)	Yes	→	→	→	enter YES or NO	
Salifex Protocol?	Yes	→	→	→	Did calibration meet criteria in the sampling protocol? (Y or N)	
Calibration by	<u>GB</u>	<u>GB</u>	<u>GB</u>	<u>GB</u>	Signature or initials	
Physical Condition of Unit				<u>Good.</u>		

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

Client Contact Company Name: Republic / G.A. Address: 1115 W. Riverside Ct. City/State/Zip: San Diego, CA 92127 Phone: 619-451-1131 Fax: 619-451-1083 Project Name: Republic Site: Sunshine Air Landfill PO #: G.A. Sub# 2016.0030 PO # 41521647		Project Manager: Kyle Calkins Tel/Fax: 619-451-1131 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"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: Matt Lab Contact: Matt Perform MS / MSD (Y / N) Filtered Sample (Y / N)		Date: 12-22-16 Carrier: TestAmerica 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.		Sample Date Sample Time Sample Type (C=Comp, G=Grab) Matrix # of Cont.		Sample Date Sample Time Sample Type (C=Comp, G=Grab) Matrix # of Cont.		Sample Date Sample Time Sample Type (C=Comp, G=Grab) Matrix # of Cont.	
MW-5 MW-1 MW-13B QCAB QCTB		12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
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12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
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12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
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12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 1 1 1 1	
12/21/16 1005 0920 - -		G 1 1 1 1		G 1 1 1 1		G 	

Phone: 949-261-1922 Fax:

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

TAL-8210 (0713)

[illegible]

[illegible]

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

Chain of Custody Record

TestAmerica

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

071479

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

Client Contact		Project Manager:		Site Contact:		Date:		COC No:	
Company Name:		Tel/Fax:		Lab Contact:		Carrier:		Sampler:	
Address:		Analysis Turnaround Time		Filtered Sample (Y/N)		Perform MS / MSD (Y/N)		For Lab Use Only:	
City/State/Zip:		CALENDAR DAYS		Sample Type		Matrix		Walk-in Client:	
Phone:		TAT if different from Below		Sample Time		# of Cont.		Lab Sampling:	
Fax:		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Sample Date				Job / SDG No.:	
Project Name:		Sample Identification		Sample Date		Sample Time		Sample Specific Notes:	
Site:									
PO #									
Subdrain (N)		12/20/16		1008		Liquid 13		X	
Combined Subdrains		12/20/16		1010		13		X	
Extraction Trench		12/20/16		1120		13		X	
DW-1		12/20/16		1155		13		X	
DW-2		12/20/16		1315		13		X	
PZ-2		12/20/16		1155		13		X	
MK-6		12/20/16		1050		13		X	
MK-14		12/20/16		913		13		X	
CM-7R2		12/20/16		10850		13		X	
CM-11R		12/20/16		1045		13		X	
DE-1		12/20/16		1435		13		X	
CM-10R		12/20/16		1300		13		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?									
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:		Company:		Date/Time:		Cooler Temp. (°C):		Obs'd:	
Relinquished by:		Company:		Date/Time:		Corr'd:		Therm ID No.:	
Relinquished by:		Company:		Date/Time:					

GROUNDWATER MONITORING PROGRAM WATER LEVEL SURVEY RECORD SHEET

Site Sunshine Cyn.

Project No.: 2016-030

Date 12-19-16

Field Personnel RZS, AS

WELL I.D.	CONSTRUCTED TOTAL DEPTH (TD)	ACTUAL TOTAL DEPTH (TD)	DEPTH TO WATER (DTW)	COMMENTS
MW-1			17.12	
MW-2A			31.33	
MW-2B			19.49	
MW-5			19.85	
MW-6			17.33	
MW-8			16.03	
MW-9			15.15	
MW-13R			19.26	
MW-14			14.61	
DW-1			TOC	
DW-2			35.28	
DW-3			153.56	
DW-4			34.65	
DW-5			15.06	
CM-5R			211.36	
CM-10R			52.94	
CM-11R			28.54	
CM-9R3			19.91	
RZ-1			92.39	
RZ-2			122.61	

REMARKS:

Field Personnel BS, AS

[illegible]

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: CM-9R3
Collected By: AS
Casing Diameter (inches): 4
Starting Water Level: 19.95
Total Depth (feet): 29.00
Water column (feet): —
Screen Length (feet): —
Sample Method: Micro Purge ☒ Low Flow ☐
Horiba Model S/N: U-52 / 236628025

Project No.: 2016-0030
Sampling Date: 12.20.16
Purge start Time: 0819
Purge Stop time: 0838
Sampling (Well Recovery) Time: 0850
Ending Water Level (feet): 21.38
Total Purged (gallons): 2.04
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
0824	0.50	20.31	6.62	7.91	245	2.73	18.33	-25
0828	1.00	20.60	6.60	7.62	115	2.11	18.47	-21
0830	1.25	20.79	6.59	7.55	58.3	1.97	18.55	-19
0833	1.50	20.94	6.58	7.44	57.7	1.88	18.61	-18
0836	1.75	21.20	6.58	7.45	57.3	1.84	18.59	-17
0838	2.00	21.38	6.58	7.42	56.9	1.81	18.62	-16

Purge Sampling Rates: 25 PSI ; Refill / 20.0 / Discharge / 10.0 /
Purge / Sample Water is visually clear w/ no odor.

Well condition: OK * Pump Depth: 27.4 ft.

Additional Info/Comments: Clear, Cool, Windy

Name: Adam Shaw Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Ogn Well ID: CM-9R3 Date: 12.20.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☐ Inadequate: ☒
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks: No pad observed

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: Locking cap/ring is cracked and can be lifted off w/out unlocking.

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:

AC SH
Signed

Field Tech
Title

12.20.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-0030

Well I.D.:

CM-10R

Sampling Date:

12.20.16

Collected By:

AS

Purge start Time:

1219

Casing Diameter (inches):

4

Purge Stop time:

1245

Starting Water Level:

52.92

Sampling (Well Recovery) Time:

1300

Total Depth (feet):

110.90

Ending Water Level (feet):

53.11

Water column (feet):

57.98

Total Purged (gallons):

2.5+

Screen Length (feet):

—

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U-521266-P8GR5

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1228	1.00	53.11	7.05	5.07	2.9	3.94	21.45	-208
1233	1.50	"	7.04	5.07	Ø	3.91	21.56	-220
1236	1.75	"	7.04	5.05	Ø	3.85	21.60	-225
1239	2.00	"	7.04	5.06	Ø	3.88	21.61	-229
1242	2.25	"	7.04	5.05	Ø	3.93	21.62	-234
1245	2.50	"	7.04	5.06	Ø	3.95	21.62	-235

Purge Sampling Rates:

50 PSI ; Refill (45.0) Discharge (15.0)

Well condition:

O.K.

* Pump Depth: 100 ft.

Additional Info/Comments:

Name:

Adam Shaw

Signature:

AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: CM-10R Date: 12.20.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☒ No: ☐
Remarks:

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:

AC Signed Field Tech Title

12.20.16 Date

Site Name:

Sunshine Cyn

Project No.:

2016.0030

Well I.D.:

CM-UR

Sampling Date:

12-20-16

Collected By:

AS

Purge start Time:

0946

Casing Diameter (inches):

4

Purge Stop time:

1037

Starting Water Level:

22.50

Sampling (Well Recovery) Time:

1045

Total Depth (feet):

31-212

Ending Water Level (feet):

32 32 32

Water column (feet):

2000

Total Purged (gallons):

1887

Screen Length (feet):

2.50

Duplicate Sample:

YES ☒ NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

V.52 | WILPZERS

Purge Sampling Rates:

30 psi ; Refill (30.0) ; Discharge (5.0)

Purge / Sample water is clear w/ no odor

took an 1-hour + to fill bottles

Well condition: O.K.

* Pump Depth: 29.8 ft.

Additional Info/Comments:

Clear, Cool, Windy

Name:

Adam Shacy

Signature:

acsh

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cgn Well ID: CM-11R Date: 12.20.16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____
Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____
Presence of depressions or standing water around well: Yes: _____ No: ✓
Remarks: Requires backing truck up concrete channel to access well.

Concrete Pad:

Integrity: Good: ✓ Inadequate: _____
Presence of depressions or standing water around well: Yes: _____ No: ✓
Remarks: _____

Protective Outer Casing:

Material: Metal

Condition of Protective Casing: Good: ✓ Damaged: _____
Condition of Locking Cap: Good: ✓ Damaged: _____
Condition of Lock: Good: ✓ Damaged: _____
Condition of Weepholes: Good: ✓ Damaged: _____
Remarks: _____

Well Riser:

Material: PVC

Condition of Riser: Good: ✓ Damaged: _____
Condition of Riser Cap: Good: ✓ Damaged: _____
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:

C.C. Smith
Signed

Field Tech
Title

12.20.16
Date

Site Name:

Sunshine Cyn

Well I.D.:

MS-1

Collected By:

AS

Casing Diameter (inches):

4

Starting Water Level:

17-12

Total Depth (feet):

2a. 10

Water column (feet):

Screen Length (feet):

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

✓ -52 W66P8C25

Project No.:

2016.0030

Sampling Date:

12.22.16

Purge start Time:

0933

Purge Stop time:

0950

Sampling (Well Recovery) Time:

1005

Ending Water Level (feet):

17.2

Total Purged (gallons):

7.054

Duplicate Sample:

YES

NO

130.01 (15)

Purge Sampling Rates:

Purge Sampling Rates: 20 PSI: Refill | 25.0 | Discharge | 11.0 |
Water has slight yellow tint w/ odor.

Well condition: O.K

Additional Info/Comments:

Rains, Wind of

* Note: EPA on-site to split samples

* (13) Bottles

Name: _____

Adam Shaw

Signature:

ac. 11

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-1 Date: 12.22.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☐ Inadequate: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks: No concrete pad observed/visible

Protective Outer Casing:

Material: Metal
Condition of Protective Casing: Good: ☒ Damaged: ☐
Condition of Locking Cap: Good: ☒ Damaged: ☐
Condition of Lock: Good: ☒ Damaged: No Lock
Condition of Weepholes: Good: ☒ Damaged: ☐

Remarks: No Lock

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): 514 Current (Hz): N/A

Remarks:

Field Certification:

C.C. St Signed Field Tech Title 12.22.16 Date

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: MW-2A Date: 12.21.16

Access:

Accessibility: Good: Fair: ✓ Poor:
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No:
 Presence of depressions or standing water around well: Yes: No: ✓

Remarks: Well is mid-slope - Requires hiking equipment + Bottles across concrete channel and up-slope to access

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:

* Pump Inlet: 39 ft.

Field Certification:

AC. J
 Signed

Field Tech
 Title

12.21.16
 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

YES NO

[illegible]

Purge Sampling Rates: 40 PSI; Refill 135.01. Discharge 13.01.
Purge water is blackish tint at start, then clearing w/
strong odor.
Well condition: O.K. - Requires hiking sampling equipment + bottles
across concrete channel and up slope to access.
Additional Info/Comments: Cloudy, Cool, light wind S. (13) Bottles
Pump Inlet: 68 ft.
Name: Adam Shaw Signature: A.C. 11

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sonshine Cyn Well ID: MW-2B Date: 12.21.16

Access:

Accessibility: Good: Fair: ✓ Poor:
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No:
 Presence of depressions or standing water around well: Yes: No: ✓

Remarks: Well is mid-slope - Requires hiking equipment + Bottles across concrete channel and up-slope to access

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:

* Pump Inlet: 68 ft.

Field Certification:

ACM
 Signed

Field Tech
 Title

12.21.16
 Date

Site Name:

Sunshine Cyn
Mw-5

Project No.:

2016-0030

Well I.D.:

Sampling Date:

12-21.16

Collected By:

Purge start Time:

11. 39

Casing Diameter (inches):

Purge Stop time:

12:04

Starting Water Level:

Sampling (Well Recovery) Time:

12:15

Total Depth (feet):

Ending Water Level (feet):

26. 17

Water column (feet):

Total Purged (gallons):

2.07

Screen Length (feet):

Duplicate Sample:

YES

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

4-52/12541MBDD

Purge Sampling Rates: 20 psi ref. 11 30 discharge 10

Well condition: OK need some weed abatement

Additional Info/Comments: cloudy, cool, windy

Name:

mike campbell

Signature:

Mike Long

C-2

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>		Well ID: <u>MW-5</u>		Date: <u>12.21.16</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: _____	No: <u>✓</u>
Remarks:					
Concrete Pad:					
Integrity:		Good: _____	Inadequate: _____		
Presence of depressions or standing water around well:				Yes: _____	No: <u>✓</u>
Remarks: <u>concrete pad is buried</u>					
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:

Signed

Title

Date

Mike CampbellField Tech
in12.21.16

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No: 2016-0030
 Well I.D.: MW-6 Sampling Date: 12-20-16
 Collected By: MC Purge start Time: 9:29 9:27
 Casing Diameter (inches): 2 Purge Stop time: 10:39
 Starting Water Level: 17.32 Sampling (Well Recovery) Time: 10:50
 Total Depth (feet): 23.50 Ending Water Level (feet): 17.96
 Water column (feet): 6.18 Total Purged (gallons): 1.75
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow

Horiba Model S/N: U-52/U5414B00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	ORP mV
9:46	.5	17.77	7.48	4.05	1.9	2.18	22.90	-295
9:56	.75	17.85	7.08	4.06	4.6	2.00	23.32	-304
10:06	1.0	17.89	7.05	3.97	9.3	1.86	23.39	-305
10:17	1.25	17.92	7.03	3.94	10.3	1.79	23.40	-306
10:28	1.5	17.94	7.02	3.93	12.2	1.75	23.43	-308
10:39	1.75	17.96	7.02	3.92	12.9	1.73	23.45	-309

Purge Sampling Rates: 20 psi ref. 11 30 discharge 6 10m yield
water is clear with an odor, water became
black in color as purging progressed

Well condition: OK

Had to carry equipment down slope along a trail to well
 Additional Info/Comments: clear, cool, very windy

Pump depth 19.7 ft

Name: Mike Campbell

Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine cya Well ID: MW-6 Date: 12-20-16

Access:

Accessibility: Good: _____ Fair: ✓ Poor: _____
Vicinity of well clear of weeds and/or debris: Yes: ✓ No: _____
Presence of depressions or standing water around well: Yes: _____ No: ✓

Remarks: Required sampling equipment and samples bottles to be carried down a slope and down a dirt trail 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): NA Current (Hz): NA

Remarks: Low yield

Field Certification:

Signed

Mike Ceylan

Field Tech

Title

12-20-16

Date

Site Name:

Sunshine Canyon

Project No.:

2016-0030

Well I.D.:

Mw-9

Sampling Date:

12-21-16

Collected By:

mc

Purge start Time:

9.43

Casing Diameter (inches):

4

Purge Stop time:

10:16

Starting Water Level:

15.15

Sampling (Well Recovery) Time:

10:30

Total Depth (feet):

26.76

Ending Water Level (feet):

15.20

Water column (feet):

11.55

Total Purged (gallons):

2.07

Screen Length (feet):

Duplicate Sample:

YES

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

U.52 / 25414300

Blanks taken at this web

Purge Sampling Rates:

Purge Sampling Rates: 25 psi ret. 20 discharging
water has yellowish tint with no odor

Well condition:

Well condition: ☒ OK
 Ran hose through the fence to sample net
 Additional Info/Comments: cloudy, cool, very windy

Additional Info/Comments:

Blanks taken at this well

Name:

Mike Campbell

Signature:

Take Care

C-2

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>		Well ID: <u>MW-9</u>		Date: <u>12-21-16</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: _____	No: <u>✓</u>
Remarks: <u>Carried equipment and sample bottles to the 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 Flushmount</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>ND</u>			
Remarks: _____					

Field Certification: <u>Zule Campbell</u>	Field Tech <u>Field Tech</u>	Date <u>12-21-16</u>
Signed	Title	Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Well I.D.:

Collected By:

Casing Diameter (inches):

Starting Water Level:

Total Depth (feet):

Water column (feet):

Screen Length (feet):

Sample Method:

Horiba Model S/N:

Sunshine Canyon
MW-13R

MW-13R

M C

4

1976

27.80

6.54

Micro Purge

Low Flow

Project No.:

Sampling Date:

Purge start Time:

Purge Stop time:

Sampling (Well Recovery) Time:

Ending Water Level (feet):

Total Purged (gallons):

Duplicate Sample:

YES

NG

U.52/u5412BDD

[illegible]

Purge Sampling Rates:

Purge Sampling Rates: 30 psi ref. 11 25.0 discharge 5
Water is mostly clear with a black tint and a strong odor

Well condition: ok well monument is heavily corroded

Additional Info/Comments: cloudy, cold, windy, and rain

Pump depth 26.4 ft

Name: Mike Campbell

Signature: _____

Signature: Tate Campbell

C-2

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Canyon</u>		Well ID: <u>M4-13R</u>		Date: <u>12-22-18</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: _____	No: <u>✓</u>
Remarks: <u>Carried sampling equipment and bottles across the landfill entrance road to well</u>					
Concrete Pad:					
Integrity:		Good: <u>✓</u>	Inadequate: _____		
Presence of depressions or standing water around well:				Yes: _____	No: _____
Remarks: _____					
Protective Outer Casing:					
		Material: <u>Metal</u>			
Condition of Protective Casing:		Good: _____	Damaged: <u>✓</u>	<u>Corroded</u>	
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:

Signed

Title

Date

Mike Campbell Field Tech 12-22-18

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 2016-0030
 Well I.D.: 1 1/4" Sampling Date: 12-20-16
 Collected By: ML Purge start Time: 8:42
 Casing Diameter (inches): 4 Purge Stop time: 9:03
 Starting Water Level: 14.64 Sampling (Well Recovery) Time: 9:13
 Total Depth (feet): 28.10 Ending Water Level (feet): 14.99
 Water column (feet): 13.46 Total Purged (gallons): 2.01
 Screen Length (feet): _____ Duplicate Sample: YES ☒ NO ☐

Sample Method:

☒ Micro Purge

☐ Low Flow

Horiba Model S/N:

U-52/MS414BDD

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	ORP mV
8:50	1.0	14.98	6.73	3.52	14.5	1.28	22.11	-5
8:53	1.25	14.99	6.73	3.49	12.1	1.11	22.23	-1
8:56	1.5	11	6.73	3.46	8.4	1.09	22.26	3
9:00	1.75	"	6.73	3.45	1.2	1.03	22.31	5
9:03	2.01	x	6.73	3.43	0.0	1.00	22.34	8

Purge Sampling Rates: 20 psi ref. 11 20 discharge 11
water is clear with no odor
Roots on screen

Well condition: OK

Carried equipment down slope to well
 Additional Info/Comments: clear, cold, very windy

Name: Mike Campbell

Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>		Well ID: <u>M4-14</u>		Date: <u>12-20-16</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: _____	No: <u>✓</u>
Remarks: <u>Carried sampling equipment and sample bottles down a slope to get to the 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 12-20-16 Date

WELL DATA SHEET

Sunshine

2016.0530

DW-1

12-20-15

BS



4

TUC

1400

YES

Micro Purge Low Flow

1285549417

[illegible]

Purge Sampling Rates: Samples taken @ discharge tube.
Clear water with an odor.

Well condition: OK / flocks around well canchete again

Additional Info/Comments: Sunny, Windy.

Best Salinas

Bonded

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Well ID: DW-1 Date: 12-20-16

Access:

Accessibility: Good: ~~✗~~ (E) Fair: ✓ Poor:
 Vicinity of well clear of weeds and/or debris: Yes: No: ✓
 Presence of depressions or standing water around well: Yes: No: ✓

Remarks: lots of debris and rocks around well manometer

Concrete Pad:

Integrity: Good: ✓ Inadequate:
 Presence of depressions or standing water around well: Yes: No: ✓
 Remarks:

Protective Outer Casing:

Material: MS steel

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: Deep tube

Condition: Good: ✓ Damaged: Missing:
 Pumping Rate (gpm): N/A Current (Hz): N/A
 Remarks:

Field Certification:

Bob Jones Env Manager 12-20-16
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Singstone Cyn Project No.: 2016-0030
 Well I.D.: 0.25 Sampling Date: 12-20-16
 Collected By: MC Purge start Time: 12:41
 Casing Diameter (inches): 4 Purge Stop time: 13:05
 Starting Water Level: 35.28 Sampling (Well Recovery) Time: 13:15
 Total Depth (feet): me 37.97 71.00 Ending Water Level (feet): 39.02
 Water column (feet): 12-20-16 2.69 35.72 Total Purged (gallons): 2.0 +
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow

Horiba Model S/N: U-52/n5414B00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	ORP mV
12:47	0.5		7.71	2.94	0.0	1.47	20.15	-87
12:53	1.0		7.65	2.90	0.0	1.25	20.36	-87
12:56	1.25		7.60	2.92	0.0	1.13	20.09	-88
12:59	1.5		7.58	2.92	0.0	1.08	20.02	-88
13:02	1.75		7.57	2.91	0.0	1.05	20.01	-89
13:05	2.0		7.55	2.92	0.0	1.03	19.97	-89

Purge Sampling Rates: 45 psi refill 35 discharge 18
water is clear with no odor

Well condition: _____

Additional Info/Comments: clear mild, very windy

Name: Mike Campbell

Signature: Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>		Well ID: <u>DW-2</u>		Date: <u>12-20-16</u>	
Access:					
Accessibility:		Good: <u>✓</u>	Fair: _____	Poor: _____	
Vicinity of well clear of weeds and/or debris:				Yes: _____	No: <u>✓</u>
Presence of depressions or standing water around well:				Yes: _____	No: <u>✓</u>
Remarks: <u>Vegetation around well monument and 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 Caspell Signed Field Tech Title 12-20-16 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Canyon Project No.: 2016-0030
 Well I.D.: DW-3 Sampling Date: 12-21-16
 Collected By: MC Purge start Time: 7:36
 Casing Diameter (inches): 4 Purge Stop time: 8:07
 Starting Water Level: 153.56 Sampling (Well Recovery) Time: 8:25
 Total Depth (feet): 256.60 Ending Water Level (feet): 156.97
 Water column (feet): 103.04 Total Purged (gallons): 2.54
 Screen Length (feet): _____ Duplicate Sample: YES NO
 Sample Method: Micro Purge Low Flow

Horiba Model S/N:

U-52/W5412B01

Duplicate taken at this well

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	ORP mV
7:45	1.0	155.11	6.91	2.32	0.0	1.79	20.28	-22
7:49	1.5	155.80	6.97	2.32	0.0	1.56	20.29	-38
7:53	1.75	156.09	7.00	2.32	0.0	1.37	20.31	-40
7:58	2.0	156.39	7.01	2.32	0.0	1.29	20.33	-42
8:02	2.25	156.69	7.03	2.31	0.0	1.26	20.34	-45
8:07	2.50	156.97	7.05	2.32	0.0	1.24	20.35	-46

Purge Sampling Rates: 100 psi ref. 11 35 discharge 20
water is clear with no odor

Well condition: OK

Additional Info/Comments: cloudy, cool, very windy
Duplicate taken at this well

Name: Mike Campbell

Signature:

Mike Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility:	<u>Sunshine Canyon</u>	Well ID:	<u>DW-3</u>	Date:	<u>12-21-16</u>
Access:					
Accessibility:	Good: <u>✓</u>	Fair:	_____	Poor:	_____
Vicinity of well clear of weeds and/or debris:	Yes: <u>✓</u>	No:	_____		
Presence of depressions or standing water around well:	Yes: _____	No:	<u>✓</u>		
Remarks: _____					
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>0</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 12-21-16 Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016.0030

Well I.D.:

DW-4

Sampling Date:

12.21.16

Collected By:

AS

Purge start Time:

0734

Casing Diameter (inches):

4

Purge Stop time:

0755

Starting Water Level:

AS 34.134.65

Sampling (Well Recovery) Time:

0810

Total Depth (feet):

134.80

Ending Water Level (feet):

35.69

Water column (feet):

-

Total Purged (gallons):

2.54

Screen Length (feet):

-

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

US2/W66D80125

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0739	0.50	33.51	7.35	4.45	47.8	4.34	20.64	-235
0743	1.00	33.92	7.34	4.44	47.8	3.72	20.65	-218
0745	1.50	34.29	7.38	4.44	19.0	3.12	20.84	-206
0748	1.75	34.70	7.40	4.44	3.3	2.82	20.88	-202
0750	2.00	35.05	7.41	4.45	3.3	2.74	20.89	-201
0752	2.25	35.37	7.42	4.44	2.9	2.67	20.88	-200
0755	2.50	35.69	7.42	4.43	2.4	2.65	20.88	-199

Purge Sampling Rates:

75 PSI ; Refill 130.0l Discharge 116.0l

Water is blackish color at start then clearing w/ strong odor

Well condition:

OK - Requires hiking sampling equipment + Bottles across concrete channel and up slope to access well.

Additional Info/Comments:

Cloudy, Cool, light winds

Pump Inlet: 132 ft.

Name:

Adam Shaw

Signature:

AS

13 Bottles

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-4 Date: 12.21.16

Access:

Accessibility: Good: Fair: ✓ Poor:
 Vicinity of well clear of weeds and/or debris: Yes: ✓ No:
 Presence of depressions or standing water around well: Yes: No: ✓

Remarks: Well is mid-slope - Requires hiking equipment
+ Batteries across concrete channel and up-slope to access

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:

* Pump Tubing: 132 ft.

Field Certification:

CCM Field Tech 12.21.16
 Signed Title Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name:

Sunshine Cyn

Project No.:

2016-0030

Well I.D.:

NW-5

Sampling Date:

12-22-16

Collected By:

AS

Purge start Time:

0819

Casing Diameter (inches):

4

Purge Stop time:

0843

Starting Water Level:

15.06

Sampling (Well Recovery) Time:

0900

Total Depth (feet):

101.00

Ending Water Level (feet):

18.25

Water column (feet):

85.94

Total Purged (gallons):

2.04

Screen Length (feet):

—

Duplicate Sample:

YES

NO

Sample Method:

Micro Purge Low Flow

Horiba Model S/N:

U52166P8625

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
0825	0.50	16.00	8.50	2.17	65.0	1.33	19.18	-98
0831	1.00	16.72	8.52	2.15	52.5	1.10	19.80	-137
0834	1.25	17.25	8.52	2.18	41.0	1.10	19.79	-152
0837	1.50	17.56	8.52	2.18	38.2	1.01	19.72	-155
0840	1.75	17.82	8.52	2.17	38.4	1.00	19.70	-162
0843	2.00	18.25	8.52	2.19	38.8	1.09	19.67	-167

Purge Sampling Rates:

60 PSI; Refill (35.0); Discharge (21.0)

Water has yellowish tint w/ strong odor.

Well condition:

OK

Additional Info/Comments:

Rains, High Winds

* (13) Bottles

* Note: EPA on-site to split samples.

Name:

Adam Shaw

Signature:

AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cyn Well ID: DW-5 Date: 12.22.16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
 Vicinity of well clear of weeds and/or debris: Yes: ☐ No: ☒
 Presence of depressions or standing water around well: Yes: ☐ No: ☒

Remarks: Broken concrete + debris around well mouth

Concrete Pad:

Integrity: Good: ☐ Inadequate: ☐
 Presence of depressions or standing water around well: Yes: ☐ No: ☒

Remarks: No concrete pad observed

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:

CAC SL
Signed

Field Tech
Title

12.22.16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn Project No.: 2016-0030
 Well I.D.: P2-2 Sampling Date: 12-20-16
 Collected By: mc Purge start Time: 11:14
 Casing Diameter (inches): 2 Purge Stop time: 11:44
 Starting Water Level: 122.61 Sampling (Well Recovery) Time: 11:55
 Total Depth (feet): 160.90 Ending Water Level (feet): 128.69
 Water column (feet): 38.29 Total Purged (gallons): 2.04
 Screen Length (feet): _____ Duplicate Sample: YES ☐ NO ☒

Sample Method:

Micro Purge

Low Flow

Horiba Model S/N:

U-52/4541W B00

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	ORP mV
11:23	.5	125.04	8.43	6.44	36.1	4.49	24.72	-187
11:31	1.0	126.46	8.59	6.43	5.0	4.33	24.46	-167
11:34	1.25	127.16	8.61	6.43	1.6	4.27	24.47	-160
11:38	1.5	127.66	8.62	6.42	0.7	4.24	24.50	-156
11:41	1.75	128.18	8.62	6.42	1.0	4.26	24.48	-154
11:44	2.0	128.69	8.63	6.43	0.6	4.23		-153

Purge Sampling Rates: 80 psi ref. 1) 30 discharge 23
water is mostly clear with a moderate odor

Well condition: OK

Had to carry equipment across drainage channel

Additional Info/Comments: clear, mild, very windy and dusty

Name: M. Ke Campbell

Signature:

M. Ke Campbell

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: <u>Sunshine Cyn</u>	Well ID: <u>PZ-2</u>	Date: <u>12-20-16</u>
Access:		
Accessibility:	Good: _____ Fair: _____ Poor: <u>✓</u>	
Vicinity of well clear of weeds and/or debris:	Yes: <u>✓</u>	No: _____
Presence of depressions or standing water around well:	Yes: _____	No: <u>✓</u>
Remarks: <u>Carried sampling equipment and bottles across a concrete channel to get to the well</u>		
Concrete Pad:		
Integrity: <u>NA</u>	Good: _____ Inadequate: _____	
Presence of depressions or standing water around well:	Yes: _____	No: <u>✓</u>
Remarks: <u>NO concrete pad</u>		
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>ND</u>	
Remarks: _____		

Field Certification:

Mike Capell
Signed

Field Tech
Title

12-20-16
Date

GROUNDWATER MONITORING PROGRAM WELL DATA SHEET

Site Name: Sunshine Cyn
Well I.D.: P2-4
Collected By: AS
Casing Diameter (inches): 2
Starting Water Level: 112.04
Total Depth (feet): 125.15
Water column (feet): —
Screen Length (feet): —
Sample Method: Micro Purge ☒ Low Flow ☐

Project No.: 2016-0030
Sampling Date: 12-20-16
Purge start Time: 1400
Purge Stop time: 1422
Sampling (Well Recovery) Time: 1435
Ending Water Level (feet): 113.75
Total Purged (gallons): 1.5+
Duplicate Sample: YES ☐ NO ☒

Horiba Model S/N: U-52/WLLP2025

TIME	GALLONS PURGED	WATER LEVEL	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
1406	0.50	112.81	7.41	2.13	4.2	2.72	23.27	-55
1410	0.75	113.30	7.49	2.21	3.4	2.08	23.19	-56
1414	1.00	113.44	7.50	2.21	3.2	2.01	23.17	-56
1418	1.25	113.62	7.51	2.22	3.3	1.99	23.20	-56
1422	1.50	113.75	7.52	2.22	2.9	1.95	23.14	-57

Purge Sampling Rates: 80PSI, Ref. U / 30.0 / Discharge 15.0
Clear water, no odor.

Well condition: O.K.

Additional Info/Comments: Clear, Cool, Windy

* Blanks taken here
Name: Adam Shaw

Signature: AS

GROUNDWATER MONITORING WELL INSPECTION REPORT

Facility: Sunshine Cgn Well ID: PZ-4 Date: 12-20-16

Access:

Accessibility: Good: ☒ Fair: ☐ Poor: ☐
Vicinity of well clear of weeds and/or debris: Yes: ☒ No: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Concrete Pad:

Integrity: Good: ☒ Inadequate: ☐
Presence of depressions or standing water around well: Yes: ☐ No: ☒
Remarks:

Protective Outer Casing:

Material: Metal (flush mount)

Condition of Protective Casing: Good: ☒ Damaged: ☐
Condition of Locking Cap: Good: ☒ Damaged: ☐
Condition of Lock: Good: ☒ Damaged: ☐
Condition of Weepholes: Good: ☒ Damaged: ☐
Remarks:

Well Riser:

Material: PVC

Condition of Riser: Good: ☒ Damaged: ☐
Condition of Riser Cap: Good: ☒ Damaged: ☐
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:

AC SL Field Tech
Signed Title

12-20-16
Date

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine

Project No.: 2016.0030

Station I.D.:

Extraction
Trench

Sampling Date:

12-20-12

Collected By:

BZS

Sampling Time:

1120

Horiba Model S/N:

128554948

Duplicate Sample:

YES

☒ NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Yellowish	yes	6.74	3.47	12.6	3.24	17.79	-24

Surface water conditions (including stream flow rate, stream depth): Samples taken @
filter elements samp. port

Additional Info/Comments: Sunny, windy

BZS

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine

Project No.: 2016-0030

Station I.D.:

Combined
Subdrains

Sampling Date:

12-20-16

Collected By:

RS

Sampling Time:

1040

Horiba Model S/N:

R8554944

Duplicate Sample:

YES

NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
<u>Clear</u>	<u>yes</u>	<u>6.56</u>	<u>3.33</u>	<u>32.4</u>	<u>2.81</u>	<u>19.93</u>	<u>-28</u>

Surface water conditions (including stream flow rate, stream depth): Collect Samples @
Filter elements sample part.

Additional Info/Comments: Sunny, windy, cold

Bert Salinas

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sunshine

Project No.: 2016-0030

Station I.D.: Sunshine (N)

Sampling Date: 12-20-16

Collected By: BS

Sampling Time: 1008

Horiba Model S/N: R8099414

Duplicate Sample: YES ☒ NO

COLOR	ODOR	pH	CONDUCTIVITY ms/cm	TURBIDITY NTU	D.O. mg/L	TEMPERATURE °C	O.R.P. mV
Clear	yes	6.23	2.55	0.6	3.41	18.10	36

Surface water conditions (including stream flow rate, stream depth): collected samples
@ Inlet side to GAC tanks,

Additional Info/Comments: Sunny, windy, cold

[Signature]

Site Name:	Sunshine	Project No.:	2016-0030
Well I.D.:	4x-6	Sampling Date:	12-20-16
Collected By:	BS	Purge start Time:	
Casing Diameter (inches):		Purge Stop time:	
Starting Water Level:		Sampling (Well Recovery) Time:	
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:			

[illegible]

Purge Sampling Rates: The lysimeter is dry, no samples collected.

Well condition:

Additional Info/Comments: Clear, sunny, windy

Name: _____

Best Satineng

Signature:

Best Saline

GROUNDWATER MONITORING PROGRAM SURFACE WATER DATA SHEET

Site Name: Sundrive

Project No.: 2016-0830

Station I.D.: UX-7

Sampling Date: 12-20-16

Collected By: BS

Sampling Time: 0915 (ED)

Horiba Model S/N: R8354944

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): The pump @ the
upsometer is not operational, not able to
sample.

Additional Info/Comments: Clear, cold, windy

Ben J. Jones

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Savannah

PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>RGTSuau 14</u>						
Date/Time <u>12-20-18</u> <u>0730</u>	pH	Electrical Conductivity (μMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	2.17	5.02	0	13.81		
Calibration	4.00	4.49	0			
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	<u>Garth Allen</u>				Signature or initials	
Physical Condition of Unit				<u>Good</u>		

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Canyon

PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>4-52/w541wB00</u>						
Date/Time <u>12-30-10</u> <u>6:51</u>	pH	Electrical Conductivity (μ Mhos/cm)	Turbidity (NTU)	DO (mg/L or %s)	Guidance Remarks	Comments
Pre. Cal	<u>3.74</u>	<u>4.40</u>	<u>2.8</u>	<u>10.96</u>		
Calibration	<u>3.99</u>	<u>4.50</u>	<u>0.3</u>	<u>10.19</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>2</u>			Signature or initials	<u>Timothy Coughlin</u>
Physical Condition of Unit		<u>Good</u>				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER 2016.0030

Instrument Make/Model # <u>Hanna U-52</u>					
Date/Time <u>12.20.16</u> <u>0728</u>	pH	Electrical Conductivity (µMhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Comments
Pre. Cal	<u>4.14</u>	<u>4.54</u>	<u>Ø</u>	<u>10.54</u>	
Calibration	<u>4.00</u>	<u>4.49</u>	<u>Ø</u>	<u>10.62</u>	
Calibration Successful? (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>AS</u>				Signature or initials <u>ac. AS</u>
Physical Condition of Unit		<u>→ Good</u>			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>6.52/w541w300</u>					
Date/Time	pH	Electrical Conductivity (μ Mhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Comments
<u>12-22-16</u> <u>7:43</u>					
Pre. Cal	<u>4.04</u>	<u>4.45</u>	<u>0.4</u>	<u>11.85</u>	
Calibration	<u>3.99</u>	<u>4.49</u>	<u>0.0</u>	<u>8.35</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>m</u>				Signature or initials <u>Michael Cuyll</u>
Physical Condition of Unit		<u>Good</u>			

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>Hanna U52</u> <u>S/N W6408625</u>							
Date/Time	pH	Electrical Conductivity (μ Mhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments	
12.22.16 0900	4.03	4.47	0.7	10.66			
Pre. Cal							
Calibration	4.00	4.48	0.0	10.53			
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	AS				Signature or initials		AS
Physical Condition of Unit		→ Good					

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sunshine Cyn PROJECT NAME / NUMBER 2016.D030

Instrument Make/Model # <u>HoriBa U-52</u> <u>SN W66P86RS</u>						
Date/Time <u>12.21.16</u> <u>0658</u>	pH	Electrical Conductivity (μ Mhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Guidance Remarks	Comments
Pre. Cal	<u>4.22</u>	<u>4.89</u>	<u>ϕ</u>	<u>11.03</u>		
Calibration	<u>4.00</u>	<u>4.49</u>	<u>ϕ</u>	<u>10.76</u>		
Calibration Successful? (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>AS</u>				Signature or initials	<u>ac sh</u>
Physical Condition of Unit		<u>—</u> <u>→ Good</u>				

FIELD CALIBRATION DOCUMENTATION FORM

LOCATION (Site/Facility Name) Sanjhae Conyell PROJECT NAME / NUMBER 2016-0030

Instrument Make/Model # <u>LI-521W541WBDP</u>					
Date/Time	pH	Electrical Conductivity (μ Mhos/cm)	Turbidity (NTU)	DO (mg/L or %)	Comments
<u>12-21-16</u> <u>7:05</u>					
Pre. Cal	<u>4.17</u>	<u>4.56</u>	<u>0.0</u>	<u>8.47</u>	
Calibration	<u>3.99</u>	<u>4.49</u>	<u>0.0</u>	<u>8.97</u>	
Calibration Successful? (Y/N)	<u>yes</u>				
Satisfies Protocol?	<u>yes</u>				
Calibration by	<u>mm</u>				<u>Zubair Conyell</u>
Physical Condition of Unit					<u>Good</u>

LABORATORY ANALYTICAL DATA REPORTS

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: 440-153298-1

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:

7/28/2016 3:03:49 PM

Rossina Tomova, Project Manager I

(949)261-1022

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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

TestAmerica Job ID: 440-153298-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-153298-1	DW-3-A	Water	07/20/16 10:00	07/20/16 16:00
440-153298-2	DW-3-B	Water	07/20/16 10:00	07/20/16 16:00

Case Narrative

Client: Geo-Logic Associates
Project/Site: Republic sunshine canyon

TestAmerica Job ID: 440-153298-1

Job ID: 440-153298-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-153298-1

Comments

No additional comments.

Receipt

The samples were received on 7/20/2016 4:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.4° C, 2.9° C, 5.2° C and 5.4° C.

HPLC/IC

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: 440-153298-1

Client Sample ID: DW-3-A

Date Collected: 07/20/16 10:00

Date Received: 07/20/16 16:00

Lab Sample ID: 440-153298-1

Matrix: Water

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	-		07/22/16 00:20	5

Client Sample ID: DW-3-B

Date Collected: 07/20/16 10:00

Date Received: 07/20/16 16:00

Lab Sample ID: 440-153298-2

Matrix: Water

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	-		07/22/16 02:20	5

Method Summary

Client: Geo-Logic Associates
Project/Site: Republic sunshine canyon

TestAmerica Job ID: 440-153298-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV

Protocol References:

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

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: 440-153298-1

Client Sample ID: DW-3-A

Date Collected: 07/20/16 10:00

Date Received: 07/20/16 16:00

Lab Sample ID: 440-153298-1

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	300.0		5			343924	07/22/16 00:20	NTN	TAL IRV

Client Sample ID: DW-3-B

Date Collected: 07/20/16 10:00

Date Received: 07/20/16 16:00

Lab Sample ID: 440-153298-2

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	300.0		5	5 mL	1.0 mL	343924	07/22/16 02:20	NTN	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: 440-153298-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-343924/4

Matrix: Water

Analysis Batch: 343924

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			07/21/16 14:21	1

Lab Sample ID: LCS 440-343924/2

Matrix: Water

Analysis Batch: 343924

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	4.91		mg/L		98	90 - 110

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 440-153298-2 MS

Matrix: Water

Analysis Batch: 343924

Client Sample ID: DW-3-B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride - DL	25	F1	50.0	65.8		mg/L		81	80 - 120

Lab Sample ID: 440-153298-2 MSD

Matrix: Water

Analysis Batch: 343924

Client Sample ID: DW-3-B

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	25	F1	50.0	63.0	F1	mg/L		75	80 - 120	4	20

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Republic sunshine canyon

TestAmerica Job ID: 440-153298-1

HPLC/IC

Analysis Batch: 343924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-153298-1	DW-3-A	Total/NA	Water	300.0	
440-153298-2	DW-3-B	Total/NA	Water	300.0	
MB 440-343924/4	Method Blank	Total/NA	Water	300.0	
LCS 440-343924/2	Lab Control Sample	Total/NA	Water	300.0	
440-153298-2 MS - DL	DW-3-B	Total/NA	Water	300.0	
440-153298-2 MSD - DL	DW-3-B	Total/NA	Water	300.0	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Republic sunshine canyon

TestAmerica Job ID: 440-153298-1

Qualifiers

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

Client: Geo-Logic Associates
Project/Site: Republic sunshine canyon

TestAmerica Job ID: 440-153298-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16 *
Nevada	State Program	9	CA015312016-2	07-31-16 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Chain of Custody Record

X Repeat *

140423

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

Client Contact Company Name: <u>GLA Republic</u> Address: <u>1145 W. Broadway St.</u> City/State/Zip: <u>San Diego, CA 92127</u> Phone: <u>619-451-1136</u> Fax: <u>619-451-1087</u> Project Name: <u>Republic Services, Inc.</u> Site: <u>Sanidine Cyn.</u> P.O.#		Project Manager: <u>Kyle Weldon</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>Math Eaton</u> Lab Contact: <u>Rossina</u> Date: <u>7-20-16</u> Carrier: <u>T/A</u>		COC No: <u>1</u> of <u>1</u> COCs Sampler: <u>B. Salinas</u> 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)					
DW-3-A DW-3-B		7/20/16 1000 7/20/16 1000 G G G G		1 1 1 1		Sample Specific Notes: 440-153298 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 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:		Cor'd:		Therm ID No.:	
Relinquished by: <u>[Signature]</u>		Received by: <u>[Signature]</u>		Company: <u>TA</u>		Date/Time: <u>7/20/16 1305</u>	
Relinquished by: <u>[Signature]</u>		Received by: <u>[Signature]</u>		Company: <u>TA</u>		Date/Time:	
Relinquished by: <u>[Signature]</u>		Received in Laboratory by: <u>[Signature]</u>		Company: <u>TA</u>		Date/Time: <u>7/20/16 16:00</u>	

6.0/5.4 3.5/2.9 3.0/2.4 3.8/5.2 12.74

572 400

- 1
- 2
- 3
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- 12
- 13

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-153298-1

Login Number: 153298

List Source: TestAmerica Irvine

List Number: 1

Creator: Chavez, Yonny 1

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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-158947-1

Client Project/Site: Republic Sunshine Canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

9/30/2016 2:55:35 PM

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Sample Summary

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

TestAmerica Job ID: 440-158947-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-158947-1	Subdrain N	Water	09/19/16 13:00	09/19/16 17:30
440-158947-2	Combined Subdrains	Water	09/19/16 14:20	09/19/16 17:30
440-158947-3	CM-9R3	Water	09/19/16 13:25	09/19/16 17:30
440-158947-4	CM-10R	Water	09/19/16 12:25	09/19/16 17:30
440-158947-5	CM-11R	Water	09/19/16 15:00	09/19/16 17:30
440-158947-6	Duplicate	Water	09/19/16 00:01	09/19/16 17:30
440-158947-7	QCAB	Water	09/19/16 00:01	09/19/16 17:30
440-158947-8	QCTB	Water	09/19/16 00:01	09/19/16 17:30

Case Narrative

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

TestAmerica Job ID: 440-158947-1

Job ID: 440-158947-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-158947-1

Comments

No additional comments.

Receipt

The samples were received on 9/19/2016 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.6° C and 1.0° 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

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

Method(s) SM 5310C: The continuing calibration blank (CCB) for analytical batch 440-357124 contained Total Organic Carbon above the reporting limit (RL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples were not performed.

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

Organic Prep

Method(s) 3520C: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 3520C preparation/analysis: CM-11R (440-158947-5).

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: 440-158947-1

Client Sample ID: Subdrain N

Lab Sample ID: 440-158947-1

Date Collected: 09/19/16 13:00

Matrix: Water

Date Received: 09/19/16 17:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/16 12:32	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 12:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 12:32	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,4-Dichlorobenzene	0.70		0.50	0.25	ug/L			09/26/16 12:32	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 12:32	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 12:32	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 12:32	1
Acetone	ND		20	10	ug/L			09/26/16 12:32	1
Acetonitrile	ND		20	10	ug/L			09/26/16 12:32	1
Benzene	0.44	J	0.50	0.25	ug/L			09/26/16 12:32	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 12:32	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 12:32	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 12:32	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 12:32	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
cis-1,2-Dichloroethene	0.69		0.50	0.25	ug/L			09/26/16 12:32	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 12:32	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 12:32	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 12:32	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 12:32	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 12:32	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 12:32	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 12:32	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/26/16 12:32	1
Methyl tert-butyl ether	0.75		0.50	0.25	ug/L			09/26/16 12:32	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 12:32	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 12:32	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Subdrain N

Lab Sample ID: 440-158947-1

Date Collected: 09/19/16 13:00

Matrix: Water

Date Received: 09/19/16 17:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/26/16 12:32	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
t-Butanol	16		10	5.0	ug/L			09/26/16 12:32	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 12:32	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 12:32	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 12:32	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 12:32	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 12:32	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 12:32	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 12:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 12:32	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 12:32	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 12:32	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethyl ether	1.0	J	ug/L		4.90	60-29-7		09/26/16 12:32	1
Unknown	4.0	T J	ug/L		5.89			09/26/16 12:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	115		80 - 128		09/26/16 12:32	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/26/16 12:32	1
Dibromofluoromethane (Surr)	106		76 - 132		09/26/16 12:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.6		0.98	0.24	ug/L		09/25/16 12:13	09/27/16 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	48		30 - 120	09/25/16 12:13	09/27/16 17:38	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		25	13	mg/L			09/20/16 00:48	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	7.9		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 15:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	75		20	10	mg/L			09/27/16 16:16	1
Total Dissolved Solids	2600		20	10	mg/L			09/23/16 09:42	1
Ammonia (as N)	3.1		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	24		1.0	0.50	mg/L			09/21/16 15:48	10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	520		4.0	4.0	mg/L			09/22/16 09:10	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-158947-2

Date Collected: 09/19/16 14:20

Matrix: Water

Date Received: 09/19/16 17:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/16 13:51	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 13:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 13:51	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 13:51	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 13:51	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 13:51	1
Acetone	ND		20	10	ug/L			09/26/16 13:51	1
Acetonitrile	ND		20	10	ug/L			09/26/16 13:51	1
Benzene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 13:51	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 13:51	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 13:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 13:51	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 13:51	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 13:51	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 13:51	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 13:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 13:51	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 13:51	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 13:51	1
Methylene Chloride	1.1 J		2.0	0.88	ug/L			09/26/16 13:51	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 13:51	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Propionitrile	ND		20	10	ug/L			09/26/16 13:51	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-158947-2

Date Collected: 09/19/16 14:20

Matrix: Water

Date Received: 09/19/16 17:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 13:51	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 13:51	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 13:51	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 13:51	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 13:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 13:51	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 13:51	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 13:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 13:51	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 13:51	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 13:51	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/26/16 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		09/26/16 13:51	1
4-Bromofluorobenzene (Surr)	103		80 - 120		09/26/16 13:51	1
Dibromofluoromethane (Surr)	104		76 - 132		09/26/16 13:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			09/24/16 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		09/24/16 16:27	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/24/16 16:27	1
Dibromofluoromethane (Surr)	104		76 - 132		09/24/16 16:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.4		0.98	0.24	ug/L		09/25/16 12:13	09/27/16 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	09/25/16 12:13	09/27/16 18:00	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		10	5.0	mg/L			09/20/16 14:17	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.2		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 15:56	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-158947-2

Date Collected: 09/19/16 14:20

Matrix: Water

Date Received: 09/19/16 17:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	27		20	10	mg/L			09/27/16 16:16	1
Total Dissolved Solids	1900		20	10	mg/L			09/23/16 09:42	1
Ammonia (as N)	0.52		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	3.9		0.10	0.050	mg/L			09/21/16 08:48	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		4.0	4.0	mg/L			09/22/16 09:18	1

Client Sample ID: CM-9R3

Lab Sample ID: 440-158947-3

Date Collected: 09/19/16 13:25

Matrix: Water

Date Received: 09/19/16 17:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/16 14:17	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 14:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 14:17	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 14:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 14:17	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 14:17	1
Acetone	ND		20	10	ug/L			09/26/16 14:17	1
Acetonitrile	ND		20	10	ug/L			09/26/16 14:17	1
Benzene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 14:17	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 14:17	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 14:17	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 14:17	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-9R3

Date Collected: 09/19/16 13:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 14:17	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 14:17	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 14:17	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 14:17	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 14:17	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 14:17	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 14:17	1
Methylene Chloride	1.1	J	2.0	0.88	ug/L			09/26/16 14:17	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 14:17	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Propionitrile	ND		20	10	ug/L			09/26/16 14:17	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 14:17	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 14:17	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 14:17	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 14:17	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 14:17	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 14:17	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 14:17	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 14:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 14:17	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 14:17	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 14:17	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	20	T J	ug/L		16.83			09/26/16 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128		09/26/16 14:17	1
4-Bromofluorobenzene (Surr)	103		80 - 120		09/26/16 14:17	1
Dibromofluoromethane (Surr)	104		76 - 132		09/26/16 14:17	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		09/25/16 12:13	09/27/16 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120	09/25/16 12:13	09/27/16 18:22	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		10	5.0	mg/L			09/20/16 14:35	20

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-9R3

Date Collected: 09/19/16 13:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-3

Matrix: Water

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		09/27/16 13:24	09/28/16 15:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	36		20	10	mg/L			09/27/16 16:16	1
Total Dissolved Solids	4300		50	25	mg/L			09/22/16 10:49	1
Ammonia (as N)	3.9		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	5.8		0.10	0.050	mg/L			09/21/16 09:02	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	140		4.0	4.0	mg/L			09/22/16 09:30	1

Client Sample ID: CM-10R

Date Collected: 09/19/16 12:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/16 14:43	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 14:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 14:43	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 14:43	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 14:43	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 14:43	1
Acetone	ND		20	10	ug/L			09/26/16 14:43	1
Acetonitrile	ND		20	10	ug/L			09/26/16 14:43	1
Benzene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 14:43	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 14:43	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 14:43	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 14:43	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:43	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-10R

Date Collected: 09/19/16 12:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-4

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			09/26/16 14:43	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 14:43	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 14:43	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 14:43	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 14:43	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 14:43	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 14:43	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 14:43	1
Methylene Chloride	1.2	J	2.0	0.88	ug/L			09/26/16 14:43	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 14:43	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Propionitrile	ND		20	10	ug/L			09/26/16 14:43	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 14:43	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 14:43	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 14:43	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 14:43	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 14:43	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 14:43	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 14:43	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 14:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 14:43	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 14:43	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 14:43	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>09/26/16 14:43</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Toluene-d8 (Surr)</i>	<i>111</i>		<i>80 - 128</i>		<i>09/26/16 14:43</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>103</i>		<i>80 - 120</i>		<i>09/26/16 14:43</i>	<i>1</i>
<i>Dibromofluoromethane (Surr)</i>	<i>105</i>		<i>76 - 132</i>		<i>09/26/16 14:43</i>	<i>1</i>

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		09/25/16 12:13	09/27/16 18:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120				09/25/16 12:13	09/27/16 18:45	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-10R

Date Collected: 09/19/16 12:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-4

Matrix: Water

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			09/20/16 14:53	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	10		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	66		20	10	mg/L			09/27/16 16:16	1
Total Dissolved Solids	1700		20	10	mg/L			09/24/16 12:14	1
Ammonia (as N)	7.5		2.5	0.50	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	5.7		0.10	0.050	mg/L			09/21/16 09:16	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	880		4.0	4.0	mg/L			09/23/16 09:21	1

Client Sample ID: CM-11R

Date Collected: 09/19/16 15:00

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/16 15:10	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 15:10	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 15:10	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 15:10	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 15:10	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 15:10	1
Acetone	ND		20	10	ug/L			09/26/16 15:10	1
Acetonitrile	ND		20	10	ug/L			09/26/16 15:10	1
Benzene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 15:10	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 15:10	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 15:10	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-11R

Date Collected: 09/19/16 15:00

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 15:10	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 15:10	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 15:10	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 15:10	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 15:10	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 15:10	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 15:10	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 15:10	1
Methylene Chloride	1.2	J	2.0	0.88	ug/L			09/26/16 15:10	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 15:10	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Propionitrile	ND		20	10	ug/L			09/26/16 15:10	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 15:10	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 15:10	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 15:10	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 15:10	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 15:10	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 15:10	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 15:10	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 15:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 15:10	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 15:10	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 15:10	1

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tentatively Identified Compound</i>	<i>None</i>		<i>ug/L</i>					<i>09/26/16 15:10</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Toluene-d8 (Surr)</i>	<i>112</i>		<i>80 - 128</i>		<i>09/26/16 15:10</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>101</i>		<i>80 - 120</i>		<i>09/26/16 15:10</i>	<i>1</i>
<i>Dibromofluoromethane (Surr)</i>	<i>104</i>		<i>76 - 132</i>		<i>09/26/16 15:10</i>	<i>1</i>

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.1	0.28	ug/L		09/25/16 12:13	09/27/16 19:08	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-11R

Date Collected: 09/19/16 15:00

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		30 - 120	09/25/16 12:13	09/27/16 19:08	1

Method: 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.5	mg/L	-		09/20/16 15:11	10

Method: 6010B - Metals (ICP) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	9.2		0.50	0.25	mg/L	-	09/27/16 13:24	09/28/16 16:02	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	30		20	10	mg/L	-		09/27/16 16:16	1
Total Dissolved Solids	3500		50	25	mg/L	-		09/24/16 12:14	1
Ammonia (as N)	1.7		0.50	0.10	mg/L	-	09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	4.1	^	0.10	0.050	mg/L	-		09/21/16 09:55	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	66		4.0	4.0	mg/L	-		09/23/16 09:27	1

Client Sample ID: Duplicate

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L	-		09/26/16 15:36	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L	-		09/26/16 15:36	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L	-		09/26/16 15:36	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L	-		09/26/16 15:36	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L	-		09/26/16 15:36	1
2-Hexanone	ND		5.0	2.5	ug/L	-		09/26/16 15:36	1
Acetone	ND		20	10	ug/L	-		09/26/16 15:36	1
Acetonitrile	ND		20	10	ug/L	-		09/26/16 15:36	1
Benzene	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
Allyl chloride	ND		1.0	0.50	ug/L	-		09/26/16 15:36	1
Bromoform	ND		1.0	0.40	ug/L	-		09/26/16 15:36	1
Bromomethane	ND		0.50	0.25	ug/L	-		09/26/16 15:36	1
Carbon disulfide	ND		1.0	0.50	ug/L	-		09/26/16 15:36	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Duplicate

Lab Sample ID: 440-158947-6

Date Collected: 09/19/16 00:01

Matrix: Water

Date Received: 09/19/16 17:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 15:36	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 15:36	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 15:36	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 15:36	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 15:36	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 15:36	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 15:36	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 15:36	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 15:36	1
Methylene Chloride	1.2 J		2.0	0.88	ug/L			09/26/16 15:36	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 15:36	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Propionitrile	ND		20	10	ug/L			09/26/16 15:36	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 15:36	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 15:36	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 15:36	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 15:36	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 15:36	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 15:36	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 15:36	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 15:36	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 15:36	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 15:36	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 15:36	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/26/16 15:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		09/26/16 15:36	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/26/16 15:36	1
Dibromofluoromethane (Surr)	105		76 - 132		09/26/16 15:36	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Duplicate

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.1	0.27	ug/L	-	09/25/16 12:13	09/27/16 19:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	49		30 - 120				09/25/16 12:13	09/27/16 19:30	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	-		09/20/16 15:29	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	11		0.50	0.25	mg/L	-	09/27/16 13:24	09/28/16 16:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	70		20	10	mg/L	-		09/27/16 16:17	1
Total Dissolved Solids	1800		20	10	mg/L	-		09/24/16 12:14	1
Ammonia (as N)	7.5		2.5	0.50	mg/L	-	09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	5.6	^	0.10	0.050	mg/L	-		09/21/16 10:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	870		4.0	4.0	mg/L	-		09/23/16 09:41	1

Client Sample ID: QCAB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L	-		09/26/16 10:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L	-		09/26/16 10:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L	-		09/26/16 10:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L	-		09/26/16 10:21	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L	-		09/26/16 10:21	1
2-Hexanone	ND		5.0	2.5	ug/L	-		09/26/16 10:21	1
Acetone	ND		20	10	ug/L	-		09/26/16 10:21	1
Acetonitrile	ND		20	10	ug/L	-		09/26/16 10:21	1
Benzene	ND		0.50	0.25	ug/L	-		09/26/16 10:21	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: QCAB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 10:21	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 10:21	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 10:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 10:21	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 10:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 10:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 10:21	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 10:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 10:21	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 10:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 10:21	1
Methylene Chloride	0.88	J	2.0	0.88	ug/L			09/26/16 10:21	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 10:21	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Propionitrile	ND		20	10	ug/L			09/26/16 10:21	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 10:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 10:21	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 10:21	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 10:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 10:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 10:21	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 10:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 10:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 10:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 10:21	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 10:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/26/16 10:21	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: QCAB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-7

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		09/26/16 10:21	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/26/16 10:21	1
Dibromofluoromethane (Surr)	101		76 - 132		09/26/16 10:21	1

Client Sample ID: QCTB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-8

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			09/26/16 10:48	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 10:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 10:48	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 10:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 10:48	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 10:48	1
Acetone	ND		20	10	ug/L			09/26/16 10:48	1
Acetonitrile	ND		20	10	ug/L			09/26/16 10:48	1
Benzene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 10:48	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 10:48	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 10:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 10:48	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 10:48	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 10:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 10:48	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: QCTB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 10:48	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 10:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 10:48	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 10:48	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 10:48	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/26/16 10:48	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 10:48	1
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Propionitrile	ND		20	10	ug/L			09/26/16 10:48	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 10:48	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 10:48	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 10:48	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 10:48	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 10:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 10:48	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 10:48	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 10:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 10:48	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 10:48	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 10:48	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/26/16 10:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		09/26/16 10:48	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/26/16 10:48	1
Dibromofluoromethane (Surr)	100		76 - 132		09/26/16 10:48	1

TestAmerica Irvine

Method Summary

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

TestAmerica Job ID: 440-158947-1

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

Protocol References:

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

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

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

Laboratory References:

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

Lab Chronicle

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: Subdrain N

Date Collected: 09/19/16 13:00

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-1

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	357960	09/26/16 12:32	SHS	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	357934	09/25/16 12:13	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358292	09/27/16 17:38	AI	TAL IRV
Total/NA	Analysis	300.0		50			356512	09/20/16 00:48	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 15:49	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358479	09/27/16 16:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 09:10	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357654	09/23/16 09:42	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357260	09/21/16 15:48	YZ	TAL IRV

Client Sample ID: Combined Subdrains

Date Collected: 09/19/16 14:20

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-2

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	357960	09/26/16 13:51	SHS	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	357838	09/24/16 16:27	SHS	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	357934	09/25/16 12:13	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358292	09/27/16 18:00	AI	TAL IRV
Total/NA	Analysis	300.0		20			356759	09/20/16 14:17	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 15:56	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358479	09/27/16 16:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 09:18	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357654	09/23/16 09:42	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 08:48	YZ	TAL IRV

Client Sample ID: CM-9R3

Date Collected: 09/19/16 13:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-3

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	357960	09/26/16 14:17	SHS	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	357934	09/25/16 12:13	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358292	09/27/16 18:22	AI	TAL IRV
Total/NA	Analysis	300.0		20			356759	09/20/16 14:35	NTN	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-9R3

Date Collected: 09/19/16 13:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-3

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	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 15:58	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358479	09/27/16 16:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 09:30	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	357339	09/22/16 10:49	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 09:02	YZ	TAL IRV

Client Sample ID: CM-10R

Date Collected: 09/19/16 12:25

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-4

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	357960	09/26/16 14:43	SHS	TAL IRV
Total/NA	Prep	3520C			960 mL	1 mL	357934	09/25/16 12:13	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358292	09/27/16 18:45	AI	TAL IRV
Total/NA	Analysis	300.0		5			356759	09/20/16 14:53	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 16:00	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358479	09/27/16 16:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357824	09/23/16 09:21	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10.0 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 09:16	YZ	TAL IRV

Client Sample ID: CM-11R

Date Collected: 09/19/16 15:00

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-5

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	357960	09/26/16 15:10	SHS	TAL IRV
Total/NA	Prep	3520C			890 mL	1 mL	357934	09/25/16 12:13	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358292	09/27/16 19:08	AI	TAL IRV
Total/NA	Analysis	300.0		10			356759	09/20/16 15:11	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 16:02	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358479	09/27/16 16:16	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357824	09/23/16 09:27	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-158947-1

Client Sample ID: CM-11R

Date Collected: 09/19/16 15:00

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 09:55	YZ	TAL IRV

Client Sample ID: Duplicate

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-6

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	357960	09/26/16 15:36	SHS	TAL IRV
Total/NA	Prep	3520C			915 mL	1 mL	357934	09/25/16 12:13	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358292	09/27/16 19:30	AI	TAL IRV
Total/NA	Analysis	300.0		5			356759	09/20/16 15:29	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 16:10	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358479	09/27/16 16:17	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357824	09/23/16 09:41	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10.0 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 10:08	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-7

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	357960	09/26/16 10:21	SHS	TAL IRV

Client Sample ID: QCTB

Date Collected: 09/19/16 00:01

Date Received: 09/19/16 17:30

Lab Sample ID: 440-158947-8

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	357960	09/26/16 10:48	SHS	TAL IRV

Laboratory References:

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

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: MB 440-357838/4

Matrix: Water

Analysis Batch: 357838

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			09/24/16 10:59	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128					09/24/16 10:59	1
4-Bromofluorobenzene (Surr)	100		80 - 120					09/24/16 10:59	1
Dibromofluoromethane (Surr)	103		76 - 132					09/24/16 10:59	1

Lab Sample ID: LCS 440-357838/5

Matrix: Water

Analysis Batch: 357838

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	24.0		ug/L		96	60 - 140
Surrogate	%Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)	100		80 - 128				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Dibromofluoromethane (Surr)	100		76 - 132				

Lab Sample ID: 720-74623-A-1 MS

Matrix: Water

Analysis Batch: 357838

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
Naphthalene	ND		25.0	25.0		ug/L		100	60 - 140
Surrogate	%Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	102		80 - 128						
4-Bromofluorobenzene (Surr)	96		80 - 120						
Dibromofluoromethane (Surr)	99		76 - 132						

Lab Sample ID: 720-74623-A-1 MSD

Matrix: Water

Analysis Batch: 357838

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
Naphthalene	ND		25.0	26.0		ug/L		104	60 - 140	4	30
Surrogate	%Recovery	MSD Qualifier	Limits								
Toluene-d8 (Surr)	104		80 - 128								
4-Bromofluorobenzene (Surr)	97		80 - 120								
Dibromofluoromethane (Surr)	98		76 - 132								

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: MB 440-357960/4

Matrix: Water

Analysis Batch: 357960

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/26/16 08:48	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/26/16 08:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/26/16 08:48	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/26/16 08:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/26/16 08:48	1
2-Hexanone	ND		5.0	2.5	ug/L			09/26/16 08:48	1
Acetone	ND		20	10	ug/L			09/26/16 08:48	1
Acetonitrile	ND		20	10	ug/L			09/26/16 08:48	1
Benzene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Allyl chloride	ND		1.0	0.50	ug/L			09/26/16 08:48	1
Bromoform	ND		1.0	0.40	ug/L			09/26/16 08:48	1
Bromomethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/26/16 08:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Chloroethane	ND		1.0	0.40	ug/L			09/26/16 08:48	1
Chloroform	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Chloromethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Dibromomethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/26/16 08:48	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 08:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Iodomethane	ND		2.0	1.0	ug/L			09/26/16 08:48	1
Isobutyl alcohol	ND		25	13	ug/L			09/26/16 08:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/26/16 08:48	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/26/16 08:48	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/26/16 08:48	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/26/16 08:48	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Naphthalene	ND		1.0	0.40	ug/L			09/26/16 08:48	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: MB 440-357960/4

Matrix: Water

Analysis Batch: 357960

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Propionitrile	ND		20	10	ug/L			09/26/16 08:48	1
Styrene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
t-Butanol	ND		10	5.0	ug/L			09/26/16 08:48	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/26/16 08:48	1
Toluene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/26/16 08:48	1
Trichloroethene	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/26/16 08:48	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/26/16 08:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/26/16 08:48	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/26/16 08:48	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/26/16 08:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/26/16 08:48	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/26/16 08:48	1
Acrolein	ND		5.0	2.5	ug/L			09/26/16 08:48	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/26/16 08:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		09/26/16 08:48	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/26/16 08:48	1
Dibromofluoromethane (Surr)	108		76 - 132		09/26/16 08:48	1

Lab Sample ID: LCS 440-357960/5

Matrix: Water

Analysis Batch: 357960

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	25.6		ug/L		102	63 - 130
1,1,1,2-Tetrachloroethane	25.0	26.1		ug/L		104	60 - 141
1,1,1-Trichloroethane	25.0	25.9		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.6		ug/L		99	63 - 130
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	25.0		ug/L		100	64 - 130
1,1-Dichloroethene	25.0	24.1		ug/L		96	70 - 130
1,1-Dichloropropene	25.0	25.3		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	25.0	31.8		ug/L		127	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	28.0		ug/L		112	52 - 140
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	25.4		ug/L		102	57 - 138
1,2-Dichloropropane	25.0	26.4		ug/L		105	67 - 130
1,3-Dichlorobenzene	25.0	25.9		ug/L		103	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: LCS 440-357960/5

Matrix: Water

Analysis Batch: 357960

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	25.5		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
2,2-Dichloropropane	25.0	28.8		ug/L		115	68 - 141
2-Hexanone	25.0	28.7		ug/L		115	10 - 150
Acetone	25.0	28.4		ug/L		114	10 - 150
Benzene	25.0	25.2		ug/L		101	68 - 130
Bromoform	25.0	28.8		ug/L		115	60 - 148
Bromomethane	25.0	23.4		ug/L		93	64 - 139
Carbon disulfide	25.0	23.6		ug/L		94	52 - 136
Carbon tetrachloride	25.0	26.4		ug/L		105	60 - 150
Chlorobenzene	25.0	24.6		ug/L		98	70 - 130
Bromochloromethane	25.0	25.8		ug/L		103	70 - 130
Chloroethane	25.0	25.3		ug/L		101	64 - 135
Chloroform	25.0	25.1		ug/L		100	70 - 130
Chloromethane	25.0	21.5		ug/L		86	47 - 140
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 133
Dibromochloromethane	25.0	26.4		ug/L		105	69 - 145
Dibromomethane	25.0	25.5		ug/L		102	70 - 130
Bromodichloromethane	25.0	25.7		ug/L		103	70 - 132
Dichlorodifluoromethane	25.0	19.8		ug/L		79	29 - 150
Ethylbenzene	25.0	26.1		ug/L		104	70 - 130
m,p-Xylene	25.0	26.2		ug/L		105	70 - 130
Methylene Chloride	25.0	25.1		ug/L		100	52 - 130
Methyl tert-butyl ether	25.0	26.0		ug/L		104	63 - 131
Naphthalene	25.0	28.9		ug/L		115	60 - 140
o-Xylene	25.0	25.1		ug/L		100	70 - 130
Styrene	25.0	26.5		ug/L		106	70 - 134
t-Butanol	250	255		ug/L		102	70 - 130
Tetrachloroethene	25.0	27.7		ug/L		111	70 - 130
Toluene	25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	25.3		ug/L		101	70 - 130
trans-1,3-Dichloropropene	25.0	26.5		ug/L		106	70 - 132
Trichloroethene	25.0	25.6		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	25.4		ug/L		102	60 - 150
Vinyl acetate	25.0	30.2		ug/L		121	48 - 140
Vinyl chloride	25.0	20.8		ug/L		83	59 - 133
1,2-Dibromoethane (EDB)	25.0	27.6		ug/L		110	70 - 130
2-Butanone (MEK)	25.0	25.2		ug/L		101	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	29.9		ug/L		119	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: 440-158947-1 MS

Matrix: Water

Analysis Batch: 357960

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
1,2,3-Trichloropropane	ND		25.0	28.4		ug/L		113	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	26.6		ug/L		106	60 - 149
1,1,1-Trichloroethane	ND		25.0	26.2		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.4		ug/L		110	63 - 130
1,1,2-Trichloroethane	ND		25.0	28.4		ug/L		113	70 - 130
1,1-Dichloroethane	ND		25.0	24.8		ug/L		99	65 - 130
1,1-Dichloroethene	ND		25.0	24.7		ug/L		99	70 - 130
1,1-Dichloropropene	ND		25.0	25.1		ug/L		101	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	31.0		ug/L		124	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	33.2		ug/L		133	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.6		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	25.8		ug/L		103	56 - 146
1,2-Dichloropropane	ND		25.0	25.6		ug/L		102	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130
1,3-Dichloropropane	ND		25.0	27.8		ug/L		111	70 - 130
1,4-Dichlorobenzene	0.70		25.0	25.6		ug/L		100	70 - 130
2,2-Dichloropropane	ND		25.0	27.0		ug/L		108	69 - 138
2-Hexanone	ND		25.0	32.9		ug/L		132	10 - 150
Acetone	ND		25.0	31.7		ug/L		127	10 - 150
Benzene	0.44	J	25.0	25.4		ug/L		100	66 - 130
Bromoform	ND		25.0	30.8		ug/L		123	59 - 150
Bromomethane	ND		25.0	22.7		ug/L		91	62 - 131
Carbon disulfide	ND		25.0	24.5		ug/L		98	49 - 140
Carbon tetrachloride	ND		25.0	26.5		ug/L		106	60 - 150
Chlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
Bromochloromethane	ND		25.0	25.3		ug/L		101	70 - 130
Chloroethane	ND		25.0	23.9		ug/L		95	68 - 130
Chloroform	ND		25.0	24.7		ug/L		99	70 - 130
Chloromethane	ND		25.0	21.2		ug/L		85	39 - 144
cis-1,2-Dichloroethene	0.69		25.0	25.3		ug/L		99	70 - 130
cis-1,3-Dichloropropene	ND		25.0	27.5		ug/L		110	70 - 133
Dibromochloromethane	ND		25.0	27.1		ug/L		109	70 - 148
Dibromomethane	ND		25.0	26.2		ug/L		105	70 - 130
Bromodichloromethane	ND		25.0	25.4		ug/L		102	70 - 138
Dichlorodifluoromethane	ND		25.0	21.1		ug/L		84	25 - 142
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
m,p-Xylene	ND		25.0	26.3		ug/L		105	70 - 133
Methylene Chloride	ND		25.0	25.7		ug/L		103	52 - 130
Methyl tert-butyl ether	0.75		25.0	27.2		ug/L		106	70 - 130
Naphthalene	ND		25.0	32.4		ug/L		129	60 - 140
o-Xylene	ND		25.0	26.1		ug/L		104	70 - 133
Styrene	ND		25.0	26.5		ug/L		106	29 - 150
t-Butanol	16		250	271		ug/L		102	70 - 130
Tetrachloroethene	ND		25.0	27.4		ug/L		110	70 - 137
Toluene	ND		25.0	25.6		ug/L		103	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.6		ug/L		102	70 - 130
trans-1,3-Dichloropropene	ND		25.0	27.4		ug/L		110	70 - 138
Trichloroethene	ND		25.0	24.8		ug/L		99	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: 440-158947-1 MS

Matrix: Water

Analysis Batch: 357960

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
Trichlorofluoromethane	ND		25.0	25.9		ug/L		104	60 - 150
Vinyl acetate	ND		25.0	32.0		ug/L		128	23 - 150
Vinyl chloride	ND		25.0	20.5		ug/L		82	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	29.0		ug/L		116	70 - 131
2-Butanone (MEK)	ND		25.0	27.9		ug/L		112	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	36.1		ug/L		144	52 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	110		80 - 128
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132

Lab Sample ID: 440-158947-1 MSD

Matrix: Water

Analysis Batch: 357960

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
1,2,3-Trichloropropane	ND		25.0	27.2		ug/L		109	60 - 130	4	30
1,1,1,2-Tetrachloroethane	ND		25.0	26.2		ug/L		105	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	27.0		ug/L		108	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.5		ug/L		106	63 - 130	3	30
1,1,2-Trichloroethane	ND		25.0	26.5		ug/L		106	70 - 130	7	25
1,1-Dichloroethane	ND		25.0	24.9		ug/L		100	65 - 130	0	20
1,1-Dichloroethene	ND		25.0	24.6		ug/L		98	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	25.6		ug/L		102	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		25.0	30.6		ug/L		122	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	31.2		ug/L		125	48 - 140	6	30
1,2-Dichlorobenzene	ND		25.0	25.6		ug/L		103	70 - 130	4	20
1,2-Dichloroethane	ND		25.0	25.8		ug/L		103	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	25.6		ug/L		102	69 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	26.7		ug/L		107	70 - 130	4	25
1,4-Dichlorobenzene	0.70		25.0	25.5		ug/L		99	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	30.4		ug/L		121	69 - 138	12	25
2-Hexanone	ND		25.0	30.6		ug/L		122	10 - 150	7	35
Acetone	ND		25.0	30.7		ug/L		123	10 - 150	3	35
Benzene	0.44	J	25.0	25.6		ug/L		101	66 - 130	1	20
Bromoform	ND		25.0	30.4		ug/L		122	59 - 150	1	25
Bromomethane	ND		25.0	25.1		ug/L		100	62 - 131	10	25
Carbon disulfide	ND		25.0	24.9		ug/L		100	49 - 140	1	20
Carbon tetrachloride	ND		25.0	26.9		ug/L		108	60 - 150	2	25
Chlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130	1	20
Bromochloromethane	ND		25.0	25.8		ug/L		103	70 - 130	2	25
Chloroethane	ND		25.0	25.5		ug/L		102	68 - 130	7	25
Chloroform	ND		25.0	25.3		ug/L		101	70 - 130	2	20
Chloromethane	ND		25.0	21.8		ug/L		87	39 - 144	3	25
cis-1,2-Dichloroethene	0.69		25.0	26.0		ug/L		101	70 - 130	3	20
cis-1,3-Dichloropropene	ND		25.0	27.0		ug/L		108	70 - 133	2	20

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QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: 440-158947-1 MSD

Matrix: Water

Analysis Batch: 357960

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
Dibromochloromethane	ND		25.0	26.9		ug/L		108	70 - 148	1	25
Dibromomethane	ND		25.0	25.7		ug/L		103	70 - 130	2	25
Bromodichloromethane	ND		25.0	25.4		ug/L		102	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	21.4		ug/L		86	25 - 142	1	30
Ethylbenzene	ND		25.0	26.2		ug/L		105	70 - 130	0	20
m,p-Xylene	ND		25.0	26.5		ug/L		106	70 - 133	1	25
Methylene Chloride	ND		25.0	25.9		ug/L		103	52 - 130	1	20
Methyl tert-butyl ether	0.75		25.0	27.1		ug/L		105	70 - 130	1	25
Naphthalene	ND		25.0	32.1		ug/L		129	60 - 140	1	30
o-Xylene	ND		25.0	26.1		ug/L		104	70 - 133	0	20
Styrene	ND		25.0	26.6		ug/L		106	29 - 150	0	35
t-Butanol	16		250	270		ug/L		102	70 - 130	1	25
Tetrachloroethene	ND		25.0	26.9		ug/L		108	70 - 137	2	20
Toluene	ND		25.0	25.7		ug/L		103	70 - 130	0	20
trans-1,2-Dichloroethene	ND		25.0	26.1		ug/L		104	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	26.4		ug/L		106	70 - 138	4	25
Trichloroethene	ND		25.0	24.9		ug/L		99	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	26.3		ug/L		105	60 - 150	1	25
Vinyl acetate	ND		25.0	30.2		ug/L		121	23 - 150	6	30
Vinyl chloride	ND		25.0	19.6		ug/L		78	50 - 137	5	30
1,2-Dibromoethane (EDB)	ND		25.0	28.0		ug/L		112	70 - 131	3	25
2-Butanone (MEK)	ND		25.0	27.3		ug/L		109	48 - 140	2	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	32.8		ug/L		131	52 - 150	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	109		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

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

Lab Sample ID: MB 440-357934/1-A

Matrix: Water

Analysis Batch: 358292

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 357934

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/25/16 12:13	09/27/16 15:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	56		30 - 120				09/25/16 12:13	09/27/16 15:00	1

Lab Sample ID: LCS 440-357934/3-A

Matrix: Water

Analysis Batch: 358730

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 357934

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.12		ug/L		56	35 - 120

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QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: LCS 440-357934/3-A
Matrix: Water
Analysis Batch: 358730

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357934

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)	68		30 - 120

Lab Sample ID: 550-69803-C-3-A MS
Matrix: Water
Analysis Batch: 358730

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 357934

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	ND		2.13	1.40		ug/L		66	35 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	74		30 - 120						

Lab Sample ID: 550-69803-C-3-B MSD
Matrix: Water
Analysis Batch: 358730

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 357934

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		2.14	1.25		ug/L		59	35 - 120	11	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	69		30 - 120								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-356512/4
Matrix: Water
Analysis Batch: 356512

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/19/16 12:33	1

Lab Sample ID: LCS 440-356512/2
Matrix: Water
Analysis Batch: 356512

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	5.04		mg/L		101	90 - 110

Lab Sample ID: 440-158936-L-1 MS
Matrix: Water
Analysis Batch: 356512

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	69		25.0	96.9		mg/L		112	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-158936-L-1 MSD

Matrix: Water

Analysis Batch: 356512

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	69		25.0	98.2		mg/L		117	80 - 120	1	20

Lab Sample ID: MB 440-356759/4

Matrix: Water

Analysis Batch: 356759

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/20/16 11:41	1

Lab Sample ID: LCS 440-356759/6

Matrix: Water

Analysis Batch: 356759

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	5.05		mg/L		101	90 - 110

Lab Sample ID: 440-158947-6 MS

Matrix: Water

Analysis Batch: 356759

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	11		25.0	36.3		mg/L		99	80 - 120

Lab Sample ID: 440-158947-6 MSD

Matrix: Water

Analysis Batch: 356759

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	11		25.0	36.2		mg/L		99	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-358428/1-A

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 15:45	1

Lab Sample ID: LCS 440-358428/2-A

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.47		mg/L		95	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: 440-158947-1 MS

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Subdrain N

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	7.9		10.0	17.8		mg/L		99	75 - 125

Lab Sample ID: 440-158947-1 MSD

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Subdrain N

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	7.9		10.0	17.9		mg/L		101	75 - 125	1	20

Method: 410.4 - COD

Lab Sample ID: MB 440-358479/3

Matrix: Water

Analysis Batch: 358479

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/27/16 16:14	1

Lab Sample ID: LCS 440-358479/4

Matrix: Water

Analysis Batch: 358479

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: 440-158947-6 MS

Matrix: Water

Analysis Batch: 358479

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	70		200	250		mg/L		90	70 - 120

Lab Sample ID: 440-158947-6 MSD

Matrix: Water

Analysis Batch: 358479

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	70		200	244		mg/L		87	70 - 120	3	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-357558/30

Matrix: Water

Analysis Batch: 357558

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/22/16 08:14	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 440-357558/29

Matrix: Water

Analysis Batch: 357558

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	85.8	89.9		mg/L		105	80 - 120

Lab Sample ID: 440-158947-3 DU

Matrix: Water

Analysis Batch: 357558

Client Sample ID: CM-9R3

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		138		mg/L		0.3	20

Lab Sample ID: MB 440-357824/30

Matrix: Water

Analysis Batch: 357824

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/23/16 08:39	1

Lab Sample ID: LCS 440-357824/29

Matrix: Water

Analysis Batch: 357824

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	85.8	86.8		mg/L		101	80 - 120

Lab Sample ID: 440-159016-B-1 DU

Matrix: Water

Analysis Batch: 357824

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	170		172		mg/L		0.3	20

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

Lab Sample ID: MB 440-357339/1

Matrix: Water

Analysis Batch: 357339

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/22/16 10:49	1

Lab Sample ID: LCS 440-357339/2

Matrix: Water

Analysis Batch: 357339

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	986		mg/L		99	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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

Lab Sample ID: 440-158645-H-11 DU
Matrix: Water
Analysis Batch: 357339

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	8700		8700		mg/L		0.1	5

Lab Sample ID: MB 440-357654/1
Matrix: Water
Analysis Batch: 357654

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/23/16 09:39	1

Lab Sample ID: LCS 440-357654/2
Matrix: Water
Analysis Batch: 357654

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	944		mg/L		94	90 - 110

Lab Sample ID: 440-159392-C-1 DU
Matrix: Water
Analysis Batch: 357654

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	1500		1470		mg/L		1	5

Lab Sample ID: MB 440-357870/1
Matrix: Water
Analysis Batch: 357870

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/24/16 12:14	1

Lab Sample ID: LCS 440-357870/2
Matrix: Water
Analysis Batch: 357870

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: 440-159114-A-1 DU
Matrix: Water
Analysis Batch: 357870

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	1000		1030		mg/L		0.3	5

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-356962/2-A

Matrix: Water

Analysis Batch: 357017

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 356962

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1

Lab Sample ID: LCS 440-356962/1-A

Matrix: Water

Analysis Batch: 357017

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 356962

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.24		mg/L		89	85 - 115

Lab Sample ID: 440-159104-A-1-C MS

Matrix: Water

Analysis Batch: 357017

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 356962

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.93		2.50	3.34		mg/L		96	75 - 125

Lab Sample ID: 440-159104-A-1-D MSD

Matrix: Water

Analysis Batch: 357017

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 356962

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.93		2.50	3.22		mg/L		92	75 - 125	4	15

Lab Sample ID: 440-159104-A-1-B DU

Matrix: Water

Analysis Batch: 357017

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 356962

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia (as N)	0.93		0.930		mg/L		0	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-357124/7

Matrix: Water

Analysis Batch: 357124

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/21/16 06:48	1

Lab Sample ID: LCS 440-357124/6

Matrix: Water

Analysis Batch: 357124

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	10.1		mg/L		101	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: MRL 440-357124/5

Matrix: Water

Analysis Batch: 357124

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	0.0869	J	mg/L		87	50 - 150

Lab Sample ID: 440-159012-I-4 MS

Matrix: Water

Analysis Batch: 357124

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	0.13		10.0	9.92		mg/L		98	80 - 120

Lab Sample ID: 440-159012-I-4 MSD

Matrix: Water

Analysis Batch: 357124

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	0.13		10.0	9.78		mg/L		97	80 - 120	1	20

Lab Sample ID: MB 440-357260/9

Matrix: Water

Analysis Batch: 357260

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/21/16 14:01	1

Lab Sample ID: LCS 440-357260/8

Matrix: Water

Analysis Batch: 357260

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	10.0		mg/L		100	90 - 110

Lab Sample ID: MRL 440-357260/5

Matrix: Water

Analysis Batch: 357260

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	0.0869	J	mg/L		87	50 - 150

Lab Sample ID: 440-158897-AH-1 MS

Matrix: Water

Analysis Batch: 357260

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	3.5		10.0	13.5		mg/L		100	80 - 120

Lab Sample ID: 440-158897-AH-1 MSD

Matrix: Water

Analysis Batch: 357260

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	3.5		10.0	13.6		mg/L		101	80 - 120	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-158947-1

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QC Association Summary

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

TestAmerica Job ID: 440-158947-1

GC/MS VOA

Analysis Batch: 357838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-2 - RA	Combined Subdrains	Total/NA	Water	8260B	
MB 440-357838/4	Method Blank	Total/NA	Water	8260B	
LCS 440-357838/5	Lab Control Sample	Total/NA	Water	8260B	
720-74623-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
720-74623-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 357960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	8260B	
440-158947-2	Combined Subdrains	Total/NA	Water	8260B	
440-158947-3	CM-9R3	Total/NA	Water	8260B	
440-158947-4	CM-10R	Total/NA	Water	8260B	
440-158947-5	CM-11R	Total/NA	Water	8260B	
440-158947-6	Duplicate	Total/NA	Water	8260B	
440-158947-7	QCAB	Total/NA	Water	8260B	
440-158947-8	QCTB	Total/NA	Water	8260B	
MB 440-357960/4	Method Blank	Total/NA	Water	8260B	
LCS 440-357960/5	Lab Control Sample	Total/NA	Water	8260B	
440-158947-1 MS	Subdrain N	Total/NA	Water	8260B	
440-158947-1 MSD	Subdrain N	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 357934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	3520C	
440-158947-2	Combined Subdrains	Total/NA	Water	3520C	
440-158947-3	CM-9R3	Total/NA	Water	3520C	
440-158947-4	CM-10R	Total/NA	Water	3520C	
440-158947-5	CM-11R	Total/NA	Water	3520C	
440-158947-6	Duplicate	Total/NA	Water	3520C	
MB 440-357934/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-357934/3-A	Lab Control Sample	Total/NA	Water	3520C	
550-69803-C-3-A MS	Matrix Spike	Total/NA	Water	3520C	
550-69803-C-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 358292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	8270C	357934
440-158947-2	Combined Subdrains	Total/NA	Water	8270C	357934
440-158947-3	CM-9R3	Total/NA	Water	8270C	357934
440-158947-4	CM-10R	Total/NA	Water	8270C	357934
440-158947-5	CM-11R	Total/NA	Water	8270C	357934
440-158947-6	Duplicate	Total/NA	Water	8270C	357934
MB 440-357934/1-A	Method Blank	Total/NA	Water	8270C	357934

Analysis Batch: 358730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-357934/3-A	Lab Control Sample	Total/NA	Water	8270C	357934
550-69803-C-3-A MS	Matrix Spike	Total/NA	Water	8270C	357934

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-158947-1

GC/MS Semi VOA (Continued)

Analysis Batch: 358730 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69803-C-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	357934

HPLC/IC

Analysis Batch: 356512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	300.0	
MB 440-356512/4	Method Blank	Total/NA	Water	300.0	
LCS 440-356512/2	Lab Control Sample	Total/NA	Water	300.0	
440-158936-L-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-158936-L-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 356759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-2	Combined Subdrains	Total/NA	Water	300.0	
440-158947-3	CM-9R3	Total/NA	Water	300.0	
440-158947-4	CM-10R	Total/NA	Water	300.0	
440-158947-5	CM-11R	Total/NA	Water	300.0	
440-158947-6	Duplicate	Total/NA	Water	300.0	
MB 440-356759/4	Method Blank	Total/NA	Water	300.0	
LCS 440-356759/6	Lab Control Sample	Total/NA	Water	300.0	
440-158947-6 MS	Duplicate	Total/NA	Water	300.0	
440-158947-6 MSD	Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 358428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total Recoverable	Water	3005A	
440-158947-2	Combined Subdrains	Total Recoverable	Water	3005A	
440-158947-3	CM-9R3	Total Recoverable	Water	3005A	
440-158947-4	CM-10R	Total Recoverable	Water	3005A	
440-158947-5	CM-11R	Total Recoverable	Water	3005A	
440-158947-6	Duplicate	Total Recoverable	Water	3005A	
MB 440-358428/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358428/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-158947-1 MS	Subdrain N	Total Recoverable	Water	3005A	
440-158947-1 MSD	Subdrain N	Total Recoverable	Water	3005A	

Analysis Batch: 358766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total Recoverable	Water	6010B	358428
440-158947-2	Combined Subdrains	Total Recoverable	Water	6010B	358428
440-158947-3	CM-9R3	Total Recoverable	Water	6010B	358428
440-158947-4	CM-10R	Total Recoverable	Water	6010B	358428
440-158947-5	CM-11R	Total Recoverable	Water	6010B	358428
440-158947-6	Duplicate	Total Recoverable	Water	6010B	358428
MB 440-358428/1-A	Method Blank	Total Recoverable	Water	6010B	358428
LCS 440-358428/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358428
440-158947-1 MS	Subdrain N	Total Recoverable	Water	6010B	358428

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-158947-1

Metals (Continued)

Analysis Batch: 358766 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1 MSD	Subdrain N	Total Recoverable	Water	6010B	358428

General Chemistry

Prep Batch: 356962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	SM 4500 NH3 B	
440-158947-2	Combined Subdrains	Total/NA	Water	SM 4500 NH3 B	
440-158947-3	CM-9R3	Total/NA	Water	SM 4500 NH3 B	
440-158947-4	CM-10R	Total/NA	Water	SM 4500 NH3 B	
440-158947-5	CM-11R	Total/NA	Water	SM 4500 NH3 B	
440-158947-6	Duplicate	Total/NA	Water	SM 4500 NH3 B	
MB 440-356962/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-356962/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-159104-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-159104-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-159104-A-1-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 357017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	SM 4500 NH3 D	356962
440-158947-2	Combined Subdrains	Total/NA	Water	SM 4500 NH3 D	356962
440-158947-3	CM-9R3	Total/NA	Water	SM 4500 NH3 D	356962
440-158947-4	CM-10R	Total/NA	Water	SM 4500 NH3 D	356962
440-158947-5	CM-11R	Total/NA	Water	SM 4500 NH3 D	356962
440-158947-6	Duplicate	Total/NA	Water	SM 4500 NH3 D	356962
MB 440-356962/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	356962
LCS 440-356962/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	356962
440-159104-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	356962
440-159104-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	356962
440-159104-A-1-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	356962

Analysis Batch: 357124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-2	Combined Subdrains	Total/NA	Water	SM 5310C	
440-158947-3	CM-9R3	Total/NA	Water	SM 5310C	
440-158947-4	CM-10R	Total/NA	Water	SM 5310C	
440-158947-5	CM-11R	Total/NA	Water	SM 5310C	
440-158947-6	Duplicate	Total/NA	Water	SM 5310C	
MB 440-357124/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-357124/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-357124/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-159012-I-4 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-159012-I-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 357260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	SM 5310C	
MB 440-357260/9	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-357260/8	Lab Control Sample	Total/NA	Water	SM 5310C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-158947-1

General Chemistry (Continued)

Analysis Batch: 357260 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 440-357260/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-158897-AH-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-158897-AH-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 357339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-3	CM-9R3	Total/NA	Water	SM 2540C	
MB 440-357339/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-357339/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-158645-H-11 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 357558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	SM 2320B	
440-158947-2	Combined Subdrains	Total/NA	Water	SM 2320B	
440-158947-3	CM-9R3	Total/NA	Water	SM 2320B	
MB 440-357558/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357558/29	Lab Control Sample	Total/NA	Water	SM 2320B	
440-158947-3 DU	CM-9R3	Total/NA	Water	SM 2320B	

Analysis Batch: 357654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	SM 2540C	
440-158947-2	Combined Subdrains	Total/NA	Water	SM 2540C	
MB 440-357654/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-357654/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-159392-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 357824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-4	CM-10R	Total/NA	Water	SM 2320B	
440-158947-5	CM-11R	Total/NA	Water	SM 2320B	
440-158947-6	Duplicate	Total/NA	Water	SM 2320B	
MB 440-357824/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357824/29	Lab Control Sample	Total/NA	Water	SM 2320B	
440-159016-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 357870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-4	CM-10R	Total/NA	Water	SM 2540C	
440-158947-5	CM-11R	Total/NA	Water	SM 2540C	
440-158947-6	Duplicate	Total/NA	Water	SM 2540C	
MB 440-357870/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-357870/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-159114-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 358479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-1	Subdrain N	Total/NA	Water	410.4	
440-158947-2	Combined Subdrains	Total/NA	Water	410.4	
440-158947-3	CM-9R3	Total/NA	Water	410.4	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-158947-1

General Chemistry (Continued)

Analysis Batch: 358479 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-158947-4	CM-10R	Total/NA	Water	410.4	
440-158947-5	CM-11R	Total/NA	Water	410.4	
440-158947-6	Duplicate	Total/NA	Water	410.4	
MB 440-358479/3	Method Blank	Total/NA	Water	410.4	
LCS 440-358479/4	Lab Control Sample	Total/NA	Water	410.4	
440-158947-6 MS	Duplicate	Total/NA	Water	410.4	
440-158947-6 MSD	Duplicate	Total/NA	Water	410.4	

Definitions/Glossary

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

TestAmerica Job ID: 440-158947-1

Qualifiers

GC/MS VOA

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

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.

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-158947-1

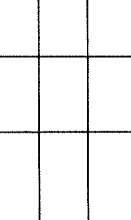
Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16 *
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Client Name / Address:		Project / PO Number:		Analysis Required		Special Instructions
Geo-logic / Replicate Services 11115 W. Bernardino St. San Diego, CA 92127 Project Manager: Ky Q. Welchong Sampler: PS, AS		Sunshine Cn. 4/F 2016-0030 Phone Number: 858-451-1136 Fax Number: 858-451-1087		EPA 8260B - VOCs EPA 8270 1,4-Dioxane EPA 310.1 metal EPA 410.4 - COD EPA 350.2 - Ammonia EPA 300.2 - Chloride EPA 6010 metal Potassium EPA 160.1 T.D.S. EPA 415.1 T.O.C.		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives
Subsoil N	liquid	PV16	13	9/16/16	1300	yes
Combined Subsoils	liquid		13		1420	
CM-9R3	GW		13		1325	
CM-10R			13		1225	
CM-11R			13		1500	
Duplicate			13			
QCAB	vars		4			Hel
QCAB	" vars		4	9/16/16		Hel
 440-158947 Chain of Custody						
Relinquished By:	Date / Time	Received By:	Date / Time	Turnaround Time: (Check)		
Paul J. Jones	9/16/16 1518	[Signature]	9/16/16 15:10	same day		72 hours
Relinquished By:	Date / Time	Received By:	Date / Time	24 hours		5 days
Ky Q. Welchong	9/16/16 17:30	[Signature]		48 hours		normal
Relinquished By:	Date / Time	Received in Lab by:	Date / Time	Sample Integrity: (Check)		on ice
		[Signature]	9/19/16 1730	intact		✓

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Note: By relinquishing samples to testAmerica, client agrees to pay for the services requested ~~and~~ within 30 days after 30 days. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

analyses performed on this project.

12/0.9

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-158947-1

Login Number: 158947

List Source: 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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-159066-1

Client Project/Site: Republic Sunshine Canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

9/30/2016 5:31:55 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: 440-159066-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-159066-1	DW-1	Water	09/20/16 09:45	09/20/16 18:25
440-159066-2	DW-3	Water	09/20/16 14:23	09/20/16 18:25
440-159066-3	PZ-4	Water	09/20/16 10:45	09/20/16 18:25
440-159066-4	LY-7	Water	09/20/16 08:28	09/20/16 18:25
440-159066-5	PZ-2	Water	09/20/16 11:55	09/20/16 18:25
440-159066-6	MW-6	Water	09/20/16 10:00	09/20/16 18:25
440-159066-7	MW-9	Water	09/20/16 13:41	09/20/16 18:25
440-159066-8	MW-13R	Water	09/20/16 15:10	09/20/16 18:25
440-159066-9	MW-14	Water	09/20/16 07:58	09/20/16 18:25
440-159066-10	QCAB	Water	09/20/16 00:01	09/20/16 18:25
440-159066-11	QCTB	Water	09/20/16 00:01	09/20/16 18:25

Case Narrative

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

TestAmerica Job ID: 440-159066-1

Job ID: 440-159066-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-159066-1

Comments

No additional comments.

Receipt

The samples were received on 9/20/2016 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.2° C, 1.3° C and 2.4° C.

GC/MS VOA

Method(s) 8260B: The following sample was collected in properly preserved vial for analysis of volatile organic compounds (VOCs). However, the pH of 6 was outside the required criteria when verified by the laboratory, and corrective action was not possible: LY-7 (440-159066-4). The sample was analyzed within 7 days per EPA recommendation.

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

GC/MS Semi VOA

Method(s) 8270C: The following sample required a dilution due to the nature of the sample matrix: LY-7 (440-159066-4). 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.

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

HPLC/IC

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

Metals

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

General Chemistry

Method(s) SM 5310C: The continuing calibration blank (CCB) for analytical batch 440-357124 contained Total Organic Carbon above the reporting limit (RL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples were not performed.

Method(s) SM 5310C: The reference method 5310C requires samples to be preserved to a pH<2. The following sample was received with insufficient preservation at a pH>2: LY-7 (440-159066-4). The pH of the sample was adjusted to the appropriate pH<2 using phosphoric acid 1:1 in the laboratory prior to analysis.

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

Organic Prep

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

VOA Prep

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

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: DW-1

Date Collected: 09/20/16 09:45

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/23/16 14:53	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/23/16 14:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/23/16 14:53	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/23/16 14:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/23/16 14:53	1
2-Hexanone	ND		5.0	2.5	ug/L			09/23/16 14:53	1
Acetone	ND		20	10	ug/L			09/23/16 14:53	1
Acetonitrile	ND		20	10	ug/L			09/23/16 14:53	1
Benzene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Allyl chloride	ND		1.0	0.50	ug/L			09/23/16 14:53	1
Bromoform	ND		1.0	0.40	ug/L			09/23/16 14:53	1
Bromomethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/23/16 14:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Chloroethane	ND		1.0	0.40	ug/L			09/23/16 14:53	1
Chloroform	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Chloromethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Dibromomethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/23/16 14:53	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 14:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 14:53	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 14:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 14:53	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 14:53	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 14:53	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 14:53	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 14:53	1
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 14:53	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: DW-1

Date Collected: 09/20/16 09:45

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/23/16 14:53	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
t-Butanol	ND		10	5.0	ug/L			09/23/16 14:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/23/16 14:53	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 14:53	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 14:53	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 14:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 14:53	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 14:53	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 14:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 14:53	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 14:53	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 14:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclopropane	3.7	T J N	ug/L		3.14	75-19-4		09/23/16 14:53	1
Unknown	18	T J	ug/L		17.21			09/23/16 14:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		09/23/16 14:53	1
4-Bromofluorobenzene (Surr)	103		80 - 120		09/23/16 14:53	1
Dibromofluoromethane (Surr)	105		76 - 132		09/23/16 14:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.96	0.24	ug/L		09/26/16 10:51	09/28/16 21:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	09/26/16 10:51	09/28/16 21:17	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		10	5.0	mg/L			09/21/16 18:12	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1.6		0.50	0.25	mg/L		09/26/16 10:58	09/26/16 23:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	22		20	10	mg/L			09/27/16 08:58	1
Total Dissolved Solids	3300		50	25	mg/L			09/24/16 12:10	1
Ammonia (as N)	1.8		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	3.3	^	0.10	0.050	mg/L			09/21/16 10:24	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	550		4.0	4.0	mg/L			09/23/16 07:52	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: DW-3

Date Collected: 09/20/16 14:23

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/23/16 15:20	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/23/16 15:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/23/16 15:20	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/23/16 15:20	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/23/16 15:20	1
2-Hexanone	ND		5.0	2.5	ug/L			09/23/16 15:20	1
Acetone	ND		20	10	ug/L			09/23/16 15:20	1
Acetonitrile	ND		20	10	ug/L			09/23/16 15:20	1
Benzene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Allyl chloride	ND		1.0	0.50	ug/L			09/23/16 15:20	1
Bromoform	ND		1.0	0.40	ug/L			09/23/16 15:20	1
Bromomethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/23/16 15:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Chloroethane	ND		1.0	0.40	ug/L			09/23/16 15:20	1
Chloroform	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Chloromethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Dibromomethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/23/16 15:20	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 15:20	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 15:20	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 15:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 15:20	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 15:20	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 15:20	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 15:20	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 15:20	1
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 15:20	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: DW-3

Date Collected: 09/20/16 14:23

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/23/16 15:20	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
t-Butanol	ND		10	5.0	ug/L			09/23/16 15:20	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/23/16 15:20	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 15:20	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 15:20	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 15:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 15:20	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 15:20	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 15:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 15:20	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 15:20	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 15:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.0	T J	ug/L		16.59			09/23/16 15:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128					09/23/16 15:20	1
4-Bromofluorobenzene (Surr)	105		80 - 120					09/23/16 15:20	1
Dibromofluoromethane (Surr)	108		76 - 132					09/23/16 15:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/26/16 10:51	09/28/16 21:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	67		30 - 120				09/26/16 10:51	09/28/16 21:39	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		5.0	2.5	mg/L			09/21/16 18:30	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	9.1		0.50	0.25	mg/L		09/26/16 10:58	09/26/16 23:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	J	20	10	mg/L			09/26/16 15:27	1
Total Dissolved Solids	1900		10	5.0	mg/L			09/24/16 12:10	1
Ammonia (as N)	0.52		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	0.32		0.10	0.050	mg/L			09/21/16 17:05	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	170		4.0	4.0	mg/L			09/23/16 08:00	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: PZ-4

Lab Sample ID: 440-159066-3

Date Collected: 09/20/16 10:45

Matrix: Water

Date Received: 09/20/16 18:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/23/16 15:46	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/23/16 15:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/23/16 15:46	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/23/16 15:46	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/23/16 15:46	1
2-Hexanone	ND		5.0	2.5	ug/L			09/23/16 15:46	1
Acetone	ND		20	10	ug/L			09/23/16 15:46	1
Acetonitrile	ND		20	10	ug/L			09/23/16 15:46	1
Benzene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Allyl chloride	ND		1.0	0.50	ug/L			09/23/16 15:46	1
Bromoform	ND		1.0	0.40	ug/L			09/23/16 15:46	1
Bromomethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/23/16 15:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Chloroethane	ND		1.0	0.40	ug/L			09/23/16 15:46	1
Chloroform	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Chloromethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Dibromomethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/23/16 15:46	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 15:46	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 15:46	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 15:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 15:46	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 15:46	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 15:46	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 15:46	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 15:46	1
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 15:46	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: PZ-4

Date Collected: 09/20/16 10:45

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/23/16 15:46	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
t-Butanol	ND		10	5.0	ug/L			09/23/16 15:46	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/23/16 15:46	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 15:46	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 15:46	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 15:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 15:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 15:46	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 15:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 15:46	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 15:46	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 15:46	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	12	T J	ug/L		17.44			09/23/16 15:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128		09/23/16 15:46	1
4-Bromofluorobenzene (Surr)	104		80 - 120		09/23/16 15:46	1
Dibromofluoromethane (Surr)	105		76 - 132		09/23/16 15:46	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		09/26/16 10:51	09/28/16 22:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	67		30 - 120	09/26/16 10:51	09/28/16 22:01	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.3		2.5	1.3	mg/L			09/21/16 18:48	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.7		0.50	0.25	mg/L		09/26/16 10:58	09/26/16 23:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/16 15:27	1
Total Dissolved Solids	1100		10	5.0	mg/L			09/24/16 12:10	1
Ammonia (as N)	2.0		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	1.0		0.10	0.050	mg/L			09/21/16 17:17	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		4.0	4.0	mg/L			09/24/16 07:11	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: LY-7

Date Collected: 09/20/16 08:28

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/23/16 16:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/23/16 16:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/23/16 16:12	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,2-Dichloroethane	0.86		0.50	0.25	ug/L			09/23/16 16:12	1
1,2-Dichloropropane	0.31	J	0.50	0.25	ug/L			09/23/16 16:12	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,4-Dichlorobenzene	3.3		0.50	0.25	ug/L			09/23/16 16:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/23/16 16:12	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/23/16 16:12	1
2-Hexanone	ND		5.0	2.5	ug/L			09/23/16 16:12	1
Acetone	13	J	20	10	ug/L			09/23/16 16:12	1
Acetonitrile	ND		20	10	ug/L			09/23/16 16:12	1
Benzene	3.1		0.50	0.25	ug/L			09/23/16 16:12	1
Allyl chloride	ND		1.0	0.50	ug/L			09/23/16 16:12	1
Bromoform	ND		1.0	0.40	ug/L			09/23/16 16:12	1
Bromomethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/23/16 16:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Chloroethane	ND		1.0	0.40	ug/L			09/23/16 16:12	1
Chloroform	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Chloromethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
cis-1,2-Dichloroethene	1.6		0.50	0.25	ug/L			09/23/16 16:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Dibromomethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/23/16 16:12	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 16:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 16:12	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 16:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 16:12	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 16:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 16:12	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 16:12	1
Methyl tert-butyl ether	0.98		0.50	0.25	ug/L			09/23/16 16:12	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 16:12	1
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 16:12	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: LY-7

Date Collected: 09/20/16 08:28

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/23/16 16:12	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
t-Butanol	1200		10	5.0	ug/L			09/23/16 16:12	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Tetrahydrofuran	9.6 J		10	5.0	ug/L			09/23/16 16:12	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 16:12	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 16:12	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 16:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 16:12	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 16:12	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 16:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 16:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 16:12	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 16:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.3	T J	ug/L		3.43			09/23/16 16:12	1
Ethyl ether	1.9	J	ug/L		4.90	60-29-7		09/23/16 16:12	1
3,3-Dimethylpentane	1.1	J	ug/L		7.63	562-49-2		09/23/16 16:12	1
Unknown	2.8	T J	ug/L		14.83			09/23/16 16:12	1
Unknown	6.6	T J	ug/L		16.98			09/23/16 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		09/23/16 16:12	1
4-Bromofluorobenzene (Surr)	104		80 - 120		09/23/16 16:12	1
Dibromofluoromethane (Surr)	105		76 - 132		09/23/16 16:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	160		49	12	ug/L		09/26/16 10:51	09/30/16 05:18	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	0	X	30 - 120				09/26/16 10:51	09/30/16 05:18	50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200		250	130	mg/L			09/21/16 07:55	500

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	130		5.0	2.5	mg/L		09/27/16 10:35	09/27/16 21:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	960		40	20	mg/L			09/26/16 15:27	2
Total Dissolved Solids	9300		100	50	mg/L			09/26/16 08:24	1
Ammonia (as N)	190		25	5.0	mg/L		09/21/16 05:00	09/21/16 08:31	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: LY-7

Date Collected: 09/20/16 08:28

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-4

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	310		5.0	2.5	mg/L	-		09/21/16 16:03	50
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	2300		4.0	4.0	mg/L	-		09/22/16 11:13	1

Client Sample ID: PZ-2

Date Collected: 09/20/16 11:55

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L	-		09/23/16 16:38	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L	-		09/23/16 16:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L	-		09/23/16 16:38	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L	-		09/23/16 16:38	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L	-		09/23/16 16:38	1
2-Hexanone	ND		5.0	2.5	ug/L	-		09/23/16 16:38	1
Acetone	ND		20	10	ug/L	-		09/23/16 16:38	1
Acetonitrile	ND		20	10	ug/L	-		09/23/16 16:38	1
Benzene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Allyl chloride	ND		1.0	0.50	ug/L	-		09/23/16 16:38	1
Bromoform	ND		1.0	0.40	ug/L	-		09/23/16 16:38	1
Bromomethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Carbon disulfide	ND		1.0	0.50	ug/L	-		09/23/16 16:38	1
Carbon tetrachloride	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Chlorobenzene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Bromochloromethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Chloroethane	ND		1.0	0.40	ug/L	-		09/23/16 16:38	1
Chloroform	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Chloromethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Dibromochloromethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Dibromomethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Bromodichloromethane	ND		0.50	0.25	ug/L	-		09/23/16 16:38	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L	-		09/23/16 16:38	1
Ethyl methacrylate	ND		2.0	1.0	ug/L	-		09/23/16 16:38	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: PZ-2

Date Collected: 09/20/16 11:55

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 16:38	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 16:38	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 16:38	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 16:38	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 16:38	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 16:38	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/23/16 16:38	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 16:38	1
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
Propionitrile	ND		20	10	ug/L			09/23/16 16:38	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
t-Butanol	ND		10	5.0	ug/L			09/23/16 16:38	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/23/16 16:38	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 16:38	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 16:38	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 16:38	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 16:38	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 16:38	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 16:38	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 16:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 16:38	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 16:38	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 16:38	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.5	T J	ug/L		3.16			09/23/16 16:38	1
Unknown	19	T J	ug/L		17.41			09/23/16 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		80 - 128		09/23/16 16:38	1
4-Bromofluorobenzene (Surr)	107		80 - 120		09/23/16 16:38	1
Dibromofluoromethane (Surr)	107		76 - 132		09/23/16 16:38	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	0.27	ug/L		09/26/16 10:51	09/28/16 22:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	60		30 - 120	09/26/16 10:51	09/28/16 22:44	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			09/21/16 19:06	20

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: PZ-2

Date Collected: 09/20/16 11:55

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	3.1		0.50	0.25	mg/L		09/26/16 10:58	09/26/16 23:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/27/16 08:58	1
Total Dissolved Solids	4300		100	50	mg/L			09/26/16 08:24	1
Ammonia (as N)	2.9		0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	2.5	^	0.10	0.050	mg/L			09/21/16 11:17	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		4.0	4.0	mg/L			09/22/16 11:22	1

Client Sample ID: MW-6

Date Collected: 09/20/16 10:00

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/23/16 17:04	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/23/16 17:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/23/16 17:04	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/23/16 17:04	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/23/16 17:04	1
2-Hexanone	ND		5.0	2.5	ug/L			09/23/16 17:04	1
Acetone	ND		20	10	ug/L			09/23/16 17:04	1
Acetonitrile	ND		20	10	ug/L			09/23/16 17:04	1
Benzene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Allyl chloride	ND		1.0	0.50	ug/L			09/23/16 17:04	1
Bromoform	ND		1.0	0.40	ug/L			09/23/16 17:04	1
Bromomethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/23/16 17:04	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Chloroethane	ND		1.0	0.40	ug/L			09/23/16 17:04	1
Chloroform	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Chloromethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 17:04	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-6

Date Collected: 09/20/16 10:00

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-6

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			09/23/16 17:04	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Dibromomethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/23/16 17:04	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 17:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 17:04	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 17:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 17:04	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 17:04	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 17:04	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 17:04	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 17:04	1
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Propionitrile	ND		20	10	ug/L			09/23/16 17:04	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
t-Butanol	ND		10	5.0	ug/L			09/23/16 17:04	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/23/16 17:04	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 17:04	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 17:04	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 17:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 17:04	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 17:04	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 17:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 17:04	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 17:04	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 17:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	22	T J	ug/L		2.89			09/23/16 17:04	1
Unknown	5.2	T J	ug/L		16.28			09/23/16 17:04	1
Unknown	2.6	T J	ug/L		16.89			09/23/16 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	113		80 - 128		09/23/16 17:04	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/23/16 17:04	1
Dibromofluoromethane (Surr)	104		76 - 132		09/23/16 17:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L		09/26/16 10:51	09/28/16 23:05	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-6

Date Collected: 09/20/16 10:00

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		30 - 120				09/26/16 10:51	09/28/16 23:05	1
Method: 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		5.0	2.5	mg/L	-		09/21/16 19:24	10
Method: 6010B - Metals (ICP) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.8		0.50	0.25	mg/L	-	09/26/16 10:58	09/26/16 23:26	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L	-		09/27/16 08:58	1
Total Dissolved Solids	2800		20	10	mg/L	-		09/24/16 12:14	1
Ammonia (as N)	1.3		0.50	0.10	mg/L	-	09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	5.1	^	0.10	0.050	mg/L	-		09/21/16 11:32	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	480		4.0	4.0	mg/L	-		09/22/16 11:32	1

Client Sample ID: MW-9

Date Collected: 09/20/16 13:41

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L	-		09/29/16 17:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L	-		09/29/16 17:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L	-		09/29/16 17:12	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L	-		09/29/16 17:12	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L	-		09/29/16 17:12	1
2-Hexanone	ND		5.0	2.5	ug/L	-		09/29/16 17:12	1
Acetone	ND		20	10	ug/L	-		09/29/16 17:12	1
Acetonitrile	ND		20	10	ug/L	-		09/29/16 17:12	1
Benzene	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
Allyl chloride	ND		1.0	0.50	ug/L	-		09/29/16 17:12	1
Bromoform	ND		1.0	0.40	ug/L	-		09/29/16 17:12	1
Bromomethane	ND		0.50	0.25	ug/L	-		09/29/16 17:12	1
Carbon disulfide	ND		1.0	0.50	ug/L	-		09/29/16 17:12	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-9

Date Collected: 09/20/16 13:41

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 17:12	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 17:12	1
cis-1,2-Dichloroethene	0.50		0.50	0.25	ug/L			09/29/16 17:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 17:12	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 17:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 17:12	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 17:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 17:12	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 17:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 17:12	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 17:12	1
Methyl tert-butyl ether	0.36	J	0.50	0.25	ug/L			09/29/16 17:12	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 17:12	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Propionitrile	ND		20	10	ug/L			09/29/16 17:12	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
t-Butanol	20		10	5.0	ug/L			09/29/16 17:12	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 17:12	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 17:12	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 17:12	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 17:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 17:12	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 17:12	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 17:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 17:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 17:12	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 17:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.9	T J	ug/L		4.73			09/29/16 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/29/16 17:12	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/29/16 17:12	1
Dibromofluoromethane (Surr)	98		76 - 132		09/29/16 17:12	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-9

Date Collected: 09/20/16 13:41

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		0.96	0.24	ug/L	-	09/26/16 10:51	09/28/16 23:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	63		30 - 120				09/26/16 10:51	09/28/16 23:27	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		100	50	mg/L	-		09/21/16 09:09	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	23		0.50	0.25	mg/L	-	09/26/16 11:03	09/27/16 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	93		20	10	mg/L	-		09/27/16 08:58	1
Total Dissolved Solids	3500		20	10	mg/L	-		09/24/16 12:14	1
Ammonia (as N)	4.8		2.5	0.50	mg/L	-	09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	39		1.0	0.50	mg/L	-		09/21/16 16:41	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	660		4.0	4.0	mg/L	-		09/22/16 11:48	1

Client Sample ID: MW-13R

Date Collected: 09/20/16 15:10

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-8

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	-		09/29/16 17:41	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L	-		09/29/16 17:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L	-		09/29/16 17:41	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L	-		09/29/16 17:41	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L	-		09/29/16 17:41	1
2-Hexanone	ND		5.0	2.5	ug/L	-		09/29/16 17:41	1
Acetone	ND		20	10	ug/L	-		09/29/16 17:41	1
Acetonitrile	ND		20	10	ug/L	-		09/29/16 17:41	1
Benzene	ND		0.50	0.25	ug/L	-		09/29/16 17:41	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-13R

Lab Sample ID: 440-159066-8

Date Collected: 09/20/16 15:10

Matrix: Water

Date Received: 09/20/16 18:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 17:41	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 17:41	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 17:41	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 17:41	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 17:41	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 17:41	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 17:41	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 17:41	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 17:41	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 17:41	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 17:41	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 17:41	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 17:41	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Propionitrile	ND		20	10	ug/L			09/29/16 17:41	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 17:41	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 17:41	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 17:41	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 17:41	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 17:41	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 17:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 17:41	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 17:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 17:41	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 17:41	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 17:41	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/29/16 17:41	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-13R

Date Collected: 09/20/16 15:10

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-8

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		09/29/16 17:41	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 17:41	1
Dibromofluoromethane (Surr)	97		76 - 132		09/29/16 17:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	8.1		0.98	0.24	ug/L		09/26/16 10:51	09/28/16 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	65		30 - 120	09/26/16 10:51	09/28/16 23:48	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		50	25	mg/L			09/21/16 09:24	100

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		09/26/16 11:03	09/27/16 22:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	240		20	10	mg/L			09/27/16 08:58	1
Total Dissolved Solids	2100		20	10	mg/L			09/24/16 12:14	1
Ammonia (as N)	6.0		2.5	0.50	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	24		1.0	0.50	mg/L			09/21/16 16:54	10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	700		4.0	4.0	mg/L			09/22/16 12:00	1

Client Sample ID: MW-14

Date Collected: 09/20/16 07:58

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-9

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			09/30/16 01:06	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 01:06	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 01:06	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 01:06	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-14

Date Collected: 09/20/16 07:58

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 01:06	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 01:06	1
Acetone	ND		20	10	ug/L			09/30/16 01:06	1
Acetonitrile	ND		20	10	ug/L			09/30/16 01:06	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 01:06	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 01:06	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 01:06	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 01:06	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 01:06	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 01:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 01:06	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 01:06	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 01:06	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 01:06	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 01:06	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 01:06	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 01:06	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Propionitrile	ND		20	10	ug/L			09/30/16 01:06	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 01:06	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 01:06	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 01:06	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 01:06	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 01:06	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 01:06	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 01:06	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 01:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 01:06	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 01:06	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-14

Date Collected: 09/20/16 07:58

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-9

Matrix: Water

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			09/30/16 01:06	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	7.5	T J	ug/L		3.51			09/30/16 01:06	1
Unknown	14	T J	ug/L		16.39			09/30/16 01:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128					09/30/16 01:06	1
4-Bromofluorobenzene (Surr)	101		80 - 120					09/30/16 01:06	1
Dibromofluoromethane (Surr)	106		76 - 132					09/30/16 01:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.99	0.25	ug/L		09/26/16 10:51	09/29/16 00:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	73		30 - 120				09/26/16 10:51	09/29/16 00:10	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		5.0	2.5	mg/L			09/21/16 19:42	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	6.9		0.50	0.25	mg/L		09/26/16 11:03	09/27/16 22:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	J	20	10	mg/L			09/27/16 08:59	1
Total Dissolved Solids	2600		20	10	mg/L			09/24/16 12:14	1
Ammonia (as N)	0.16	J	0.50	0.10	mg/L		09/21/16 05:00	09/21/16 08:31	1
Total Organic Carbon	3.3	^	0.10	0.050	mg/L			09/21/16 12:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	410		4.0	4.0	mg/L			09/22/16 12:13	1

Client Sample ID: QCAB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 05:17	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 05:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 05:17	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: QCAB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 05:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 05:17	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 05:17	1
Acetone	ND		20	10	ug/L			09/29/16 05:17	1
Acetonitrile	ND		20	10	ug/L			09/29/16 05:17	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 05:17	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 05:17	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 05:17	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 05:17	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 05:17	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 05:17	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 05:17	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 05:17	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 05:17	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 05:17	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 05:17	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 05:17	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 05:17	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Propionitrile	ND		20	10	ug/L			09/29/16 05:17	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 05:17	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 05:17	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 05:17	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 05:17	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:17	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: QCAB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 05:17	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 05:17	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 05:17	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 05:17	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 05:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 05:17	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 05:17	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 05:17	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>
Unknown	7.0	T J	ug/L		4.38			09/29/16 05:17	1
Unknown	13	T J	ug/L		13.83			09/29/16 05:17	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					09/29/16 05:17	1
4-Bromofluorobenzene (Surr)	99		80 - 120					09/29/16 05:17	1
Dibromofluoromethane (Surr)	104		76 - 132					09/29/16 05:17	1

Client Sample ID: QCTB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 05:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 05:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 05:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 05:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 05:47	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 05:47	1
Acetone	ND		20	10	ug/L			09/29/16 05:47	1
Acetonitrile	ND		20	10	ug/L			09/29/16 05:47	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 05:47	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 05:47	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 05:47	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: QCTB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 05:47	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 05:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 05:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 05:47	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 05:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 05:47	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 05:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 05:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 05:47	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 05:47	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Propionitrile	ND		20	10	ug/L			09/29/16 05:47	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 05:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 05:47	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 05:47	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 05:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 05:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 05:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 05:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 05:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 05:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 05:47	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 05:47	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.5	T J	ug/L		4.44			09/29/16 05:47	1
Unknown	11	T J	ug/L		15.50			09/29/16 05:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		09/29/16 05:47	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/29/16 05:47	1
Dibromofluoromethane (Surr)	104		76 - 132		09/29/16 05:47	1

TestAmerica Irvine

Method Summary

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

TestAmerica Job ID: 440-159066-1

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

Protocol References:

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

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

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

Laboratory References:

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

Lab Chronicle

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: DW-1

Date Collected: 09/20/16 09:45

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-1

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	357595	09/23/16 14:53	RM	TAL IRV
Total/NA	Prep	3520C			1045 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 21:17	AI	TAL IRV
Total/NA	Analysis	300.0		20			357058	09/21/16 18:12	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358086	09/26/16 10:58	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358309	09/26/16 23:17	ND	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358331	09/27/16 08:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357824	09/23/16 07:52	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	357869	09/24/16 12:10	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 10:24	YZ	TAL IRV

Client Sample ID: DW-3

Date Collected: 09/20/16 14:23

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-2

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	357595	09/23/16 15:20	RM	TAL IRV
Total/NA	Prep	3520C			1015 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 21:39	AI	TAL IRV
Total/NA	Analysis	300.0		10			357058	09/21/16 18:30	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358086	09/26/16 10:58	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358309	09/26/16 23:20	ND	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358166	09/26/16 15:27	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357824	09/23/16 08:00	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	357869	09/24/16 12:10	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357260	09/21/16 17:05	YZ	TAL IRV

Client Sample ID: PZ-4

Date Collected: 09/20/16 10:45

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-3

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	357595	09/23/16 15:46	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 22:01	AI	TAL IRV
Total/NA	Analysis	300.0		5			357058	09/21/16 18:48	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358086	09/26/16 10:58	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358309	09/26/16 23:21	ND	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-159066-1

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	0.625 mL	2.5 mL	358166	09/26/16 15:27	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 07:11	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	357869	09/24/16 12:10	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357260	09/21/16 17:17	YZ	TAL IRV

Client Sample ID: LY-7

Date Collected: 09/20/16 08:28

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-4

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	357595	09/23/16 16:12	RM	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		50			359039	09/30/16 05:18	AI	TAL IRV
Total/NA	Analysis	300.0		500			356765	09/21/16 07:55	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358354	09/27/16 10:35	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		10			358612	09/27/16 21:33	ND	TAL IRV
Total/NA	Analysis	410.4		2	0.625 mL	2.5 mL	358166	09/26/16 15:27	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 11:13	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	358011	09/26/16 08:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			1.0 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		50	100 mL	100 mL	357260	09/21/16 16:03	YZ	TAL IRV

Client Sample ID: PZ-2

Date Collected: 09/20/16 11:55

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-5

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	357595	09/23/16 16:38	RM	TAL IRV
Total/NA	Prep	3520C			940 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 22:44	AI	TAL IRV
Total/NA	Analysis	300.0		20			357058	09/21/16 19:06	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358086	09/26/16 10:58	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358309	09/26/16 23:23	ND	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358331	09/27/16 08:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 11:22	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	358011	09/26/16 08:24	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 11:17	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-6

Date Collected: 09/20/16 10:00

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-6

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	357595	09/23/16 17:04	RM	TAL IRV
Total/NA	Prep	3520C			1030 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 23:05	AI	TAL IRV
Total/NA	Analysis	300.0		10			357058	09/21/16 19:24	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358086	09/26/16 10:58	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358309	09/26/16 23:26	ND	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358331	09/27/16 08:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 11:32	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 11:32	YZ	TAL IRV

Client Sample ID: MW-9

Date Collected: 09/20/16 13:41

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-7

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	358874	09/29/16 17:12	AYL	TAL IRV
Total/NA	Prep	3520C			1040 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 23:27	AI	TAL IRV
Total/NA	Analysis	300.0		200			356765	09/21/16 09:09	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358091	09/26/16 11:03	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358615	09/27/16 22:26	ND	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358331	09/27/16 08:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 11:48	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10.0 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357260	09/21/16 16:41	YZ	TAL IRV

Client Sample ID: MW-13R

Date Collected: 09/20/16 15:10

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-8

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	358874	09/29/16 17:41	AYL	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/28/16 23:48	AI	TAL IRV
Total/NA	Analysis	300.0		100	5 mL	1.0 mL	356765	09/21/16 09:24	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358091	09/26/16 11:03	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358615	09/27/16 22:33	ND	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-159066-1

Client Sample ID: MW-13R

Date Collected: 09/20/16 15:10

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-8

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	410.4		1	0.625 mL	2.5 mL	358331	09/27/16 08:58	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 12:00	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10.0 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357260	09/21/16 16:54	YZ	TAL IRV

Client Sample ID: MW-14

Date Collected: 09/20/16 07:58

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	359136	09/30/16 01:06	WC	TAL IRV
Total/NA	Prep	3520C			1010 mL	1 mL	358079	09/26/16 10:51	BMN	TAL IRV
Total/NA	Analysis	8270C		1			358730	09/29/16 00:10	AI	TAL IRV
Total/NA	Analysis	300.0		10			357058	09/21/16 19:42	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358091	09/26/16 11:03	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358615	09/27/16 22:39	ND	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358331	09/27/16 08:59	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357558	09/22/16 12:13	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	357870	09/24/16 12:14	MMH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	356962	09/21/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357017	09/21/16 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357124	09/21/16 12:44	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	358798	09/29/16 05:17	WC	TAL IRV

Client Sample ID: QCTB

Date Collected: 09/20/16 00:01

Date Received: 09/20/16 18:25

Lab Sample ID: 440-159066-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	358798	09/29/16 05:47	WC	TAL IRV

Laboratory References:

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

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-357595/4

Matrix: Water

Analysis Batch: 357595

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/23/16 07:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/23/16 07:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/23/16 07:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/23/16 07:21	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/23/16 07:21	1
2-Hexanone	ND		5.0	2.5	ug/L			09/23/16 07:21	1
Acetone	ND		20	10	ug/L			09/23/16 07:21	1
Acetonitrile	ND		20	10	ug/L			09/23/16 07:21	1
Benzene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Allyl chloride	ND		1.0	0.50	ug/L			09/23/16 07:21	1
Bromoform	ND		1.0	0.40	ug/L			09/23/16 07:21	1
Bromomethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/23/16 07:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Chloroethane	ND		1.0	0.40	ug/L			09/23/16 07:21	1
Chloroform	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Chloromethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Dibromomethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/23/16 07:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 07:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Iodomethane	ND		2.0	1.0	ug/L			09/23/16 07:21	1
Isobutyl alcohol	ND		25	13	ug/L			09/23/16 07:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/23/16 07:21	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/23/16 07:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/23/16 07:21	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/23/16 07:21	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Naphthalene	ND		1.0	0.40	ug/L			09/23/16 07:21	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-357595/4

Matrix: Water

Analysis Batch: 357595

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Propionitrile	ND		20	10	ug/L			09/23/16 07:21	1
Styrene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
t-Butanol	ND		10	5.0	ug/L			09/23/16 07:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/23/16 07:21	1
Toluene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/23/16 07:21	1
Trichloroethene	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/23/16 07:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/23/16 07:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/23/16 07:21	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/23/16 07:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/23/16 07:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/23/16 07:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/23/16 07:21	1
Acrolein	ND		5.0	2.5	ug/L			09/23/16 07:21	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	1.08	J	ug/L		16.71	91-57-6		09/23/16 07:21	1
1-Methylnaphthalene	1.38	J	ug/L		16.94	90-12-0		09/23/16 07:21	1
Tentatively Identified Compound	None		ug/L					09/23/16 07:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	116		80 - 128		09/23/16 07:21	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/23/16 07:21	1
Dibromofluoromethane (Surr)	103		76 - 132		09/23/16 07:21	1

Lab Sample ID: LCS 440-357595/5

Matrix: Water

Analysis Batch: 357595

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	26.4		ug/L		105	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.3		ug/L		109	60 - 141
1,1,1-Trichloroethane	25.0	27.5		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.0		ug/L		104	63 - 130
1,1,2-Trichloroethane	25.0	27.5		ug/L		110	70 - 130
1,1-Dichloroethane	25.0	26.8		ug/L		107	64 - 130
1,1-Dichloroethene	25.0	25.5		ug/L		102	70 - 130
1,1-Dichloropropene	25.0	26.8		ug/L		107	70 - 130
1,2,4-Trichlorobenzene	25.0	32.5		ug/L		130	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	29.0		ug/L		116	52 - 140
1,2-Dichlorobenzene	25.0	27.2		ug/L		109	70 - 130
1,2-Dichloroethane	25.0	26.8		ug/L		107	57 - 138

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: LCS 440-357595/5

Matrix: Water

Analysis Batch: 357595

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	25.0	27.3		ug/L		109	67 - 130
1,3-Dichlorobenzene	25.0	27.6		ug/L		110	70 - 130
1,3-Dichloropropane	25.0	27.0		ug/L		108	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
2,2-Dichloropropane	25.0	30.1		ug/L		120	68 - 141
2-Hexanone	25.0	30.6		ug/L		122	10 - 150
Acetone	25.0	29.0		ug/L		116	10 - 150
Benzene	25.0	27.2		ug/L		109	68 - 130
Bromoform	25.0	30.3		ug/L		121	60 - 148
Bromomethane	25.0	26.1		ug/L		104	64 - 139
Carbon disulfide	25.0	25.8		ug/L		103	52 - 136
Carbon tetrachloride	25.0	27.4		ug/L		110	60 - 150
Chlorobenzene	25.0	26.9		ug/L		107	70 - 130
Bromochloromethane	25.0	27.0		ug/L		108	70 - 130
Chloroethane	25.0	26.1		ug/L		104	64 - 135
Chloroform	25.0	26.5		ug/L		106	70 - 130
Chloromethane	25.0	22.7		ug/L		91	47 - 140
cis-1,2-Dichloroethene	25.0	26.9		ug/L		108	70 - 133
cis-1,3-Dichloropropene	25.0	28.2		ug/L		113	70 - 133
Dibromochloromethane	25.0	27.7		ug/L		111	69 - 145
Dibromomethane	25.0	26.9		ug/L		108	70 - 130
Bromodichloromethane	25.0	27.0		ug/L		108	70 - 132
Dichlorodifluoromethane	25.0	21.3		ug/L		85	29 - 150
Ethylbenzene	25.0	27.3		ug/L		109	70 - 130
m,p-Xylene	25.0	28.4		ug/L		113	70 - 130
Methylene Chloride	25.0	26.8		ug/L		107	52 - 130
Methyl tert-butyl ether	25.0	27.1		ug/L		108	63 - 131
Naphthalene	25.0	32.3		ug/L		129	60 - 140
o-Xylene	25.0	27.0		ug/L		108	70 - 130
Styrene	25.0	28.6		ug/L		115	70 - 134
t-Butanol	250	282		ug/L		113	70 - 130
Tetrachloroethene	25.0	28.0		ug/L		112	70 - 130
Toluene	25.0	26.9		ug/L		108	70 - 130
trans-1,2-Dichloroethene	25.0	27.2		ug/L		109	70 - 130
trans-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 132
Trichloroethene	25.0	26.9		ug/L		108	70 - 130
Trichlorofluoromethane	25.0	26.7		ug/L		107	60 - 150
Vinyl acetate	25.0	28.9		ug/L		116	48 - 140
Vinyl chloride	25.0	21.9		ug/L		87	59 - 133
1,2-Dibromoethane (EDB)	25.0	28.2		ug/L		113	70 - 130
2-Butanone (MEK)	25.0	26.3		ug/L		105	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	31.3		ug/L		125	59 - 149
Acrylonitrile	250	278		ug/L		111	48 - 140
Acrolein	25.0	26.0		ug/L		104	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	107		80 - 128
4-Bromofluorobenzene (Surr)	100		80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: LCS 440-357595/5

Matrix: Water

Analysis Batch: 357595

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	104		76 - 132

Lab Sample ID: 440-158812-A-2 MS

Matrix: Water

Analysis Batch: 357595

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	24.7		ug/L		99	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.7		ug/L		103	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.5		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	24.1		ug/L		96	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130
1,1-Dichloroethane	ND		25.0	24.5		ug/L		98	65 - 130
1,1-Dichloroethene	5.7		25.0	29.3		ug/L		95	70 - 130
1,1-Dichloropropene	ND		25.0	24.6		ug/L		98	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	30.8		ug/L		123	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	25.7		ug/L		103	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	25.2		ug/L		101	56 - 146
1,2-Dichloropropane	ND		25.0	25.3		ug/L		101	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.1		ug/L		101	70 - 130
1,3-Dichloropropane	ND		25.0	25.0		ug/L		100	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
2,2-Dichloropropane	ND		25.0	27.7		ug/L		111	69 - 138
2-Hexanone	ND		25.0	26.8		ug/L		107	10 - 150
Acetone	ND		25.0	28.6		ug/L		114	10 - 150
Benzene	ND		25.0	25.2		ug/L		101	66 - 130
Bromoform	ND		25.0	27.6		ug/L		110	59 - 150
Bromomethane	ND		25.0	24.5		ug/L		98	62 - 131
Carbon disulfide	ND		25.0	23.7		ug/L		95	49 - 140
Carbon tetrachloride	4.0		25.0	29.8		ug/L		103	60 - 150
Chlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130
Bromochloromethane	ND		25.0	24.9		ug/L		100	70 - 130
Chloroethane	ND		25.0	24.7		ug/L		99	68 - 130
Chloroform	1.0		25.0	25.8		ug/L		99	70 - 130
Chloromethane	ND		25.0	21.4		ug/L		86	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		25.0	26.7		ug/L		107	70 - 133
Dibromochloromethane	ND		25.0	25.6		ug/L		102	70 - 148
Dibromomethane	ND		25.0	24.7		ug/L		99	70 - 130
Bromodichloromethane	ND		25.0	25.0		ug/L		100	70 - 138
Dichlorodifluoromethane	ND		25.0	20.3		ug/L		81	25 - 142
Ethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130
m,p-Xylene	ND		25.0	26.5		ug/L		106	70 - 133
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130
Methyl tert-butyl ether	ND		25.0	24.9		ug/L		99	70 - 130
Naphthalene	ND		25.0	28.2		ug/L		113	60 - 140
o-Xylene	ND		25.0	25.5		ug/L		102	70 - 133

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-158812-A-2 MS

Matrix: Water

Analysis Batch: 357595

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
Styrene	ND		25.0	26.5		ug/L		106	29 - 150
t-Butanol	ND		250	269		ug/L		108	70 - 130
Tetrachloroethene	2.1		25.0	28.0		ug/L		103	70 - 137
Toluene	ND		25.0	25.0		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.4		ug/L		101	70 - 130
trans-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	70 - 138
Trichloroethene	14		25.0	38.0		ug/L		95	70 - 130
Trichlorofluoromethane	ND		25.0	25.2		ug/L		101	60 - 150
Vinyl acetate	ND		25.0	29.0		ug/L		116	23 - 150
Vinyl chloride	ND		25.0	20.2		ug/L		81	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	26.3		ug/L		105	70 - 131
2-Butanone (MEK)	ND		25.0	23.2		ug/L		93	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.3		ug/L		113	52 - 150
Acrylonitrile	ND		250	247		ug/L		99	38 - 144
Acrolein	ND		25.0	23.9		ug/L		96	10 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	107		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Lab Sample ID: 440-158812-A-2 MSD

Matrix: Water

Analysis Batch: 357595

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	25.9		ug/L		104	60 - 130	5	30
1,1,1,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	60 - 149	3	20
1,1,1-Trichloroethane	ND		25.0	25.7		ug/L		103	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.5		ug/L		102	63 - 130	6	30
1,1,2-Trichloroethane	ND		25.0	26.4		ug/L		106	70 - 130	4	25
1,1-Dichloroethane	ND		25.0	25.2		ug/L		101	65 - 130	3	20
1,1-Dichloroethene	5.7		25.0	29.3		ug/L		95	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	25.1		ug/L		100	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		25.0	31.6		ug/L		126	60 - 140	3	20
1,2-Dibromo-3-Chloropropane	ND		25.0	28.6		ug/L		114	48 - 140	11	30
1,2-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130	3	20
1,2-Dichloroethane	ND		25.0	25.7		ug/L		103	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	26.1		ug/L		105	69 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	4	20
1,3-Dichloropropane	ND		25.0	26.8		ug/L		107	70 - 130	7	25
1,4-Dichlorobenzene	ND		25.0	24.6		ug/L		98	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	28.3		ug/L		113	69 - 138	2	25
2-Hexanone	ND		25.0	29.5		ug/L		118	10 - 150	9	35
Acetone	ND		25.0	31.0		ug/L		124	10 - 150	8	35
Benzene	ND		25.0	25.3		ug/L		101	66 - 130	1	20
Bromoform	ND		25.0	29.4		ug/L		118	59 - 150	6	25
Bromomethane	ND		25.0	24.1		ug/L		96	62 - 131	2	25

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-158812-A-2 MSD

Matrix: Water

Analysis Batch: 357595

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
Carbon disulfide	ND		25.0	23.7		ug/L		95	49 - 140	0	20
Carbon tetrachloride	4.0		25.0	30.3		ug/L		105	60 - 150	2	25
Chlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	3	20
Bromochloromethane	ND		25.0	25.5		ug/L		102	70 - 130	2	25
Chloroethane	ND		25.0	24.7		ug/L		99	68 - 130	0	25
Chloroform	1.0		25.0	26.3		ug/L		101	70 - 130	2	20
Chloromethane	ND		25.0	20.8		ug/L		83	39 - 144	3	25
cis-1,2-Dichloroethene	ND		25.0	25.3		ug/L		101	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	27.9		ug/L		112	70 - 133	4	20
Dibromochloromethane	ND		25.0	26.7		ug/L		107	70 - 148	4	25
Dibromomethane	ND		25.0	25.4		ug/L		102	70 - 130	3	25
Bromodichloromethane	ND		25.0	25.7		ug/L		103	70 - 138	3	20
Dichlorodifluoromethane	ND		25.0	20.3		ug/L		81	25 - 142	0	30
Ethylbenzene	ND		25.0	26.2		ug/L		105	70 - 130	2	20
m,p-Xylene	ND		25.0	27.0		ug/L		108	70 - 133	2	25
Methylene Chloride	ND		25.0	24.9		ug/L		100	52 - 130	0	20
Methyl tert-butyl ether	ND		25.0	25.8		ug/L		103	70 - 130	4	25
Naphthalene	ND		25.0	30.4		ug/L		121	60 - 140	7	30
o-Xylene	ND		25.0	26.4		ug/L		105	70 - 133	3	20
Styrene	ND		25.0	27.5		ug/L		110	29 - 150	4	35
t-Butanol	ND		250	267		ug/L		107	70 - 130	1	25
Tetrachloroethene	2.1		25.0	29.7		ug/L		110	70 - 137	6	20
Toluene	ND		25.0	26.2		ug/L		105	70 - 130	5	20
trans-1,2-Dichloroethene	ND		25.0	25.9		ug/L		103	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	27.3		ug/L		109	70 - 138	7	25
Trichloroethene	14		25.0	38.5		ug/L		97	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	25.1		ug/L		100	60 - 150	0	25
Vinyl acetate	ND		25.0	30.2		ug/L		121	23 - 150	4	30
Vinyl chloride	ND		25.0	19.8		ug/L		79	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	27.5		ug/L		110	70 - 131	4	25
2-Butanone (MEK)	ND		25.0	24.4		ug/L		98	48 - 140	5	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	30.7		ug/L		123	52 - 150	8	35
Acrylonitrile	ND		250	262		ug/L		105	38 - 144	6	40
Acrolein	ND		25.0	24.8		ug/L		99	10 - 147	4	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	110		80 - 128
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132

Lab Sample ID: MB 440-358798/4

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/28/16 20:19	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-358798/4

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/28/16 20:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/28/16 20:19	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/28/16 20:19	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/28/16 20:19	1
2-Hexanone	ND		5.0	2.5	ug/L			09/28/16 20:19	1
Acetone	ND		20	10	ug/L			09/28/16 20:19	1
Acetonitrile	ND		20	10	ug/L			09/28/16 20:19	1
Benzene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Allyl chloride	ND		1.0	0.50	ug/L			09/28/16 20:19	1
Bromoform	ND		1.0	0.40	ug/L			09/28/16 20:19	1
Bromomethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/28/16 20:19	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Chloroethane	ND		1.0	0.40	ug/L			09/28/16 20:19	1
Chloroform	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Chloromethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Dibromomethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/28/16 20:19	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/28/16 20:19	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Iodomethane	ND		2.0	1.0	ug/L			09/28/16 20:19	1
Isobutyl alcohol	ND		25	13	ug/L			09/28/16 20:19	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/28/16 20:19	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/28/16 20:19	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/28/16 20:19	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/28/16 20:19	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Naphthalene	ND		1.0	0.40	ug/L			09/28/16 20:19	1
o-Xylene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Propionitrile	ND		20	10	ug/L			09/28/16 20:19	1
Styrene	ND		0.50	0.25	ug/L			09/28/16 20:19	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-358798/4

Matrix: Water

Analysis Batch: 358798

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			09/28/16 20:19	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/28/16 20:19	1
Toluene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/28/16 20:19	1
Trichloroethene	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/28/16 20:19	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/28/16 20:19	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/28/16 20:19	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/28/16 20:19	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/28/16 20:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/28/16 20:19	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/28/16 20:19	1
Acrolein	ND		5.0	2.5	ug/L			09/28/16 20:19	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.190	J	ug/L		16.25	91-57-6		09/28/16 20:19	1
Tentatively Identified Compound	None		ug/L					09/28/16 20:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		09/28/16 20:19	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/28/16 20:19	1
Dibromofluoromethane (Surr)	101		76 - 132		09/28/16 20:19	1

Lab Sample ID: LCS 440-358798/5

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.6		ug/L		98	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.0		ug/L		108	60 - 141
1,1,1-Trichloroethane	25.0	26.5		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.1		ug/L		92	63 - 130
1,1,2-Trichloroethane	25.0	22.9		ug/L		92	70 - 130
1,1-Dichloroethane	25.0	25.2		ug/L		101	64 - 130
1,1-Dichloroethene	25.0	25.2		ug/L		101	70 - 130
1,1-Dichloropropene	25.0	25.3		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	25.0	26.0		ug/L		104	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	25.0		ug/L		100	52 - 140
1,2-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	25.9		ug/L		104	57 - 138
1,2-Dichloropropane	25.0	27.8		ug/L		111	67 - 130
1,3-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	22.1		ug/L		88	70 - 130
1,4-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: LCS 440-358798/5

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	27.3		ug/L		109	68 - 141
2-Hexanone	25.0	26.2		ug/L		105	10 - 150
Acetone	25.0	24.9		ug/L		100	10 - 150
Benzene	25.0	24.8		ug/L		99	68 - 130
Bromoform	25.0	29.6		ug/L		118	60 - 148
Bromomethane	25.0	25.5		ug/L		102	64 - 139
Carbon disulfide	25.0	24.9		ug/L		100	52 - 136
Carbon tetrachloride	25.0	26.6		ug/L		106	60 - 150
Chlorobenzene	25.0	25.9		ug/L		104	70 - 130
Bromochloromethane	25.0	25.5		ug/L		102	70 - 130
Chloroethane	25.0	25.9		ug/L		104	64 - 135
Chloroform	25.0	25.5		ug/L		102	70 - 130
Chloromethane	25.0	23.0		ug/L		92	47 - 140
cis-1,2-Dichloroethene	25.0	27.0		ug/L		108	70 - 133
cis-1,3-Dichloropropene	25.0	23.9		ug/L		96	70 - 133
Dibromochloromethane	25.0	27.6		ug/L		111	69 - 145
Dibromomethane	25.0	26.6		ug/L		106	70 - 130
Bromodichloromethane	25.0	27.2		ug/L		109	70 - 132
Dichlorodifluoromethane	25.0	23.2		ug/L		93	29 - 150
Ethylbenzene	25.0	25.5		ug/L		102	70 - 130
m,p-Xylene	25.0	26.8		ug/L		107	70 - 130
Methylene Chloride	25.0	22.2		ug/L		89	52 - 130
Methyl tert-butyl ether	25.0	25.4		ug/L		102	63 - 131
Naphthalene	25.0	23.9		ug/L		95	60 - 140
o-Xylene	25.0	26.5		ug/L		106	70 - 130
Styrene	25.0	26.8		ug/L		107	70 - 134
t-Butanol	250	263		ug/L		105	70 - 130
Tetrachloroethene	25.0	26.3		ug/L		105	70 - 130
Toluene	25.0	21.8		ug/L		87	70 - 130
trans-1,2-Dichloroethene	25.0	27.5		ug/L		110	70 - 130
trans-1,3-Dichloropropene	25.0	23.7		ug/L		95	70 - 132
Trichloroethene	25.0	27.2		ug/L		109	70 - 130
Trichlorofluoromethane	25.0	24.4		ug/L		97	60 - 150
Vinyl acetate	25.0	26.8		ug/L		107	48 - 140
Vinyl chloride	25.0	25.2		ug/L		101	59 - 133
1,2-Dibromoethane (EDB)	25.0	26.8		ug/L		107	70 - 130
2-Butanone (MEK)	25.0	23.1		ug/L		92	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	21.9		ug/L		88	59 - 149
Acrylonitrile	250	257		ug/L		103	48 - 140
Acrolein	25.0	19.1		ug/L		76	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	90		80 - 128
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159395-B-3 MS

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	ND		500	502		ug/L		100	60 - 130
1,1,1,2-Tetrachloroethane	ND		500	564		ug/L		113	60 - 149
1,1,1-Trichloroethane	47		500	588		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	ND		500	483		ug/L		97	63 - 130
1,1,2-Trichloroethane	ND		500	538		ug/L		108	70 - 130
1,1-Dichloroethane	110		500	623		ug/L		102	65 - 130
1,1-Dichloroethene	1400	F1	500	1780		ug/L		85	70 - 130
1,1-Dichloropropene	ND		500	523		ug/L		105	64 - 130
1,2,4-Trichlorobenzene	ND		500	550		ug/L		110	60 - 140
1,2-Dibromo-3-Chloropropane	ND		500	484		ug/L		97	48 - 140
1,2-Dichlorobenzene	ND		500	523		ug/L		105	70 - 130
1,2-Dichloroethane	ND		500	545		ug/L		109	56 - 146
1,2-Dichloropropane	ND		500	581		ug/L		116	69 - 130
1,3-Dichlorobenzene	ND		500	511		ug/L		102	70 - 130
1,3-Dichloropropane	ND		500	533		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		500	515		ug/L		103	70 - 130
2,2-Dichloropropane	ND		500	547		ug/L		109	69 - 138
2-Hexanone	ND		500	506		ug/L		101	10 - 150
Acetone	ND		500	366	J	ug/L		73	10 - 150
Benzene	ND		500	509		ug/L		102	66 - 130
Bromoform	ND		500	608		ug/L		122	59 - 150
Bromomethane	ND		500	460		ug/L		92	62 - 131
Carbon disulfide	ND		500	499		ug/L		100	49 - 140
Carbon tetrachloride	ND		500	539		ug/L		108	60 - 150
Chlorobenzene	ND		500	542		ug/L		108	70 - 130
Bromochloromethane	ND		500	522		ug/L		104	70 - 130
Chloroethane	ND		500	477		ug/L		95	68 - 130
Chloroform	ND		500	524		ug/L		105	70 - 130
Chloromethane	ND		500	418		ug/L		84	39 - 144
cis-1,2-Dichloroethene	17		500	574		ug/L		111	70 - 130
cis-1,3-Dichloropropene	ND		500	567		ug/L		113	70 - 133
Dibromochloromethane	ND		500	575		ug/L		115	70 - 148
Dibromomethane	ND		500	536		ug/L		107	70 - 130
Bromodichloromethane	ND		500	561		ug/L		112	70 - 138
Dichlorodifluoromethane	ND		500	417		ug/L		83	25 - 142
Ethylbenzene	ND		500	528		ug/L		106	70 - 130
m,p-Xylene	ND		500	551		ug/L		110	70 - 133
Methylene Chloride	ND		500	451		ug/L		90	52 - 130
Methyl tert-butyl ether	ND		500	521		ug/L		104	70 - 130
Naphthalene	ND		500	499		ug/L		100	60 - 140
o-Xylene	ND		500	557		ug/L		111	70 - 133
Styrene	ND		500	549		ug/L		110	29 - 150
t-Butanol	ND		5000	5980		ug/L		120	70 - 130
Tetrachloroethene	52		500	584		ug/L		106	70 - 137
Toluene	ND		500	524		ug/L		105	70 - 130
trans-1,2-Dichloroethene	ND		500	552		ug/L		110	70 - 130
trans-1,3-Dichloropropene	ND		500	555		ug/L		111	70 - 138
Trichloroethene	400		500	881		ug/L		96	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159395-B-3 MS

Matrix: Water

Analysis Batch: 358798

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
Trichlorofluoromethane	ND		500	441		ug/L		88	60 - 150
Vinyl acetate	ND		500	581		ug/L		116	23 - 150
Vinyl chloride	ND		500	452		ug/L		90	50 - 137
1,2-Dibromoethane (EDB)	ND		500	549		ug/L		110	70 - 131
2-Butanone (MEK)	ND		500	433		ug/L		87	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		500	503		ug/L		101	52 - 150
Acrylonitrile	ND		5000	4870		ug/L		97	38 - 144
Acrolein	ND		500	359		ug/L		72	10 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

Lab Sample ID: 440-159395-B-3 MSD

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		500	515		ug/L		103	60 - 130	3	30
1,1,1,2-Tetrachloroethane	ND		500	571		ug/L		114	60 - 149	1	20
1,1,1-Trichloroethane	47		500	608		ug/L		112	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		500	498		ug/L		100	63 - 130	3	30
1,1,2-Trichloroethane	ND		500	552		ug/L		110	70 - 130	2	25
1,1-Dichloroethane	110		500	634		ug/L		105	65 - 130	2	20
1,1-Dichloroethene	1400	F1	500	1690	F1	ug/L		68	70 - 130	5	20
1,1-Dichloropropene	ND		500	534		ug/L		107	64 - 130	2	20
1,2,4-Trichlorobenzene	ND		500	564		ug/L		113	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		500	531		ug/L		106	48 - 140	9	30
1,2-Dichlorobenzene	ND		500	543		ug/L		109	70 - 130	4	20
1,2-Dichloroethane	ND		500	557		ug/L		111	56 - 146	2	20
1,2-Dichloropropane	ND		500	596		ug/L		119	69 - 130	3	20
1,3-Dichlorobenzene	ND		500	527		ug/L		105	70 - 130	3	20
1,3-Dichloropropane	ND		500	545		ug/L		109	70 - 130	2	25
1,4-Dichlorobenzene	ND		500	529		ug/L		106	70 - 130	3	20
2,2-Dichloropropane	ND		500	558		ug/L		112	69 - 138	2	25
2-Hexanone	ND		500	521		ug/L		104	10 - 150	3	35
Acetone	ND		500	410		ug/L		82	10 - 150	11	35
Benzene	ND		500	518		ug/L		104	66 - 130	2	20
Bromoform	ND		500	614		ug/L		123	59 - 150	1	25
Bromomethane	ND		500	486		ug/L		97	62 - 131	6	25
Carbon disulfide	ND		500	517		ug/L		103	49 - 140	3	20
Carbon tetrachloride	ND		500	552		ug/L		110	60 - 150	2	25
Chlorobenzene	ND		500	543		ug/L		109	70 - 130	0	20
Bromochloromethane	ND		500	530		ug/L		106	70 - 130	1	25
Chloroethane	ND		500	494		ug/L		99	68 - 130	3	25
Chloroform	ND		500	535		ug/L		107	70 - 130	2	20
Chloromethane	ND		500	468		ug/L		94	39 - 144	11	25

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159395-B-3 MSD

Matrix: Water

Analysis Batch: 358798

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	17		500	581		ug/L		113	70 - 130	1	20
cis-1,3-Dichloropropene	ND		500	571		ug/L		114	70 - 133	1	20
Dibromochloromethane	ND		500	586		ug/L		117	70 - 148	2	25
Dibromomethane	ND		500	546		ug/L		109	70 - 130	2	25
Bromodichloromethane	ND		500	573		ug/L		115	70 - 138	2	20
Dichlorodifluoromethane	ND		500	445		ug/L		89	25 - 142	6	30
Ethylbenzene	ND		500	531		ug/L		106	70 - 130	1	20
m,p-Xylene	ND		500	564		ug/L		113	70 - 133	2	25
Methylene Chloride	ND		500	468		ug/L		94	52 - 130	4	20
Methyl tert-butyl ether	ND		500	537		ug/L		107	70 - 130	3	25
Naphthalene	ND		500	524		ug/L		105	60 - 140	5	30
o-Xylene	ND		500	558		ug/L		112	70 - 133	0	20
Styrene	ND		500	550		ug/L		110	29 - 150	0	35
t-Butanol	ND		5000	6180		ug/L		124	70 - 130	3	25
Tetrachloroethene	52		500	601		ug/L		110	70 - 137	3	20
Toluene	ND		500	533		ug/L		107	70 - 130	2	20
trans-1,2-Dichloroethene	ND		500	565		ug/L		113	70 - 130	2	20
trans-1,3-Dichloropropene	ND		500	568		ug/L		114	70 - 138	2	25
Trichloroethene	400		500	886		ug/L		97	70 - 130	0	20
Trichlorofluoromethane	ND		500	456		ug/L		91	60 - 150	3	25
Vinyl acetate	ND		500	598		ug/L		120	23 - 150	3	30
Vinyl chloride	ND		500	469		ug/L		94	50 - 137	4	30
1,2-Dibromoethane (EDB)	ND		500	569		ug/L		114	70 - 131	4	25
2-Butanone (MEK)	ND		500	449		ug/L		90	48 - 140	4	40
4-Methyl-2-pentanone (MIBK)	ND		500	521		ug/L		104	52 - 150	4	35
Acrylonitrile	ND		5000	4810		ug/L		96	38 - 144	1	40
Acrolein	ND		500	364		ug/L		73	10 - 147	1	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

Lab Sample ID: MB 440-358874/4

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 08:23	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 08:23	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-358874/4

Matrix: Water

Analysis Batch: 358874

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			09/29/16 08:23	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 08:23	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 08:23	1
Acetone	ND		20	10	ug/L			09/29/16 08:23	1
Acetonitrile	ND		20	10	ug/L			09/29/16 08:23	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 08:23	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 08:23	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 08:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 08:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 08:23	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 08:23	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 08:23	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 08:23	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Propionitrile	ND		20	10	ug/L			09/29/16 08:23	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 08:23	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 08:23	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 08:23	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-358874/4

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 08:23	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 08:23	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 08:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 08:23	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 08:23	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/29/16 08:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		09/29/16 08:23	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/29/16 08:23	1
Dibromofluoromethane (Surr)	96		76 - 132		09/29/16 08:23	1

Lab Sample ID: LCS 440-358874/5

Matrix: Water

Analysis Batch: 358874

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	23.9		ug/L		96	60 - 141
1,1,1-Trichloroethane	25.0	24.7		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	23.8		ug/L		95	70 - 130
1,1-Dichloroethane	25.0	23.6		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	24.6		ug/L		98	70 - 130
1,1-Dichloropropene	25.0	24.9		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	25.0	25.4		ug/L		101	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.1		ug/L		96	52 - 140
1,2-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130
1,2-Dichloroethane	25.0	25.1		ug/L		100	57 - 138
1,2-Dichloropropane	25.0	24.6		ug/L		98	67 - 130
1,3-Dichlorobenzene	25.0	23.7		ug/L		95	70 - 130
1,3-Dichloropropane	25.0	23.3		ug/L		93	70 - 130
1,4-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130
2,2-Dichloropropane	25.0	26.0		ug/L		104	68 - 141
2-Hexanone	25.0	24.8		ug/L		99	10 - 150
Acetone	25.0	25.4		ug/L		101	10 - 150
Benzene	25.0	23.5		ug/L		94	68 - 130
Bromoform	25.0	26.0		ug/L		104	60 - 148
Bromomethane	25.0	22.7		ug/L		91	64 - 139
Carbon disulfide	25.0	24.6		ug/L		99	52 - 136
Carbon tetrachloride	25.0	25.8		ug/L		103	60 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: LCS 440-358874/5

Matrix: Water

Analysis Batch: 358874

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	23.6		ug/L		94	70 - 130
Bromochloromethane	25.0	22.3		ug/L		89	70 - 130
Chloroethane	25.0	24.5		ug/L		98	64 - 135
Chloroform	25.0	24.0		ug/L		96	70 - 130
Chloromethane	25.0	24.5		ug/L		98	47 - 140
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	70 - 133
cis-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 133
Dibromochloromethane	25.0	24.3		ug/L		97	69 - 145
Dibromomethane	25.0	24.0		ug/L		96	70 - 130
Bromodichloromethane	25.0	24.4		ug/L		98	70 - 132
Dichlorodifluoromethane	25.0	25.2		ug/L		101	29 - 150
Ethylbenzene	25.0	24.2		ug/L		97	70 - 130
m,p-Xylene	25.0	24.9		ug/L		100	70 - 130
Methylene Chloride	25.0	24.1		ug/L		96	52 - 130
Methyl tert-butyl ether	25.0	23.7		ug/L		95	63 - 131
Naphthalene	25.0	24.4		ug/L		98	60 - 140
o-Xylene	25.0	24.0		ug/L		96	70 - 130
Styrene	25.0	24.7		ug/L		99	70 - 134
t-Butanol	250	249		ug/L		100	70 - 130
Tetrachloroethene	25.0	24.7		ug/L		99	70 - 130
Toluene	25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	70 - 132
Trichloroethene	25.0	24.1		ug/L		97	70 - 130
Trichlorofluoromethane	25.0	26.4		ug/L		105	60 - 150
Vinyl acetate	25.0	26.2		ug/L		105	48 - 140
Vinyl chloride	25.0	24.5		ug/L		98	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.7		ug/L		99	70 - 130
2-Butanone (MEK)	25.0	24.6		ug/L		98	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	26.2		ug/L		105	59 - 149
Acrylonitrile	250	257		ug/L		103	48 - 140
Acrolein	25.0	23.8		ug/L		95	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

Lab Sample ID: 440-159494-A-5 MS

Matrix: Water

Analysis Batch: 358874

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	27.8		ug/L		111	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	27.0		ug/L		108	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.7		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.2		ug/L		109	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159494-A-5 MS

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		25.0	26.3		ug/L		105	65 - 130
1,1-Dichloroethene	ND		25.0	27.2		ug/L		109	70 - 130
1,1-Dichloropropene	ND		25.0	27.6		ug/L		110	64 - 130
1,2,4-Trichlorobenzene	0.40	J	25.0	29.7		ug/L		119	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	28.1		ug/L		112	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	28.3		ug/L		113	56 - 146
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		105	70 - 130
1,3-Dichloropropane	ND		25.0	27.3		ug/L		109	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	29.6		ug/L		118	69 - 138
2-Hexanone	ND		25.0	27.6		ug/L		111	10 - 150
Acetone	ND		25.0	23.1		ug/L		92	10 - 150
Benzene	ND		25.0	26.3		ug/L		105	66 - 130
Bromoform	ND		25.0	29.3		ug/L		117	59 - 150
Bromomethane	ND		25.0	25.9		ug/L		104	62 - 131
Carbon disulfide	ND		25.0	27.4		ug/L		109	49 - 140
Carbon tetrachloride	ND		25.0	28.6		ug/L		114	60 - 150
Chlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
Bromochloromethane	ND		25.0	25.5		ug/L		102	70 - 130
Chloroethane	ND		25.0	27.7		ug/L		111	68 - 130
Chloroform	ND		25.0	27.1		ug/L		108	70 - 130
Chloromethane	ND		25.0	27.8		ug/L		111	39 - 144
cis-1,2-Dichloroethene	ND		25.0	27.3		ug/L		109	70 - 130
cis-1,3-Dichloropropene	ND		25.0	29.1		ug/L		116	70 - 133
Dibromochloromethane	ND		25.0	27.6		ug/L		111	70 - 148
Dibromomethane	ND		25.0	26.9		ug/L		108	70 - 130
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 138
Dichlorodifluoromethane	ND		25.0	28.4		ug/L		114	25 - 142
Ethylbenzene	ND		25.0	26.8		ug/L		107	70 - 130
m,p-Xylene	ND		25.0	27.6		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	26.9		ug/L		108	52 - 130
Methyl tert-butyl ether	ND		25.0	27.3		ug/L		109	70 - 130
Naphthalene	0.81	J	25.0	28.1		ug/L		109	60 - 140
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133
Styrene	ND		25.0	26.5		ug/L		106	29 - 150
t-Butanol	ND		25.0	27.7		ug/L		111	70 - 130
Tetrachloroethene	0.40	J	25.0	27.5		ug/L		109	70 - 137
Toluene	ND		25.0	27.3		ug/L		109	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.6		ug/L		110	70 - 130
trans-1,3-Dichloropropene	ND		25.0	28.7		ug/L		115	70 - 138
Trichloroethene	0.35	J	25.0	26.7		ug/L		105	70 - 130
Trichlorofluoromethane	ND		25.0	28.9		ug/L		116	60 - 150
Vinyl acetate	ND		25.0	32.7		ug/L		131	23 - 150
Vinyl chloride	ND		25.0	28.1		ug/L		112	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	28.1		ug/L		112	70 - 131
2-Butanone (MEK)	ND		25.0	27.2		ug/L		109	48 - 140

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159494-A-5 MS

Matrix: Water

Analysis Batch: 358874

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
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.7		ug/L		119	52 - 150
Acrylonitrile	ND		250	283		ug/L		113	38 - 144
Acrolein	ND		25.0	27.2		ug/L		109	10 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-159494-A-5 MSD

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	28.4		ug/L		114	60 - 130	2	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.6		ug/L		111	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	28.1		ug/L		112	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		25.0	28.5		ug/L		114	63 - 130	4	30
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	26.9		ug/L		108	65 - 130	2	20
1,1-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	28.1		ug/L		112	64 - 130	2	20
1,2,4-Trichlorobenzene	0.40	J	25.0	30.5		ug/L		122	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	30.0		ug/L		120	48 - 140	6	30
1,2-Dichlorobenzene	ND		25.0	26.9		ug/L		108	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	29.1		ug/L		116	56 - 146	3	20
1,2-Dichloropropane	ND		25.0	28.6		ug/L		114	69 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	26.9		ug/L		108	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	28.0		ug/L		112	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130	3	20
2,2-Dichloropropane	ND		25.0	29.9		ug/L		120	69 - 138	1	25
2-Hexanone	ND		25.0	29.9		ug/L		120	10 - 150	8	35
Acetone	ND		25.0	24.9		ug/L		100	10 - 150	8	35
Benzene	ND		25.0	26.8		ug/L		107	66 - 130	2	20
Bromoform	ND		25.0	30.7		ug/L		123	59 - 150	5	25
Bromomethane	ND		25.0	26.1		ug/L		104	62 - 131	1	25
Carbon disulfide	ND		25.0	27.8		ug/L		111	49 - 140	1	20
Carbon tetrachloride	ND		25.0	29.7		ug/L		119	60 - 150	4	25
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130	2	20
Bromochloromethane	ND		25.0	26.0		ug/L		104	70 - 130	2	25
Chloroethane	ND		25.0	28.3		ug/L		113	68 - 130	2	25
Chloroform	ND		25.0	27.5		ug/L		110	70 - 130	2	20
Chloromethane	ND		25.0	28.6		ug/L		114	39 - 144	3	25
cis-1,2-Dichloroethene	ND		25.0	27.6		ug/L		111	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	29.4		ug/L		118	70 - 133	1	20
Dibromochloromethane	ND		25.0	28.3		ug/L		113	70 - 148	2	25
Dibromomethane	ND		25.0	28.3		ug/L		113	70 - 130	5	25
Bromodichloromethane	ND		25.0	28.4		ug/L		114	70 - 138	3	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159494-A-5 MSD

Matrix: Water

Analysis Batch: 358874

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		25.0	28.7		ug/L		115	25 - 142	1	30
Ethylbenzene	ND		25.0	27.2		ug/L		109	70 - 130	1	20
m,p-Xylene	ND		25.0	27.9		ug/L		112	70 - 133	1	25
Methylene Chloride	ND		25.0	27.5		ug/L		110	52 - 130	2	20
Methyl tert-butyl ether	ND		25.0	28.4		ug/L		113	70 - 130	4	25
Naphthalene	0.81	J	25.0	30.0		ug/L		117	60 - 140	7	30
o-Xylene	ND		25.0	27.1		ug/L		108	70 - 133	0	20
Styrene	ND		25.0	27.6		ug/L		111	29 - 150	4	35
t-Butanol	ND		250	275		ug/L		110	70 - 130	1	25
Tetrachloroethene	0.40	J	25.0	28.2		ug/L		111	70 - 137	2	20
Toluene	ND		25.0	27.9		ug/L		111	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	28.2		ug/L		113	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	29.6		ug/L		119	70 - 138	3	25
Trichloroethene	0.35	J	25.0	27.9		ug/L		110	70 - 130	4	20
Trichlorofluoromethane	ND		25.0	30.0		ug/L		120	60 - 150	4	25
Vinyl acetate	ND		25.0	34.2		ug/L		137	23 - 150	4	30
Vinyl chloride	ND		25.0	28.7		ug/L		115	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	29.2		ug/L		117	70 - 131	4	25
2-Butanone (MEK)	ND		25.0	28.3		ug/L		113	48 - 140	4	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	32.2		ug/L		129	52 - 150	8	35
Acrylonitrile	ND		250	305		ug/L		122	38 - 144	8	40
Acrolein	ND		25.0	30.3		ug/L		121	10 - 147	11	40

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

Lab Sample ID: MB 440-359136/4

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 20:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 20:02	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 20:02	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-359136/4

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 20:02	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Acetone	ND		20	10	ug/L			09/29/16 20:02	1
Acetonitrile	ND		20	10	ug/L			09/29/16 20:02	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 20:02	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 20:02	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 20:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 20:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 20:02	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 20:02	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 20:02	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Propionitrile	ND		20	10	ug/L			09/29/16 20:02	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 20:02	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 20:02	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 20:02	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 20:02	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-359136/4

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 20:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 20:02	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.193	J	ug/L		16.25	91-57-6		09/29/16 20:02	1
Tentatively Identified Compound	None		ug/L					09/29/16 20:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		09/29/16 20:02	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/29/16 20:02	1
Dibromofluoromethane (Surr)	100		76 - 132		09/29/16 20:02	1

Lab Sample ID: LCS 440-359136/5

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.4		ug/L		98	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.9		ug/L		111	60 - 141
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.6		ug/L		94	63 - 130
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	25.7		ug/L		103	64 - 130
1,1-Dichloroethene	25.0	25.5		ug/L		102	70 - 130
1,1-Dichloropropene	25.0	25.5		ug/L		102	70 - 130
1,2,4-Trichlorobenzene	25.0	27.2		ug/L		109	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.7		ug/L		99	52 - 140
1,2-Dichlorobenzene	25.0	25.9		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	26.4		ug/L		106	57 - 138
1,2-Dichloropropane	25.0	28.1		ug/L		112	67 - 130
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	25.7		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	25.3		ug/L		101	70 - 130
2,2-Dichloropropane	25.0	29.0		ug/L		116	68 - 141
2-Hexanone	25.0	26.5		ug/L		106	10 - 150
Acetone	25.0	24.9		ug/L		100	10 - 150
Benzene	25.0	25.3		ug/L		101	68 - 130
Bromoform	25.0	30.6		ug/L		122	60 - 148
Bromomethane	25.0	25.3		ug/L		101	64 - 139
Carbon disulfide	25.0	24.2		ug/L		97	52 - 136
Carbon tetrachloride	25.0	26.5		ug/L		106	60 - 150
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130
Bromochloromethane	25.0	26.3		ug/L		105	70 - 130
Chloroethane	25.0	26.3		ug/L		105	64 - 135
Chloroform	25.0	25.9		ug/L		104	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: LCS 440-359136/5

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	25.0	23.2		ug/L		93	47 - 140
cis-1,2-Dichloroethene	25.0	27.5		ug/L		110	70 - 133
cis-1,3-Dichloropropene	25.0	28.2		ug/L		113	70 - 133
Dibromochloromethane	25.0	28.6		ug/L		114	69 - 145
Dibromomethane	25.0	26.7		ug/L		107	70 - 130
Bromodichloromethane	25.0	27.6		ug/L		110	70 - 132
Dichlorodifluoromethane	25.0	22.2		ug/L		89	29 - 150
Ethylbenzene	25.0	25.3		ug/L		101	70 - 130
m,p-Xylene	25.0	26.1		ug/L		105	70 - 130
Methylene Chloride	25.0	22.7		ug/L		91	52 - 130
Methyl tert-butyl ether	25.0	26.1		ug/L		104	63 - 131
Naphthalene	25.0	25.0		ug/L		100	60 - 140
o-Xylene	25.0	26.7		ug/L		107	70 - 130
Styrene	25.0	26.3		ug/L		105	70 - 134
t-Butanol	250	271		ug/L		109	70 - 130
Tetrachloroethene	25.0	27.6		ug/L		110	70 - 130
Toluene	25.0	25.2		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	28.0		ug/L		112	70 - 130
trans-1,3-Dichloropropene	25.0	27.3		ug/L		109	70 - 132
Trichloroethene	25.0	27.0		ug/L		108	70 - 130
Trichlorofluoromethane	25.0	23.7		ug/L		95	60 - 150
Vinyl acetate	25.0	25.8		ug/L		103	48 - 140
Vinyl chloride	25.0	24.6		ug/L		98	59 - 133
1,2-Dibromoethane (EDB)	25.0	27.3		ug/L		109	70 - 130
2-Butanone (MEK)	25.0	23.8		ug/L		95	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	25.6		ug/L		103	59 - 149
Acrylonitrile	250	262		ug/L		105	48 - 140
Acrolein	25.0	19.5		ug/L		78	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

Lab Sample ID: 440-159873-D-1 MS

Matrix: Water

Analysis Batch: 359136

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	26.7		ug/L		107	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	27.9		ug/L		111	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.8		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		108	70 - 130
1,1-Dichloroethane	ND		25.0	25.8		ug/L		103	65 - 130
1,1-Dichloroethene	0.90		25.0	25.3		ug/L		98	70 - 130
1,1-Dichloropropene	ND		25.0	25.7		ug/L		103	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.8		ug/L		111	60 - 140

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159873-D-1 MS

Matrix: Water

Analysis Batch: 359136

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-Dibromo-3-Chloropropane	ND		25.0	27.4		ug/L		110	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
1,2-Dichloroethane	ND		25.0	27.3		ug/L		109	56 - 146
1,2-Dichloropropane	ND		25.0	28.5		ug/L		114	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,3-Dichloropropane	ND		25.0	26.7		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	28.9		ug/L		116	69 - 138
2-Hexanone	ND		25.0	28.2		ug/L		113	10 - 150
Acetone	ND		25.0	21.6		ug/L		86	10 - 150
Benzene	ND		25.0	25.1		ug/L		100	66 - 130
Bromoform	ND		25.0	31.6		ug/L		126	59 - 150
Bromomethane	ND		25.0	22.8		ug/L		91	62 - 131
Carbon disulfide	ND		25.0	24.6		ug/L		98	49 - 140
Carbon tetrachloride	ND		25.0	26.7		ug/L		107	60 - 150
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130
Bromochloromethane	ND		25.0	25.8		ug/L		103	70 - 130
Chloroethane	ND		25.0	23.4		ug/L		94	68 - 130
Chloroform	0.40	J	25.0	26.1		ug/L		103	70 - 130
Chloromethane	ND		25.0	20.4		ug/L		82	39 - 144
cis-1,2-Dichloroethene	2.6		25.0	29.9		ug/L		109	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.5		ug/L		114	70 - 133
Dibromochloromethane	ND		25.0	29.0		ug/L		116	70 - 148
Dibromomethane	ND		25.0	27.7		ug/L		111	70 - 130
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 138
Dichlorodifluoromethane	ND		25.0	19.1		ug/L		77	25 - 142
Ethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130
m,p-Xylene	ND		25.0	26.9		ug/L		108	70 - 133
Methylene Chloride	ND		25.0	22.4		ug/L		90	52 - 130
Methyl tert-butyl ether	ND		25.0	26.8		ug/L		107	70 - 130
Naphthalene	ND		25.0	25.9		ug/L		104	60 - 140
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133
Styrene	ND		25.0	26.4		ug/L		106	29 - 150
t-Butanol	ND		250	274		ug/L		109	70 - 130
Tetrachloroethene	18		25.0	43.1		ug/L		102	70 - 137
Toluene	ND		25.0	25.5		ug/L		102	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130
trans-1,3-Dichloropropene	ND		25.0	28.3		ug/L		113	70 - 138
Trichloroethene	6.5		25.0	32.4		ug/L		104	70 - 130
Trichlorofluoromethane	ND		25.0	22.4		ug/L		90	60 - 150
Vinyl acetate	ND		25.0	30.0		ug/L		120	23 - 150
Vinyl chloride	ND		25.0	22.0		ug/L		88	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	28.2		ug/L		113	70 - 131
2-Butanone (MEK)	ND		25.0	25.0		ug/L		100	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.7		ug/L		111	52 - 150
Acrylonitrile	ND		250	281		ug/L		112	38 - 144
Acrolein	ND		25.0	19.7		ug/L		79	10 - 147

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159873-D-1 MS

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

Lab Sample ID: 440-159873-D-1 MSD

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	25.6		ug/L		103	60 - 130	4	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.6		ug/L		111	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130	9	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.9		ug/L		100	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	26.6		ug/L		106	70 - 130	2	25
1,1-Dichloroethane	ND		25.0	23.0		ug/L		92	65 - 130	11	20
1,1-Dichloroethene	0.90		25.0	23.4		ug/L		90	70 - 130	8	20
1,1-Dichloropropene	ND		25.0	26.0		ug/L		104	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		25.0	28.0		ug/L		112	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	27.1		ug/L		108	48 - 140	1	30
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		103	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	23.9		ug/L		96	56 - 146	13	20
1,2-Dichloropropane	ND		25.0	28.8		ug/L		115	69 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		105	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.6		ug/L		102	69 - 138	12	25
2-Hexanone	ND		25.0	27.6		ug/L		110	10 - 150	2	35
Acetone	ND		25.0	21.6		ug/L		86	10 - 150	0	35
Benzene	ND		25.0	25.4		ug/L		102	66 - 130	1	20
Bromoform	ND		25.0	30.9		ug/L		124	59 - 150	2	25
Bromomethane	ND		25.0	23.2		ug/L		93	62 - 131	2	25
Carbon disulfide	ND		25.0	22.9		ug/L		92	49 - 140	7	20
Carbon tetrachloride	ND		25.0	27.5		ug/L		110	60 - 150	3	25
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130	0	20
Bromochloromethane	ND		25.0	23.4		ug/L		94	70 - 130	10	25
Chloroethane	ND		25.0	24.0		ug/L		96	68 - 130	3	25
Chloroform	0.40	J	25.0	23.5		ug/L		92	70 - 130	10	20
Chloromethane	ND		25.0	21.2		ug/L		85	39 - 144	4	25
cis-1,2-Dichloroethene	2.6		25.0	27.0		ug/L		97	70 - 130	10	20
cis-1,3-Dichloropropene	ND		25.0	27.8		ug/L		111	70 - 133	3	20
Dibromochloromethane	ND		25.0	29.0		ug/L		116	70 - 148	0	25
Dibromomethane	ND		25.0	26.7		ug/L		107	70 - 130	3	25
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	20.0		ug/L		80	25 - 142	5	30
Ethylbenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	20
m,p-Xylene	ND		25.0	27.1		ug/L		108	70 - 133	1	25
Methylene Chloride	ND		25.0	20.0		ug/L		80	52 - 130	11	20
Methyl tert-butyl ether	ND		25.0	23.5		ug/L		94	70 - 130	13	25

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159873-D-1 MSD

Matrix: Water

Analysis Batch: 359136

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
Naphthalene	ND		25.0	27.1		ug/L		109	60 - 140	5	30
o-Xylene	ND		25.0	26.9		ug/L		108	70 - 133	0	20
Styrene	ND		25.0	26.3		ug/L		105	29 - 150	1	35
t-Butanol	ND		250	268		ug/L		107	70 - 130	2	25
Tetrachloroethene	18		25.0	43.6		ug/L		103	70 - 137	1	20
Toluene	ND		25.0	26.0		ug/L		104	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	25.1		ug/L		100	70 - 130	7	20
trans-1,3-Dichloropropene	ND		25.0	27.7		ug/L		111	70 - 138	2	25
Trichloroethene	6.5		25.0	32.8		ug/L		105	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	22.9		ug/L		92	60 - 150	2	25
Vinyl acetate	ND		25.0	26.1		ug/L		104	23 - 150	14	30
Vinyl chloride	ND		25.0	21.6		ug/L		86	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	27.9		ug/L		112	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	21.3		ug/L		85	48 - 140	16	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.2		ug/L		109	52 - 150	2	35
Acrylonitrile	ND		250	244		ug/L		98	38 - 144	14	40
Acrolein	ND		25.0	20.1		ug/L		81	10 - 147	2	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	87		76 - 132

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

Lab Sample ID: MB 440-358079/1-A

Matrix: Water

Analysis Batch: 359039

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 358079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		09/26/16 10:51	09/30/16 03:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	66		30 - 120	09/26/16 10:51	09/30/16 03:52	1

Lab Sample ID: LCS 440-358079/2-A

Matrix: Water

Analysis Batch: 359039

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 358079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.04		ug/L		52	35 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8 (Surr)	63		30 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 550-69885-C-4-A MS

Matrix: Water

Analysis Batch: 359039

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 358079

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	ND		2.13	2.36		ug/L		111	35 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	78		30 - 120						

Lab Sample ID: 550-69885-C-4-B MSD

Matrix: Water

Analysis Batch: 359039

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 358079

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		2.12	1.99		ug/L		94	35 - 120	17	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	73		30 - 120								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-356765/47

Matrix: Water

Analysis Batch: 356765

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/20/16 23:53	1

Lab Sample ID: LCS 440-356765/48

Matrix: Water

Analysis Batch: 356765

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: 440-159012-F-3 MS

Matrix: Water

Analysis Batch: 356765

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	140	F1	50.0	171	F1	mg/L		70	80 - 120

Lab Sample ID: 440-159012-F-3 MSD

Matrix: Water

Analysis Batch: 356765

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	140	F1	50.0	169	F1	mg/L		66	80 - 120	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 440-357058/6
Matrix: Water
Analysis Batch: 357058

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/21/16 17:36	1

Lab Sample ID: LCS 440-357058/2
Matrix: Water
Analysis Batch: 357058

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	5.12		mg/L		102	90 - 110

Lab Sample ID: 440-159066-9 MS
Matrix: Water
Analysis Batch: 357058

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
Chloride	24		50.0	69.2		mg/L		91	80 - 120

Lab Sample ID: 440-159066-9 MSD
Matrix: Water
Analysis Batch: 357058

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	RPD Limit
Chloride	24		50.0	69.0		mg/L		91	80 - 120	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-358086/1-A
Matrix: Water
Analysis Batch: 358309

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 358086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/26/16 10:58	09/26/16 22:24	1

Lab Sample ID: LCS 440-358086/2-A
Matrix: Water
Analysis Batch: 358309

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 358086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	8.96		mg/L		90	80 - 120

Lab Sample ID: 440-159247-G-1-B MS
Matrix: Water
Analysis Batch: 358309

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 358086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	38		10.0	46.2		mg/L		83	75 - 125

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: 440-159247-G-1-C MSD

Matrix: Water

Analysis Batch: 358309

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 358086

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	38		10.0	45.6		mg/L		76	75 - 125	1	20

Lab Sample ID: MB 440-358091/1-A

Matrix: Water

Analysis Batch: 358615

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 358091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/26/16 11:03	09/27/16 22:21	1

Lab Sample ID: LCS 440-358091/2-A

Matrix: Water

Analysis Batch: 358615

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 358091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	10.9		mg/L		109	80 - 120

Lab Sample ID: 440-159066-7 MS

Matrix: Water

Analysis Batch: 358615

Client Sample ID: MW-9

Prep Type: Total Recoverable

Prep Batch: 358091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	23		10.0	33.5		mg/L		104	75 - 125

Lab Sample ID: 440-159066-7 MSD

Matrix: Water

Analysis Batch: 358615

Client Sample ID: MW-9

Prep Type: Total Recoverable

Prep Batch: 358091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	23		10.0	31.0		mg/L		79	75 - 125	8	20

Lab Sample ID: MB 440-358354/1-A

Matrix: Water

Analysis Batch: 358612

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 358354

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/27/16 10:35	09/27/16 21:22	1

Lab Sample ID: LCS 440-358354/2-A

Matrix: Water

Analysis Batch: 358612

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 358354

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.43		mg/L		94	80 - 120

Lab Sample ID: 440-159066-4 MS

Matrix: Water

Analysis Batch: 358612

Client Sample ID: LY-7

Prep Type: Total Recoverable

Prep Batch: 358354

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	130		10.0	151	4	mg/L		191	75 - 125

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

Lab Sample ID: 440-159066-4 MSD

Matrix: Water

Analysis Batch: 358612

Client Sample ID: LY-7

Prep Type: Total Recoverable

Prep Batch: 358354

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	130		10.0	149	4	mg/L		173	75 - 125	1	20

Method: 410.4 - COD

Lab Sample ID: MB 440-358166/3

Matrix: Water

Analysis Batch: 358166

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/26/16 15:25	1

Lab Sample ID: LCS 440-358166/4

Matrix: Water

Analysis Batch: 358166

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	198		mg/L		99	90 - 110

Lab Sample ID: 440-159066-2 MS

Matrix: Water

Analysis Batch: 358166

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
Chemical Oxygen Demand	10	J	200	195		mg/L		92	70 - 120

Lab Sample ID: 440-159066-2 MSD

Matrix: Water

Analysis Batch: 358166

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
Chemical Oxygen Demand	10	J	200	211		mg/L		100	70 - 120	8	15

Lab Sample ID: MB 440-358331/3

Matrix: Water

Analysis Batch: 358331

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/27/16 08:58	1

Lab Sample ID: LCS 440-358331/4

Matrix: Water

Analysis Batch: 358331

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	190		mg/L		95	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-159066-9 MS

Matrix: Water

Analysis Batch: 358331

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
Chemical Oxygen Demand	10	J	200	224		mg/L		107	70 - 120

Lab Sample ID: 440-159066-9 MSD

Matrix: Water

Analysis Batch: 358331

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	RPD Limit
Chemical Oxygen Demand	10	J	200	224		mg/L		107	70 - 120	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-357558/30

Matrix: Water

Analysis Batch: 357558

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/22/16 08:14	1

Lab Sample ID: LCS 440-357558/29

Matrix: Water

Analysis Batch: 357558

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	85.8	89.9		mg/L		105	80 - 120

Lab Sample ID: 440-158947-G-3 DU

Matrix: Water

Analysis Batch: 357558

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		138		mg/L		0.3	20

Lab Sample ID: MB 440-357824/3

Matrix: Water

Analysis Batch: 357824

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/23/16 04:59	1

Lab Sample ID: LCS 440-357824/2

Matrix: Water

Analysis Batch: 357824

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	85.8	86.6		mg/L		101	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 440-159415-D-3 DU

Matrix: Water

Analysis Batch: 357824

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alkalinity as CaCO3	430		427		mg/L		0.2	20

Lab Sample ID: MB 440-357917/3

Matrix: Water

Analysis Batch: 357917

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/24/16 06:28	1

Lab Sample ID: LCS 440-357917/2

Matrix: Water

Analysis Batch: 357917

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	85.8	86.7		mg/L		101	80 - 120

Lab Sample ID: 440-159247-L-1 DU

Matrix: Water

Analysis Batch: 357917

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alkalinity as CaCO3	290		291		mg/L		0.4	20

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

Lab Sample ID: MB 440-357869/1

Matrix: Water

Analysis Batch: 357869

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/24/16 12:10	1

Lab Sample ID: LCS 440-357869/2

Matrix: Water

Analysis Batch: 357869

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: 440-159096-D-3 DU

Matrix: Water

Analysis Batch: 357869

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	710		706		mg/L		0.1	5

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

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

Lab Sample ID: MB 440-357870/1
Matrix: Water
Analysis Batch: 357870

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L	-		09/24/16 12:14	1

Lab Sample ID: LCS 440-357870/2
Matrix: Water
Analysis Batch: 357870

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: 720-74570-D-1 DU
Matrix: Water
Analysis Batch: 357870

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	790		799		mg/L	-	1	5

Lab Sample ID: MB 440-358011/1
Matrix: Water
Analysis Batch: 358011

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L	-		09/26/16 08:24	1

Lab Sample ID: LCS 440-358011/2
Matrix: Water
Analysis Batch: 358011

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: 440-159247-K-1 DU
Matrix: Water
Analysis Batch: 358011

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	1700		1690		mg/L	-	1	5

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-356962/2-A
Matrix: Water
Analysis Batch: 357017

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 356962

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L	-	09/21/16 05:00	09/21/16 08:31	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: LCS 440-356962/1-A
Matrix: Water
Analysis Batch: 357017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 356962

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.24		mg/L		89	85 - 115

Lab Sample ID: 440-159104-A-1-C MS
Matrix: Water
Analysis Batch: 357017

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 356962

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.93		2.50	3.34		mg/L		96	75 - 125

Lab Sample ID: 440-159104-A-1-D MSD
Matrix: Water
Analysis Batch: 357017

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 356962

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Ammonia (as N)	0.93		2.50	3.22		mg/L		92	75 - 125	4	15

Lab Sample ID: 440-159104-A-1-B DU
Matrix: Water
Analysis Batch: 357017

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 356962

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Ammonia (as N)	0.93		0.930		mg/L		0	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-357124/7
Matrix: Water
Analysis Batch: 357124

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/21/16 06:48	1

Lab Sample ID: LCS 440-357124/6
Matrix: Water
Analysis Batch: 357124

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	10.1		mg/L		101	90 - 110

Lab Sample ID: MRL 440-357124/5
Matrix: Water
Analysis Batch: 357124

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	0.0869	J	mg/L		87	50 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159066-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-159012-I-4 MS

Matrix: Water

Analysis Batch: 357124

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	0.13		10.0	9.92		mg/L		98	80 - 120

Lab Sample ID: 440-159012-I-4 MSD

Matrix: Water

Analysis Batch: 357124

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	0.13		10.0	9.78		mg/L		97	80 - 120	1	20

Lab Sample ID: MB 440-357260/9

Matrix: Water

Analysis Batch: 357260

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/21/16 14:01	1

Lab Sample ID: LCS 440-357260/8

Matrix: Water

Analysis Batch: 357260

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	10.0		mg/L		100	90 - 110

Lab Sample ID: MRL 440-357260/5

Matrix: Water

Analysis Batch: 357260

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	0.0869	J	mg/L		87	50 - 150

Lab Sample ID: 440-158897-AH-1 MS

Matrix: Water

Analysis Batch: 357260

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	3.5		10.0	13.5		mg/L		100	80 - 120

Lab Sample ID: 440-158897-AH-1 MSD

Matrix: Water

Analysis Batch: 357260

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	3.5		10.0	13.6		mg/L		101	80 - 120	1	20

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159066-1

GC/MS VOA

Analysis Batch: 357595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	8260B	
440-159066-2	DW-3	Total/NA	Water	8260B	
440-159066-3	PZ-4	Total/NA	Water	8260B	
440-159066-4	LY-7	Total/NA	Water	8260B	
440-159066-5	PZ-2	Total/NA	Water	8260B	
440-159066-6	MW-6	Total/NA	Water	8260B	
MB 440-357595/4	Method Blank	Total/NA	Water	8260B	
LCS 440-357595/5	Lab Control Sample	Total/NA	Water	8260B	
440-158812-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-158812-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 358798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-10	QCAB	Total/NA	Water	8260B	
440-159066-11	QCTB	Total/NA	Water	8260B	
MB 440-358798/4	Method Blank	Total/NA	Water	8260B	
LCS 440-358798/5	Lab Control Sample	Total/NA	Water	8260B	
440-159395-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-159395-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 358874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-7	MW-9	Total/NA	Water	8260B	
440-159066-8	MW-13R	Total/NA	Water	8260B	
MB 440-358874/4	Method Blank	Total/NA	Water	8260B	
LCS 440-358874/5	Lab Control Sample	Total/NA	Water	8260B	
440-159494-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-159494-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 359136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-9	MW-14	Total/NA	Water	8260B	
MB 440-359136/4	Method Blank	Total/NA	Water	8260B	
LCS 440-359136/5	Lab Control Sample	Total/NA	Water	8260B	
440-159873-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-159873-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 358079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	3520C	
440-159066-2	DW-3	Total/NA	Water	3520C	
440-159066-3	PZ-4	Total/NA	Water	3520C	
440-159066-4	LY-7	Total/NA	Water	3520C	
440-159066-5	PZ-2	Total/NA	Water	3520C	
440-159066-6	MW-6	Total/NA	Water	3520C	
440-159066-7	MW-9	Total/NA	Water	3520C	
440-159066-8	MW-13R	Total/NA	Water	3520C	
440-159066-9	MW-14	Total/NA	Water	3520C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159066-1

GC/MS Semi VOA (Continued)

Prep Batch: 358079 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-358079/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-358079/2-A	Lab Control Sample	Total/NA	Water	3520C	
550-69885-C-4-A MS	Matrix Spike	Total/NA	Water	3520C	
550-69885-C-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 358730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	8270C	358079
440-159066-2	DW-3	Total/NA	Water	8270C	358079
440-159066-3	PZ-4	Total/NA	Water	8270C	358079
440-159066-5	PZ-2	Total/NA	Water	8270C	358079
440-159066-6	MW-6	Total/NA	Water	8270C	358079
440-159066-7	MW-9	Total/NA	Water	8270C	358079
440-159066-8	MW-13R	Total/NA	Water	8270C	358079
440-159066-9	MW-14	Total/NA	Water	8270C	358079

Analysis Batch: 359039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-4	LY-7	Total/NA	Water	8270C	358079
MB 440-358079/1-A	Method Blank	Total/NA	Water	8270C	358079
LCS 440-358079/2-A	Lab Control Sample	Total/NA	Water	8270C	358079
550-69885-C-4-A MS	Matrix Spike	Total/NA	Water	8270C	358079
550-69885-C-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	358079

HPLC/IC

Analysis Batch: 356765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-4	LY-7	Total/NA	Water	300.0	
440-159066-7	MW-9	Total/NA	Water	300.0	
440-159066-8	MW-13R	Total/NA	Water	300.0	
MB 440-356765/47	Method Blank	Total/NA	Water	300.0	
LCS 440-356765/48	Lab Control Sample	Total/NA	Water	300.0	
440-159012-F-3 MS	Matrix Spike	Total/NA	Water	300.0	
440-159012-F-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 357058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	300.0	
440-159066-2	DW-3	Total/NA	Water	300.0	
440-159066-3	PZ-4	Total/NA	Water	300.0	
440-159066-5	PZ-2	Total/NA	Water	300.0	
440-159066-6	MW-6	Total/NA	Water	300.0	
440-159066-9	MW-14	Total/NA	Water	300.0	
MB 440-357058/6	Method Blank	Total/NA	Water	300.0	
LCS 440-357058/2	Lab Control Sample	Total/NA	Water	300.0	
440-159066-9 MS	MW-14	Total/NA	Water	300.0	
440-159066-9 MSD	MW-14	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159066-1

Metals

Prep Batch: 358086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total Recoverable	Water	3005A	
440-159066-2	DW-3	Total Recoverable	Water	3005A	
440-159066-3	PZ-4	Total Recoverable	Water	3005A	
440-159066-5	PZ-2	Total Recoverable	Water	3005A	
440-159066-6	MW-6	Total Recoverable	Water	3005A	
MB 440-358086/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358086/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-159247-G-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-159247-G-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 358091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-7	MW-9	Total Recoverable	Water	3005A	
440-159066-8	MW-13R	Total Recoverable	Water	3005A	
440-159066-9	MW-14	Total Recoverable	Water	3005A	
MB 440-358091/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358091/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-159066-7 MS	MW-9	Total Recoverable	Water	3005A	
440-159066-7 MSD	MW-9	Total Recoverable	Water	3005A	

Analysis Batch: 358309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total Recoverable	Water	6010B	358086
440-159066-2	DW-3	Total Recoverable	Water	6010B	358086
440-159066-3	PZ-4	Total Recoverable	Water	6010B	358086
440-159066-5	PZ-2	Total Recoverable	Water	6010B	358086
440-159066-6	MW-6	Total Recoverable	Water	6010B	358086
MB 440-358086/1-A	Method Blank	Total Recoverable	Water	6010B	358086
LCS 440-358086/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358086
440-159247-G-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	358086
440-159247-G-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	358086

Prep Batch: 358354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-4	LY-7	Total Recoverable	Water	3005A	
MB 440-358354/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358354/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-159066-4 MS	LY-7	Total Recoverable	Water	3005A	
440-159066-4 MSD	LY-7	Total Recoverable	Water	3005A	

Analysis Batch: 358612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-4	LY-7	Total Recoverable	Water	6010B	358354
MB 440-358354/1-A	Method Blank	Total Recoverable	Water	6010B	358354
LCS 440-358354/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358354
440-159066-4 MS	LY-7	Total Recoverable	Water	6010B	358354
440-159066-4 MSD	LY-7	Total Recoverable	Water	6010B	358354

Analysis Batch: 358615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-7	MW-9	Total Recoverable	Water	6010B	358091

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159066-1

Metals (Continued)

Analysis Batch: 358615 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-8	MW-13R	Total Recoverable	Water	6010B	358091
440-159066-9	MW-14	Total Recoverable	Water	6010B	358091
MB 440-358091/1-A	Method Blank	Total Recoverable	Water	6010B	358091
LCS 440-358091/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358091
440-159066-7 MS	MW-9	Total Recoverable	Water	6010B	358091
440-159066-7 MSD	MW-9	Total Recoverable	Water	6010B	358091

General Chemistry

Prep Batch: 356962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	SM 4500 NH3 B	
440-159066-2	DW-3	Total/NA	Water	SM 4500 NH3 B	
440-159066-3	PZ-4	Total/NA	Water	SM 4500 NH3 B	
440-159066-4	LY-7	Total/NA	Water	SM 4500 NH3 B	
440-159066-5	PZ-2	Total/NA	Water	SM 4500 NH3 B	
440-159066-6	MW-6	Total/NA	Water	SM 4500 NH3 B	
440-159066-7	MW-9	Total/NA	Water	SM 4500 NH3 B	
440-159066-8	MW-13R	Total/NA	Water	SM 4500 NH3 B	
440-159066-9	MW-14	Total/NA	Water	SM 4500 NH3 B	
MB 440-356962/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-356962/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-159104-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-159104-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-159104-A-1-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 357017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-2	DW-3	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-3	PZ-4	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-4	LY-7	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-5	PZ-2	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-6	MW-6	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-7	MW-9	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-8	MW-13R	Total/NA	Water	SM 4500 NH3 D	356962
440-159066-9	MW-14	Total/NA	Water	SM 4500 NH3 D	356962
MB 440-356962/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	356962
LCS 440-356962/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	356962
440-159104-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	356962
440-159104-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	356962
440-159104-A-1-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	356962

Analysis Batch: 357124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	SM 5310C	
440-159066-5	PZ-2	Total/NA	Water	SM 5310C	
440-159066-6	MW-6	Total/NA	Water	SM 5310C	
440-159066-9	MW-14	Total/NA	Water	SM 5310C	
MB 440-357124/7	Method Blank	Total/NA	Water	SM 5310C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159066-1

General Chemistry (Continued)

Analysis Batch: 357124 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-357124/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-357124/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-159012-I-4 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-159012-I-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 357260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-2	DW-3	Total/NA	Water	SM 5310C	
440-159066-3	PZ-4	Total/NA	Water	SM 5310C	
440-159066-4	LY-7	Total/NA	Water	SM 5310C	
440-159066-7	MW-9	Total/NA	Water	SM 5310C	
440-159066-8	MW-13R	Total/NA	Water	SM 5310C	
MB 440-357260/9	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-357260/8	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-357260/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-158897-AH-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-158897-AH-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 357558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-4	LY-7	Total/NA	Water	SM 2320B	
440-159066-5	PZ-2	Total/NA	Water	SM 2320B	
440-159066-6	MW-6	Total/NA	Water	SM 2320B	
440-159066-7	MW-9	Total/NA	Water	SM 2320B	
440-159066-8	MW-13R	Total/NA	Water	SM 2320B	
440-159066-9	MW-14	Total/NA	Water	SM 2320B	
MB 440-357558/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357558/29	Lab Control Sample	Total/NA	Water	SM 2320B	
440-158947-G-3 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 357824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	SM 2320B	
440-159066-2	DW-3	Total/NA	Water	SM 2320B	
MB 440-357824/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357824/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-159415-D-3 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 357869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	SM 2540C	
440-159066-2	DW-3	Total/NA	Water	SM 2540C	
440-159066-3	PZ-4	Total/NA	Water	SM 2540C	
MB 440-357869/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-357869/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-159096-D-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 357870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-6	MW-6	Total/NA	Water	SM 2540C	
440-159066-7	MW-9	Total/NA	Water	SM 2540C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159066-1

General Chemistry (Continued)

Analysis Batch: 357870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-8	MW-13R	Total/NA	Water	SM 2540C	
440-159066-9	MW-14	Total/NA	Water	SM 2540C	
MB 440-357870/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-357870/2	Lab Control Sample	Total/NA	Water	SM 2540C	
720-74570-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 357917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-3	PZ-4	Total/NA	Water	SM 2320B	
MB 440-357917/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357917/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-159247-L-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 358011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-4	LY-7	Total/NA	Water	SM 2540C	
440-159066-5	PZ-2	Total/NA	Water	SM 2540C	
MB 440-358011/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-358011/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-159247-K-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 358166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-2	DW-3	Total/NA	Water	410.4	
440-159066-3	PZ-4	Total/NA	Water	410.4	
440-159066-4	LY-7	Total/NA	Water	410.4	
MB 440-358166/3	Method Blank	Total/NA	Water	410.4	
LCS 440-358166/4	Lab Control Sample	Total/NA	Water	410.4	
440-159066-2 MS	DW-3	Total/NA	Water	410.4	
440-159066-2 MSD	DW-3	Total/NA	Water	410.4	

Analysis Batch: 358331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159066-1	DW-1	Total/NA	Water	410.4	
440-159066-5	PZ-2	Total/NA	Water	410.4	
440-159066-6	MW-6	Total/NA	Water	410.4	
440-159066-7	MW-9	Total/NA	Water	410.4	
440-159066-8	MW-13R	Total/NA	Water	410.4	
440-159066-9	MW-14	Total/NA	Water	410.4	
MB 440-358331/3	Method Blank	Total/NA	Water	410.4	
LCS 440-358331/4	Lab Control Sample	Total/NA	Water	410.4	
440-159066-9 MS	MW-14	Total/NA	Water	410.4	
440-159066-9 MSD	MW-14	Total/NA	Water	410.4	

TestAmerica Irvine

Definitions/Glossary

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

TestAmerica Job ID: 440-159066-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance 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.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance 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
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

TestAmerica Irvine

Certification Summary

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

TestAmerica Job ID: 440-159066-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16 *
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297

TAL-0013 (0513)

Page 1 of 1

Client Name / Address Geo-Logic Republic Services 11415 W. Bernardo Ct. San Diego, CA 92127			Project / PO Number: Sunshine Cpu. 1/F 2016.0030										
Project Manager: Kyle Welchans			Phone Number: 858-451-1136										
Sample: M5, AS			Fax Number: 858-451-1087										
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required						
DW-1	GW	RVA	13	9/20/16	0945	Yes	X	X	X	X	X		
DW-3	↓		13		1423		X	X	X	X	X		
PZ-4	liquid		13		1045		X	X	X	X	X		
LY-7	GLD		13		0828		X	X	X	X	X		
PZ-2			13		1155		X	X	X	X	X		
MW-b			13		1000		X	X	X	X	X		
MW-a			13		1341		X	X	X	X	X		
MW-13R			13		1510		X	X	X	X	X		
MW-14			13		0358		X	X	X	X	X		
OCAR			4			HCL	X						
OCAR			4				X						
OCAR			4				X						



440-159066 Chain of Custody

Relinquished By: <i>[Signature]</i>	Date / Time: 9-20-16 / 1600	Received By: <i>[Signature]</i>	Date / Time: 9/20/16 1600	Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____
Relinquished By: <i>[Signature]</i>	Date / Time: 9/20/16 1825	Received In Lab By: <i>[Signature]</i>	Date / Time: 9/20/16 1825	Sample Integrity: (Check) Intact _____ on Ice _____

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

#275 3/24/14 19/02 20/13

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-159066-1

Login Number: 159066

List Source: 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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-159268-1

Client Project/Site: Republic Sunshine Canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

9/30/2016 10:09:43 AM

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: 440-159268-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-159268-1	DW-2	Water	09/21/16 09:28	09/21/16 19:00
440-159268-2	MW-5	Water	09/21/16 11:26	09/21/16 19:00
440-159268-3	Extraction Trench	Water	09/21/16 12:40	09/21/16 19:00
440-159268-4	MW-2A	Water	09/21/16 09:30	09/21/16 19:00
440-159268-5	MW-2B	Water	09/21/16 11:25	09/21/16 19:00
440-159268-6	DW-4	Water	09/21/16 13:35	09/21/16 19:00
440-159268-7	QCAB	Water	09/21/16 00:01	09/21/16 19:00
440-159268-8	QCTB	Water	09/21/16 00:01	09/21/16 19:00

Case Narrative

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

TestAmerica Job ID: 440-159268-1

Job ID: 440-159268-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-159268-1

Comments

No additional comments.

Receipt

The samples were received on 9/21/2016 7:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 4.1° 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: Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-357366 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

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

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: DW-2
Date Collected: 09/21/16 09:28
Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/30/16 01:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 01:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 01:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 01:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 01:35	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 01:35	1
Acetone	ND		20	10	ug/L			09/30/16 01:35	1
Acetonitrile	ND		20	10	ug/L			09/30/16 01:35	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 01:35	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 01:35	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 01:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 01:35	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 01:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 01:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 01:35	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 01:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 01:35	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 01:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 01:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 01:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 01:35	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 01:35	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: DW-2

Date Collected: 09/21/16 09:28

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/30/16 01:35	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 01:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 01:35	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 01:35	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 01:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 01:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 01:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 01:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 01:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 01:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 01:35	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 01:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.8	T J	ug/L		5.57			09/30/16 01:35	1
Unknown	13	T J	ug/L		16.46			09/30/16 01:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128					09/30/16 01:35	1
4-Bromofluorobenzene (Surr)	97		80 - 120					09/30/16 01:35	1
Dibromofluoromethane (Surr)	102		76 - 132					09/30/16 01:35	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		09/28/16 10:40	09/29/16 23:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	79		30 - 120				09/28/16 10:40	09/29/16 23:34	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			09/23/16 00:45	5

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		09/27/16 13:24	09/28/16 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			09/22/16 02:01	1
Chemical Oxygen Demand	28		20	10	mg/L			09/28/16 15:33	1
Total Dissolved Solids	2000		20	10	mg/L			09/28/16 09:57	1
Total Organic Carbon	1.4		0.10	0.050	mg/L			09/23/16 09:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	370		4.0	4.0	mg/L			09/24/16 08:42	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: MW-5

Lab Sample ID: 440-159268-2

Date Collected: 09/21/16 11:26

Matrix: Water

Date Received: 09/21/16 19:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/30/16 02:05	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 02:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 02:05	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 02:05	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 02:05	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 02:05	1
Acetone	ND		20	10	ug/L			09/30/16 02:05	1
Acetonitrile	ND		20	10	ug/L			09/30/16 02:05	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 02:05	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 02:05	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 02:05	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 02:05	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 02:05	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 02:05	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 02:05	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 02:05	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 02:05	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 02:05	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 02:05	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 02:05	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 02:05	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 02:05	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: MW-5

Date Collected: 09/21/16 11:26

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/30/16 02:05	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 02:05	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 02:05	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 02:05	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 02:05	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 02:05	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 02:05	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 02:05	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 02:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 02:05	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 02:05	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 02:05	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	7.1	T J	ug/L		3.51			09/30/16 02:05	1
Unknown	3.8	T J	ug/L		5.57			09/30/16 02:05	1
Unknown	12	T J	ug/L		13.83			09/30/16 02:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		09/30/16 02:05	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/30/16 02:05	1
Dibromofluoromethane (Surr)	102		76 - 132		09/30/16 02:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	13		0.95	0.24	ug/L		09/28/16 10:40	09/29/16 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	09/28/16 10:40	09/29/16 23:56	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		50	25	mg/L			09/22/16 19:05	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	28		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 17:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	4.9		0.20	0.10	mg/L			09/22/16 02:06	1
Chemical Oxygen Demand	98		20	10	mg/L			09/28/16 15:33	1
Total Dissolved Solids	3200		20	10	mg/L			09/28/16 09:57	1
Total Organic Carbon	32		1.0	0.50	mg/L			09/23/16 09:40	10

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: MW-5

Date Collected: 09/21/16 11:26

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-2

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	630		4.0	4.0	mg/L			09/24/16 08:52	1

Client Sample ID: Extraction Trench

Date Collected: 09/21/16 12:40

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/30/16 02:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 02:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 02:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 02:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 02:35	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 02:35	1
Acetone	ND		20	10	ug/L			09/30/16 02:35	1
Acetonitrile	ND		20	10	ug/L			09/30/16 02:35	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 02:35	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 02:35	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 02:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 02:35	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
cis-1,2-Dichloroethene	0.54		0.50	0.25	ug/L			09/30/16 02:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 02:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 02:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 02:35	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 02:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 02:35	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-159268-3

Date Collected: 09/21/16 12:40

Matrix: Water

Date Received: 09/21/16 19:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 02:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 02:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 02:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 02:35	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Propionitrile	ND		20	10	ug/L			09/30/16 02:35	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
t-Butanol	57		10	5.0	ug/L			09/30/16 02:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Tetrahydrofuran	9.0 J		10	5.0	ug/L			09/30/16 02:35	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 02:35	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 02:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 02:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 02:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 02:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 02:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 02:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 02:35	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 02:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.7	T J	ug/L		3.40			09/30/16 02:35	1
Unknown	10	T J	ug/L		5.57			09/30/16 02:35	1
Unknown	11	T J	ug/L		16.34			09/30/16 02:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		09/30/16 02:35	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/30/16 02:35	1
Dibromofluoromethane (Surr)	101		76 - 132		09/30/16 02:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	27		0.98	0.25	ug/L		09/28/16 10:40	09/30/16 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120	09/28/16 10:40	09/30/16 00:17	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320		50	25	mg/L			09/22/16 19:23	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	46		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 17:02	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: Extraction Trench

Date Collected: 09/21/16 12:40

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-3

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	9.9		0.20	0.10	mg/L			09/22/16 02:11	1
Chemical Oxygen Demand	220		20	10	mg/L			09/28/16 15:33	1
Total Dissolved Solids	3700		50	25	mg/L			09/28/16 09:57	1
Total Organic Carbon	96		1.0	0.50	mg/L			09/23/16 09:56	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	860		4.0	4.0	mg/L			09/24/16 09:09	1

Client Sample ID: MW-2A

Date Collected: 09/21/16 09:30

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/30/16 03:04	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 03:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 03:04	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 03:04	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 03:04	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 03:04	1
Acetone	ND		20	10	ug/L			09/30/16 03:04	1
Acetonitrile	ND		20	10	ug/L			09/30/16 03:04	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 03:04	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 03:04	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 03:04	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 03:04	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: MW-2A

Date Collected: 09/21/16 09:30

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 03:04	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 03:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 03:04	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 03:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 03:04	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 03:04	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 03:04	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 03:04	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 03:04	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Propionitrile	ND		20	10	ug/L			09/30/16 03:04	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 03:04	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 03:04	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 03:04	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 03:04	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 03:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 03:04	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 03:04	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 03:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 03:04	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 03:04	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 03:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.6	T J	ug/L		5.57			09/30/16 03:04	1
Unknown	13	T J	ug/L		16.45			09/30/16 03:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/30/16 03:04	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/30/16 03:04	1
Dibromofluoromethane (Surr)	102		76 - 132		09/30/16 03:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.96	0.24	ug/L		09/28/16 10:40	09/30/16 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	81		30 - 120	09/28/16 10:40	09/30/16 00:39	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		2.5	1.3	mg/L			09/23/16 01:03	5

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	5.0		0.50	0.25	mg/L		09/27/16 13:27	09/28/16 12:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	2.9		0.20	0.10	mg/L			09/22/16 02:17	1
Chemical Oxygen Demand	37		20	10	mg/L			09/28/16 15:33	1
Total Dissolved Solids	2600		20	10	mg/L			09/28/16 09:57	1
Total Organic Carbon	3.5		0.10	0.050	mg/L			09/23/16 10:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		4.0	4.0	mg/L			09/24/16 09:18	1

Client Sample ID: MW-2B

Date Collected: 09/21/16 11:25

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/30/16 03:34	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 03:34	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 03:34	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 03:34	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 03:34	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 03:34	1
Acetone	ND		20	10	ug/L			09/30/16 03:34	1
Acetonitrile	ND		20	10	ug/L			09/30/16 03:34	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 03:34	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 03:34	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 03:34	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 03:34	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: MW-2B

Date Collected: 09/21/16 11:25

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 03:34	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 03:34	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 03:34	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 03:34	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 03:34	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 03:34	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 03:34	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 03:34	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 03:34	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Propionitrile	ND		20	10	ug/L			09/30/16 03:34	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 03:34	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 03:34	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 03:34	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 03:34	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 03:34	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 03:34	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 03:34	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 03:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 03:34	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 03:34	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 03:34	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	13	T J	ug/L		13.83			09/30/16 03:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/30/16 03:34	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/30/16 03:34	1
Dibromofluoromethane (Surr)	106		76 - 132		09/30/16 03:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.96	0.24	ug/L		09/28/16 10:40	09/30/16 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	67		30 - 120	09/28/16 10:40	09/30/16 01:00	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		2.5	1.3	mg/L			09/23/16 01:21	5

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: MW-2B

Date Collected: 09/21/16 11:25

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.0		0.50	0.25	mg/L		09/27/16 13:27	09/28/16 12:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.2		0.20	0.10	mg/L			09/22/16 02:22	1
Chemical Oxygen Demand	34		20	10	mg/L			09/28/16 15:33	1
Total Dissolved Solids	2600		20	10	mg/L			09/28/16 09:57	1
Total Organic Carbon	1.8		0.10	0.050	mg/L			09/23/16 11:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			09/24/16 09:27	1

Client Sample ID: DW-4

Date Collected: 09/21/16 13:35

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/30/16 04:03	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 04:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 04:03	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 04:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 04:03	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 04:03	1
Acetone	ND		20	10	ug/L			09/30/16 04:03	1
Acetonitrile	ND		20	10	ug/L			09/30/16 04:03	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 04:03	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 04:03	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 04:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 04:03	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:03	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: DW-4

Date Collected: 09/21/16 13:35

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-6

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			09/30/16 04:03	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 04:03	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 04:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 04:03	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 04:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 04:03	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 04:03	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 04:03	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 04:03	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 04:03	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Propionitrile	ND		20	10	ug/L			09/30/16 04:03	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 04:03	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 04:03	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 04:03	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 04:03	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 04:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 04:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 04:03	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 04:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 04:03	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 04:03	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 04:03	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	11	T J	ug/L		2.77			09/30/16 04:03	1
Unknown	5.8	T J	ug/L		5.57			09/30/16 04:03	1
Unknown	15	T J	ug/L		13.83			09/30/16 04:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		09/30/16 04:03	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/30/16 04:03	1
Dibromofluoromethane (Surr)	105		76 - 132		09/30/16 04:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.95	0.24	ug/L		09/28/16 10:40	09/30/16 01:22	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: DW-4

Date Collected: 09/21/16 13:35

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	66		30 - 120	09/28/16 10:40	09/30/16 01:22	1

Method: 300.0 - Anions, Ion Chromatography									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		2.5	1.3	mg/L	-		09/23/16 01:39	5

Method: 6010B - Metals (ICP) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.2		0.50	0.25	mg/L	-	09/27/16 13:27	09/28/16 12:28	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	3.9		0.20	0.10	mg/L	-		09/22/16 02:27	1
Chemical Oxygen Demand	26		20	10	mg/L	-		09/28/16 15:33	1
Total Dissolved Solids	2800		20	10	mg/L	-		09/28/16 09:57	1
Total Organic Carbon	1.7		0.10	0.050	mg/L	-		09/23/16 11:22	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L	-		09/24/16 09:35	1

Client Sample ID: QCAB

Date Collected: 09/21/16 00:01

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L	-		09/30/16 04:33	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L	-		09/30/16 04:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L	-		09/30/16 04:33	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L	-		09/30/16 04:33	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L	-		09/30/16 04:33	1
2-Hexanone	ND		5.0	2.5	ug/L	-		09/30/16 04:33	1
Acetone	ND		20	10	ug/L	-		09/30/16 04:33	1
Acetonitrile	ND		20	10	ug/L	-		09/30/16 04:33	1
Benzene	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
Allyl chloride	ND		1.0	0.50	ug/L	-		09/30/16 04:33	1
Bromoform	ND		1.0	0.40	ug/L	-		09/30/16 04:33	1
Bromomethane	ND		0.50	0.25	ug/L	-		09/30/16 04:33	1
Carbon disulfide	ND		1.0	0.50	ug/L	-		09/30/16 04:33	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: QCAB

Date Collected: 09/21/16 00:01

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 04:33	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 04:33	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 04:33	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 04:33	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 04:33	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 04:33	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 04:33	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 04:33	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 04:33	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 04:33	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 04:33	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Propionitrile	ND		20	10	ug/L			09/30/16 04:33	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 04:33	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 04:33	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 04:33	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 04:33	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 04:33	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 04:33	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 04:33	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 04:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 04:33	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 04:33	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 04:33	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	14	T J	ug/L		13.83			09/30/16 04:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		09/30/16 04:33	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/30/16 04:33	1
Dibromofluoromethane (Surr)	105		76 - 132		09/30/16 04:33	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: QCTB

Date Collected: 09/21/16 00:01

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-8

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			09/30/16 05:02	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/30/16 05:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/30/16 05:02	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/30/16 05:02	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/30/16 05:02	1
2-Hexanone	ND		5.0	2.5	ug/L			09/30/16 05:02	1
Acetone	ND		20	10	ug/L			09/30/16 05:02	1
Acetonitrile	ND		20	10	ug/L			09/30/16 05:02	1
Benzene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Allyl chloride	ND		1.0	0.50	ug/L			09/30/16 05:02	1
Bromoform	ND		1.0	0.40	ug/L			09/30/16 05:02	1
Bromomethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/30/16 05:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Chloroethane	ND		1.0	0.40	ug/L			09/30/16 05:02	1
Chloroform	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Chloromethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Dibromomethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/30/16 05:02	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 05:02	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Iodomethane	ND		2.0	1.0	ug/L			09/30/16 05:02	1
Isobutyl alcohol	ND		25	13	ug/L			09/30/16 05:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/30/16 05:02	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/30/16 05:02	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/30/16 05:02	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/30/16 05:02	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Naphthalene	ND		1.0	0.40	ug/L			09/30/16 05:02	1
o-Xylene	ND		0.50	0.25	ug/L			09/30/16 05:02	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: QCTB

Date Collected: 09/21/16 00:01

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			09/30/16 05:02	1
Styrene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
t-Butanol	ND		10	5.0	ug/L			09/30/16 05:02	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/30/16 05:02	1
Toluene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/30/16 05:02	1
Trichloroethene	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/30/16 05:02	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/30/16 05:02	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/30/16 05:02	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/30/16 05:02	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/30/16 05:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/30/16 05:02	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/30/16 05:02	1
Acrolein	ND		5.0	2.5	ug/L			09/30/16 05:02	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	14	T J	ug/L		13.83			09/30/16 05:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/30/16 05:02	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/30/16 05:02	1
Dibromofluoromethane (Surr)	103		76 - 132		09/30/16 05:02	1

TestAmerica Irvine

Method Summary

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

TestAmerica Job ID: 440-159268-1

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

Protocol References:

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

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

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

Laboratory References:

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

Lab Chronicle

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: DW-2

Date Collected: 09/21/16 09:28

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-1

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	359136	09/30/16 01:35	WC	TAL IRV
Total/NA	Prep	3520C			965 mL	1 mL	358645	09/28/16 10:40	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359039	09/29/16 23:34	AI	TAL IRV
Total/NA	Analysis	300.0		5			357366	09/23/16 00:45	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 16:59	EN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	357430	09/22/16 02:01	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 08:42	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358633	09/28/16 09:57	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357823	09/23/16 09:28	YZ	TAL IRV

Client Sample ID: MW-5

Date Collected: 09/21/16 11:26

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-2

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	359136	09/30/16 02:05	WC	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	358645	09/28/16 10:40	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359039	09/29/16 23:56	AI	TAL IRV
Total/NA	Analysis	300.0		100			357366	09/22/16 19:05	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 17:00	EN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	357430	09/22/16 02:06	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 08:52	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358633	09/28/16 09:57	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357823	09/23/16 09:40	YZ	TAL IRV

Client Sample ID: Extraction Trench

Date Collected: 09/21/16 12:40

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-3

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	359136	09/30/16 02:35	WC	TAL IRV
Total/NA	Prep	3520C			1020 mL	1 mL	358645	09/28/16 10:40	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359039	09/30/16 00:17	AI	TAL IRV
Total/NA	Analysis	300.0		100			357366	09/22/16 19:23	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358428	09/27/16 13:24	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358766	09/28/16 17:02	EN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	357430	09/22/16 02:11	EN	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-159268-3

Date Collected: 09/21/16 12:40

Matrix: Water

Date Received: 09/21/16 19:00

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	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 09:09	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	358633	09/28/16 09:57	XL	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357823	09/23/16 09:56	YZ	TAL IRV

Client Sample ID: MW-2A

Lab Sample ID: 440-159268-4

Date Collected: 09/21/16 09:30

Matrix: Water

Date Received: 09/21/16 19:00

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	359136	09/30/16 03:04	WC	TAL IRV
Total/NA	Prep	3520C			1045 mL	1 mL	358645	09/28/16 10:40	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359039	09/30/16 00:39	AI	TAL IRV
Total/NA	Analysis	300.0		5			357366	09/23/16 01:03	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358429	09/27/16 13:27	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358759	09/28/16 12:29	EN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	357430	09/22/16 02:17	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 09:18	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358633	09/28/16 09:57	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357823	09/23/16 10:10	YZ	TAL IRV

Client Sample ID: MW-2B

Lab Sample ID: 440-159268-5

Date Collected: 09/21/16 11:25

Matrix: Water

Date Received: 09/21/16 19:00

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	359136	09/30/16 03:34	WC	TAL IRV
Total/NA	Prep	3520C			1040 mL	1 mL	358645	09/28/16 10:40	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359039	09/30/16 01:00	AI	TAL IRV
Total/NA	Analysis	300.0		5			357366	09/23/16 01:21	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358429	09/27/16 13:27	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358759	09/28/16 12:20	EN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	357430	09/22/16 02:22	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 09:27	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358633	09/28/16 09:57	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357823	09/23/16 11:10	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-159268-1

Client Sample ID: DW-4

Date Collected: 09/21/16 13:35

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-6

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	359136	09/30/16 04:03	WC	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	358645	09/28/16 10:40	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359039	09/30/16 01:22	AI	TAL IRV
Total/NA	Analysis	300.0		5			357366	09/23/16 01:39	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358429	09/27/16 13:27	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			358759	09/28/16 12:28	EN	TAL IRV
Total/NA	Analysis	350.1		1	0.8 mL	8 mL	357430	09/22/16 02:27	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 09:35	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358633	09/28/16 09:57	XL	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	357823	09/23/16 11:22	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 09/21/16 00:01

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-7

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	359136	09/30/16 04:33	WC	TAL IRV

Client Sample ID: QCTB

Date Collected: 09/21/16 00:01

Date Received: 09/21/16 19:00

Lab Sample ID: 440-159268-8

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	359136	09/30/16 05:02	WC	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: 440-159268-1

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

Lab Sample ID: MB 440-359136/4

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 20:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 20:02	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 20:02	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Acetone	ND		20	10	ug/L			09/29/16 20:02	1
Acetonitrile	ND		20	10	ug/L			09/29/16 20:02	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 20:02	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 20:02	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 20:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 20:02	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 20:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 20:02	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 20:02	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 20:02	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: MB 440-359136/4

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Propionitrile	ND		20	10	ug/L			09/29/16 20:02	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 20:02	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 20:02	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 20:02	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 20:02	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 20:02	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 20:02	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 20:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 20:02	1
Acrylonitrile	ND		2.0	1.0	ug/L			09/29/16 20:02	1
Acrolein	ND		5.0	2.5	ug/L			09/29/16 20:02	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.193	J	ug/L		16.25	91-57-6		09/29/16 20:02	1
Tentatively Identified Compound	None		ug/L					09/29/16 20:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		09/29/16 20:02	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/29/16 20:02	1
Dibromofluoromethane (Surr)	100		76 - 132		09/29/16 20:02	1

Lab Sample ID: LCS 440-359136/5

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.4		ug/L		98	63 - 130
1,1,1,2-Tetrachloroethane	25.0	27.9		ug/L		111	60 - 141
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.6		ug/L		94	63 - 130
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130
1,1-Dichloroethane	25.0	25.7		ug/L		103	64 - 130
1,1-Dichloroethene	25.0	25.5		ug/L		102	70 - 130
1,1-Dichloropropene	25.0	25.5		ug/L		102	70 - 130
1,2,4-Trichlorobenzene	25.0	27.2		ug/L		109	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.7		ug/L		99	52 - 140
1,2-Dichlorobenzene	25.0	25.9		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	26.4		ug/L		106	57 - 138
1,2-Dichloropropane	25.0	28.1		ug/L		112	67 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: LCS 440-359136/5

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	25.7		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	25.3		ug/L		101	70 - 130
2,2-Dichloropropane	25.0	29.0		ug/L		116	68 - 141
2-Hexanone	25.0	26.5		ug/L		106	10 - 150
Acetone	25.0	24.9		ug/L		100	10 - 150
Benzene	25.0	25.3		ug/L		101	68 - 130
Bromoform	25.0	30.6		ug/L		122	60 - 148
Bromomethane	25.0	25.3		ug/L		101	64 - 139
Carbon disulfide	25.0	24.2		ug/L		97	52 - 136
Carbon tetrachloride	25.0	26.5		ug/L		106	60 - 150
Chlorobenzene	25.0	26.4		ug/L		106	70 - 130
Bromochloromethane	25.0	26.3		ug/L		105	70 - 130
Chloroethane	25.0	26.3		ug/L		105	64 - 135
Chloroform	25.0	25.9		ug/L		104	70 - 130
Chloromethane	25.0	23.2		ug/L		93	47 - 140
cis-1,2-Dichloroethene	25.0	27.5		ug/L		110	70 - 133
cis-1,3-Dichloropropene	25.0	28.2		ug/L		113	70 - 133
Dibromochloromethane	25.0	28.6		ug/L		114	69 - 145
Dibromomethane	25.0	26.7		ug/L		107	70 - 130
Bromodichloromethane	25.0	27.6		ug/L		110	70 - 132
Dichlorodifluoromethane	25.0	22.2		ug/L		89	29 - 150
Ethylbenzene	25.0	25.3		ug/L		101	70 - 130
m,p-Xylene	25.0	26.1		ug/L		105	70 - 130
Methylene Chloride	25.0	22.7		ug/L		91	52 - 130
Methyl tert-butyl ether	25.0	26.1		ug/L		104	63 - 131
Naphthalene	25.0	25.0		ug/L		100	60 - 140
o-Xylene	25.0	26.7		ug/L		107	70 - 130
Styrene	25.0	26.3		ug/L		105	70 - 134
t-Butanol	250	271		ug/L		109	70 - 130
Tetrachloroethene	25.0	27.6		ug/L		110	70 - 130
Toluene	25.0	25.2		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	28.0		ug/L		112	70 - 130
trans-1,3-Dichloropropene	25.0	27.3		ug/L		109	70 - 132
Trichloroethene	25.0	27.0		ug/L		108	70 - 130
Trichlorofluoromethane	25.0	23.7		ug/L		95	60 - 150
Vinyl acetate	25.0	25.8		ug/L		103	48 - 140
Vinyl chloride	25.0	24.6		ug/L		98	59 - 133
1,2-Dibromoethane (EDB)	25.0	27.3		ug/L		109	70 - 130
2-Butanone (MEK)	25.0	23.8		ug/L		95	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	25.6		ug/L		103	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: 440-159873-D-1 MS

Matrix: Water

Analysis Batch: 359136

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	26.7		ug/L		107	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	27.9		ug/L		111	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.8		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		108	70 - 130
1,1-Dichloroethane	ND		25.0	25.8		ug/L		103	65 - 130
1,1-Dichloroethene	0.90		25.0	25.3		ug/L		98	70 - 130
1,1-Dichloropropene	ND		25.0	25.7		ug/L		103	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	27.8		ug/L		111	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	27.4		ug/L		110	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
1,2-Dichloroethane	ND		25.0	27.3		ug/L		109	56 - 146
1,2-Dichloropropane	ND		25.0	28.5		ug/L		114	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.3		ug/L		101	70 - 130
1,3-Dichloropropane	ND		25.0	26.7		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	28.9		ug/L		116	69 - 138
2-Hexanone	ND		25.0	28.2		ug/L		113	10 - 150
Acetone	ND		25.0	21.6		ug/L		86	10 - 150
Benzene	ND		25.0	25.1		ug/L		100	66 - 130
Bromoform	ND		25.0	31.6		ug/L		126	59 - 150
Bromomethane	ND		25.0	22.8		ug/L		91	62 - 131
Carbon disulfide	ND		25.0	24.6		ug/L		98	49 - 140
Carbon tetrachloride	ND		25.0	26.7		ug/L		107	60 - 150
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130
Bromochloromethane	ND		25.0	25.8		ug/L		103	70 - 130
Chloroethane	ND		25.0	23.4		ug/L		94	68 - 130
Chloroform	0.40	J	25.0	26.1		ug/L		103	70 - 130
Chloromethane	ND		25.0	20.4		ug/L		82	39 - 144
cis-1,2-Dichloroethene	2.6		25.0	29.9		ug/L		109	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.5		ug/L		114	70 - 133
Dibromochloromethane	ND		25.0	29.0		ug/L		116	70 - 148
Dibromomethane	ND		25.0	27.7		ug/L		111	70 - 130
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 138
Dichlorodifluoromethane	ND		25.0	19.1		ug/L		77	25 - 142
Ethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130
m,p-Xylene	ND		25.0	26.9		ug/L		108	70 - 133
Methylene Chloride	ND		25.0	22.4		ug/L		90	52 - 130
Methyl tert-butyl ether	ND		25.0	26.8		ug/L		107	70 - 130
Naphthalene	ND		25.0	25.9		ug/L		104	60 - 140
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133
Styrene	ND		25.0	26.4		ug/L		106	29 - 150
t-Butanol	ND		250	274		ug/L		109	70 - 130
Tetrachloroethene	18		25.0	43.1		ug/L		102	70 - 137
Toluene	ND		25.0	25.5		ug/L		102	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	70 - 130
trans-1,3-Dichloropropene	ND		25.0	28.3		ug/L		113	70 - 138
Trichloroethene	6.5		25.0	32.4		ug/L		104	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: 440-159873-D-1 MS

Matrix: Water

Analysis Batch: 359136

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
Trichlorofluoromethane	ND		25.0	22.4		ug/L		90	60 - 150
Vinyl acetate	ND		25.0	30.0		ug/L		120	23 - 150
Vinyl chloride	ND		25.0	22.0		ug/L		88	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	28.2		ug/L		113	70 - 131
2-Butanone (MEK)	ND		25.0	25.0		ug/L		100	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.7		ug/L		111	52 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132

Lab Sample ID: 440-159873-D-1 MSD

Matrix: Water

Analysis Batch: 359136

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	25.6		ug/L		103	60 - 130	4	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.6		ug/L		111	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130	9	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.9		ug/L		100	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	26.6		ug/L		106	70 - 130	2	25
1,1-Dichloroethane	ND		25.0	23.0		ug/L		92	65 - 130	11	20
1,1-Dichloroethene	0.90		25.0	23.4		ug/L		90	70 - 130	8	20
1,1-Dichloropropene	ND		25.0	26.0		ug/L		104	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		25.0	28.0		ug/L		112	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	27.1		ug/L		108	48 - 140	1	30
1,2-Dichlorobenzene	ND		25.0	25.9		ug/L		103	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	23.9		ug/L		96	56 - 146	13	20
1,2-Dichloropropane	ND		25.0	28.8		ug/L		115	69 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	1	20
1,3-Dichloropropane	ND		25.0	26.5		ug/L		106	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		105	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	25.6		ug/L		102	69 - 138	12	25
2-Hexanone	ND		25.0	27.6		ug/L		110	10 - 150	2	35
Acetone	ND		25.0	21.6		ug/L		86	10 - 150	0	35
Benzene	ND		25.0	25.4		ug/L		102	66 - 130	1	20
Bromoform	ND		25.0	30.9		ug/L		124	59 - 150	2	25
Bromomethane	ND		25.0	23.2		ug/L		93	62 - 131	2	25
Carbon disulfide	ND		25.0	22.9		ug/L		92	49 - 140	7	20
Carbon tetrachloride	ND		25.0	27.5		ug/L		110	60 - 150	3	25
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130	0	20
Bromochloromethane	ND		25.0	23.4		ug/L		94	70 - 130	10	25
Chloroethane	ND		25.0	24.0		ug/L		96	68 - 130	3	25
Chloroform	0.40	J	25.0	23.5		ug/L		92	70 - 130	10	20
Chloromethane	ND		25.0	21.2		ug/L		85	39 - 144	4	25
cis-1,2-Dichloroethene	2.6		25.0	27.0		ug/L		97	70 - 130	10	20
cis-1,3-Dichloropropene	ND		25.0	27.8		ug/L		111	70 - 133	3	20

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QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: 440-159873-D-1 MSD

Matrix: Water

Analysis Batch: 359136

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
Dibromochloromethane	ND		25.0	29.0		ug/L		116	70 - 148	0	25
Dibromomethane	ND		25.0	26.7		ug/L		107	70 - 130	3	25
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	20.0		ug/L		80	25 - 142	5	30
Ethylbenzene	ND		25.0	25.9		ug/L		104	70 - 130	1	20
m,p-Xylene	ND		25.0	27.1		ug/L		108	70 - 133	1	25
Methylene Chloride	ND		25.0	20.0		ug/L		80	52 - 130	11	20
Methyl tert-butyl ether	ND		25.0	23.5		ug/L		94	70 - 130	13	25
Naphthalene	ND		25.0	27.1		ug/L		109	60 - 140	5	30
o-Xylene	ND		25.0	26.9		ug/L		108	70 - 133	0	20
Styrene	ND		25.0	26.3		ug/L		105	29 - 150	1	35
t-Butanol	ND		250	268		ug/L		107	70 - 130	2	25
Tetrachloroethene	18		25.0	43.6		ug/L		103	70 - 137	1	20
Toluene	ND		25.0	26.0		ug/L		104	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	25.1		ug/L		100	70 - 130	7	20
trans-1,3-Dichloropropene	ND		25.0	27.7		ug/L		111	70 - 138	2	25
Trichloroethene	6.5		25.0	32.8		ug/L		105	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	22.9		ug/L		92	60 - 150	2	25
Vinyl acetate	ND		25.0	26.1		ug/L		104	23 - 150	14	30
Vinyl chloride	ND		25.0	21.6		ug/L		86	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	27.9		ug/L		112	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	21.3		ug/L		85	48 - 140	16	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	27.2		ug/L		109	52 - 150	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	87		76 - 132

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

Lab Sample ID: MB 440-358645/1-A

Matrix: Water

Analysis Batch: 359039

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 358645

Print Date: 09/29/16									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L	-	09/28/16 10:40	09/29/16 21:46	1
Surrogate	MB %Recovery	MB Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	75		30 - 120						
							09/28/16 10:40	09/29/16 21:46	1

Lab Sample ID: LCS 440-358645/2-A

Matrix: Water

Analysis Batch: 359039

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 358645

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.09		ug/L		55	35 - 120

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QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: LCS 440-358645/2-A
Matrix: Water
Analysis Batch: 359039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358645

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)	64		30 - 120

Lab Sample ID: 440-159394-A-3-A MS
Matrix: Water
Analysis Batch: 359039

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 358645

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane	0.48	J	1.92	2.50		ug/L		105	35 - 120
Surrogate	MS	MS							
	%Recovery	Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	75		30 - 120						

Lab Sample ID: 440-159394-A-3-B MSD
Matrix: Water
Analysis Batch: 359039

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 358645

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	0.48	J	1.90	1.98		ug/L		79	35 - 120	24	25
Surrogate	MSD	MSD									
	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	61		30 - 120								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-357366/4
Matrix: Water
Analysis Batch: 357366

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/22/16 13:21	1

Lab Sample ID: LCS 440-357366/2
Matrix: Water
Analysis Batch: 357366

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chloride	5.00	5.00		mg/L		100	90 - 110

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-358428/1-A
Matrix: Water
Analysis Batch: 358766

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 358428

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/27/16 13:24	09/28/16 15:45	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: LCS 440-358428/2-A

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.47		mg/L		95	80 - 120

Lab Sample ID: 440-158947-H-1-B MS

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	7.9		10.0	17.8		mg/L		99	75 - 125

Lab Sample ID: 440-158947-H-1-C MSD

Matrix: Water

Analysis Batch: 358766

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 358428

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Potassium	7.9		10.0	17.9		mg/L		101	75 - 125	1	20

Lab Sample ID: MB 440-358429/1-A

Matrix: Water

Analysis Batch: 358759

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 358429

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/27/16 13:27	09/28/16 12:16	1

Lab Sample ID: LCS 440-358429/2-A

Matrix: Water

Analysis Batch: 358759

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 358429

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.61		mg/L		96	80 - 120

Lab Sample ID: 440-159268-5 MS

Matrix: Water

Analysis Batch: 358759

Client Sample ID: MW-2B

Prep Type: Total Recoverable

Prep Batch: 358429

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	4.0		10.0	14.9		mg/L		108	75 - 125

Lab Sample ID: 440-159268-5 MSD

Matrix: Water

Analysis Batch: 358759

Client Sample ID: MW-2B

Prep Type: Total Recoverable

Prep Batch: 358429

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Potassium	4.0		10.0	15.4		mg/L		113	75 - 125	3	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 440-357430/12

Matrix: Water

Analysis Batch: 357430

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.20	0.10	mg/L			09/22/16 00:52	1

Lab Sample ID: LCS 440-357430/13

Matrix: Water

Analysis Batch: 357430

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	4.99		mg/L		100	90 - 110

Lab Sample ID: MRL 440-357430/11

Matrix: Water

Analysis Batch: 357430

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	0.207		mg/L		104	10 - 200

Lab Sample ID: 440-159247-I-1 MS

Matrix: Water

Analysis Batch: 357430

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	4.71		mg/L		94	90 - 110

Lab Sample ID: 440-159247-I-1 MSD

Matrix: Water

Analysis Batch: 357430

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	4.74		mg/L		95	90 - 110	1	15

Method: 410.4 - COD

Lab Sample ID: MB 440-358727/3

Matrix: Water

Analysis Batch: 358727

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/28/16 15:33	1

Lab Sample ID: LCS 440-358727/4

Matrix: Water

Analysis Batch: 358727

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	199		mg/L		99	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-159268-1 MS

Matrix: Water

Analysis Batch: 358727

Client Sample ID: DW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	28		200	221		mg/L		96	70 - 120

Lab Sample ID: 440-159268-1 MSD

Matrix: Water

Analysis Batch: 358727

Client Sample ID: DW-2

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	28		200	219		mg/L		95	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-357917/3

Matrix: Water

Analysis Batch: 357917

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/24/16 06:28	1

Lab Sample ID: LCS 440-357917/2

Matrix: Water

Analysis Batch: 357917

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	85.8	86.7		mg/L		101	80 - 120

Lab Sample ID: 440-159591-J-1 DU

Matrix: Water

Analysis Batch: 357917

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	ND		ND		mg/L		NC	20

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

Lab Sample ID: MB 440-358633/1

Matrix: Water

Analysis Batch: 358633

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/28/16 09:57	1

Lab Sample ID: LCS 440-358633/2

Matrix: Water

Analysis Batch: 358633

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	972		mg/L		97	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159268-1

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

Lab Sample ID: 440-159234-D-1 DU

Matrix: Water

Analysis Batch: 358633

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	1200		1220		mg/L	-	0.7	5

Method: SM 5310C - TOC

Lab Sample ID: MB 440-357823/7

Matrix: Water

Analysis Batch: 357823

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L	-		09/23/16 08:23	1

Lab Sample ID: LCS 440-357823/6

Matrix: Water

Analysis Batch: 357823

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	10.0		mg/L	-	100	90 - 110

Lab Sample ID: MRL 440-357823/5

Matrix: Water

Analysis Batch: 357823

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	0.0787	J	mg/L	-	79	50 - 150

Lab Sample ID: 440-159304-B-20 MS

Matrix: Water

Analysis Batch: 357823

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	0.46		10.0	10.9		mg/L	-	104	80 - 120

Lab Sample ID: 440-159304-B-20 MSD

Matrix: Water

Analysis Batch: 357823

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	0.46		10.0	10.8		mg/L	-	103	80 - 120	1	20

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159268-1

GC/MS VOA

Analysis Batch: 359136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	8260B	
440-159268-2	MW-5	Total/NA	Water	8260B	
440-159268-3	Extraction Trench	Total/NA	Water	8260B	
440-159268-4	MW-2A	Total/NA	Water	8260B	
440-159268-5	MW-2B	Total/NA	Water	8260B	
440-159268-6	DW-4	Total/NA	Water	8260B	
440-159268-7	QCAB	Total/NA	Water	8260B	
440-159268-8	QCTB	Total/NA	Water	8260B	
MB 440-359136/4	Method Blank	Total/NA	Water	8260B	
LCS 440-359136/5	Lab Control Sample	Total/NA	Water	8260B	
440-159873-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-159873-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 358645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	3520C	
440-159268-2	MW-5	Total/NA	Water	3520C	
440-159268-3	Extraction Trench	Total/NA	Water	3520C	
440-159268-4	MW-2A	Total/NA	Water	3520C	
440-159268-5	MW-2B	Total/NA	Water	3520C	
440-159268-6	DW-4	Total/NA	Water	3520C	
MB 440-358645/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-358645/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-159394-A-3-A MS	Matrix Spike	Total/NA	Water	3520C	
440-159394-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 359039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	8270C	358645
440-159268-2	MW-5	Total/NA	Water	8270C	358645
440-159268-3	Extraction Trench	Total/NA	Water	8270C	358645
440-159268-4	MW-2A	Total/NA	Water	8270C	358645
440-159268-5	MW-2B	Total/NA	Water	8270C	358645
440-159268-6	DW-4	Total/NA	Water	8270C	358645
MB 440-358645/1-A	Method Blank	Total/NA	Water	8270C	358645
LCS 440-358645/2-A	Lab Control Sample	Total/NA	Water	8270C	358645
440-159394-A-3-A MS	Matrix Spike	Total/NA	Water	8270C	358645
440-159394-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	358645

HPLC/IC

Analysis Batch: 357366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	300.0	
440-159268-2	MW-5	Total/NA	Water	300.0	
440-159268-3	Extraction Trench	Total/NA	Water	300.0	
440-159268-4	MW-2A	Total/NA	Water	300.0	
440-159268-5	MW-2B	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159268-1

HPLC/IC (Continued)

Analysis Batch: 357366 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-6	DW-4	Total/NA	Water	300.0	
MB 440-357366/4	Method Blank	Total/NA	Water	300.0	
LCS 440-357366/2	Lab Control Sample	Total/NA	Water	300.0	

Metals

Prep Batch: 358428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total Recoverable	Water	3005A	
440-159268-2	MW-5	Total Recoverable	Water	3005A	
440-159268-3	Extraction Trench	Total Recoverable	Water	3005A	
MB 440-358428/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358428/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-158947-H-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-158947-H-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 358429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-4	MW-2A	Total Recoverable	Water	3005A	
440-159268-5	MW-2B	Total Recoverable	Water	3005A	
440-159268-6	DW-4	Total Recoverable	Water	3005A	
MB 440-358429/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358429/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-159268-5 MS	MW-2B	Total Recoverable	Water	3005A	
440-159268-5 MSD	MW-2B	Total Recoverable	Water	3005A	

Analysis Batch: 358759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-4	MW-2A	Total Recoverable	Water	6010B	358429
440-159268-5	MW-2B	Total Recoverable	Water	6010B	358429
440-159268-6	DW-4	Total Recoverable	Water	6010B	358429
MB 440-358429/1-A	Method Blank	Total Recoverable	Water	6010B	358429
LCS 440-358429/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358429
440-159268-5 MS	MW-2B	Total Recoverable	Water	6010B	358429
440-159268-5 MSD	MW-2B	Total Recoverable	Water	6010B	358429

Analysis Batch: 358766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total Recoverable	Water	6010B	358428
440-159268-2	MW-5	Total Recoverable	Water	6010B	358428
440-159268-3	Extraction Trench	Total Recoverable	Water	6010B	358428
MB 440-358428/1-A	Method Blank	Total Recoverable	Water	6010B	358428
LCS 440-358428/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358428
440-158947-H-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	358428
440-158947-H-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	358428

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159268-1

General Chemistry

Analysis Batch: 357430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	350.1	
440-159268-2	MW-5	Total/NA	Water	350.1	
440-159268-3	Extraction Trench	Total/NA	Water	350.1	
440-159268-4	MW-2A	Total/NA	Water	350.1	
440-159268-5	MW-2B	Total/NA	Water	350.1	
440-159268-6	DW-4	Total/NA	Water	350.1	
MB 440-357430/12	Method Blank	Total/NA	Water	350.1	
LCS 440-357430/13	Lab Control Sample	Total/NA	Water	350.1	
MRL 440-357430/11	Lab Control Sample	Total/NA	Water	350.1	
440-159247-I-1 MS	Matrix Spike	Total/NA	Water	350.1	
440-159247-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 357823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	SM 5310C	
440-159268-2	MW-5	Total/NA	Water	SM 5310C	
440-159268-3	Extraction Trench	Total/NA	Water	SM 5310C	
440-159268-4	MW-2A	Total/NA	Water	SM 5310C	
440-159268-5	MW-2B	Total/NA	Water	SM 5310C	
440-159268-6	DW-4	Total/NA	Water	SM 5310C	
MB 440-357823/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-357823/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-357823/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-159304-B-20 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-159304-B-20 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 357917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	SM 2320B	
440-159268-2	MW-5	Total/NA	Water	SM 2320B	
440-159268-3	Extraction Trench	Total/NA	Water	SM 2320B	
440-159268-4	MW-2A	Total/NA	Water	SM 2320B	
440-159268-5	MW-2B	Total/NA	Water	SM 2320B	
440-159268-6	DW-4	Total/NA	Water	SM 2320B	
MB 440-357917/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357917/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-159591-J-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 358633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	SM 2540C	
440-159268-2	MW-5	Total/NA	Water	SM 2540C	
440-159268-3	Extraction Trench	Total/NA	Water	SM 2540C	
440-159268-4	MW-2A	Total/NA	Water	SM 2540C	
440-159268-5	MW-2B	Total/NA	Water	SM 2540C	
440-159268-6	DW-4	Total/NA	Water	SM 2540C	
MB 440-358633/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-358633/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-159234-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159268-1

General Chemistry (Continued)

Analysis Batch: 358727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-1	DW-2	Total/NA	Water	410.4	
440-159268-2	MW-5	Total/NA	Water	410.4	
440-159268-3	Extraction Trench	Total/NA	Water	410.4	
440-159268-4	MW-2A	Total/NA	Water	410.4	
440-159268-5	MW-2B	Total/NA	Water	410.4	
440-159268-6	DW-4	Total/NA	Water	410.4	
MB 440-358727/3	Method Blank	Total/NA	Water	410.4	
LCS 440-358727/4	Lab Control Sample	Total/NA	Water	410.4	
440-159268-1 MS	DW-2	Total/NA	Water	410.4	
440-159268-1 MSD	DW-2	Total/NA	Water	410.4	

Definitions/Glossary

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

TestAmerica Job ID: 440-159268-1

Qualifiers

GC/MS VOA

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

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.
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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-159268-1


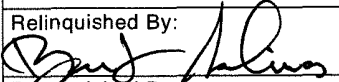
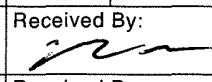
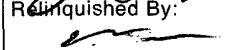
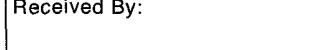
Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16 *
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Client Name / Address: Geo-Logic Assoc./REPUBLIC 11415 W. Bernardo Ct. San Diego, CA 92127				Project/PO Number: Sunshine Cm. 4/F 2016.0030			Analysis Required EPA 8260B-VOCs EPA 8270 1,4-Dioxane EPA 310.1 Total Alkalinity EPA 350.2 Ammonia as N EPA 410.4-COD EPA 300.0-Chloride EPA 601.0 Total Phosphorus EPA 160.1-T.D.S. EPA 415.1 T.O.C.													
Project Manager: Kyle Welchans				Phone Number: 858-451-1136																
Sampler: BS, AS				Fax Number: 858-451-1087																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	EPA 8260B-VOCs	EPA 8270	1,4-Dioxane	EPA 310.1	Total Alkalinity	EPA 350.2	Ammonia as N	EPA 410.4-COD	EPA 300.0-Chloride	EPA 601.0	Total Phosphorus	EPA 160.1-T.D.S.	EPA 415.1 T.O.C.	Special Instructions
DW-2	GW	P.V.G.	13	9/21/16	0928	yes	X	X	X	X	X	X	X	X	X	X	X	X	X	Metals are not field filtered
MW-5	GW		13		1126		X	X	X	X	X	X	X	X	X	X	X	X	X	
Extraction Trench	Liquid		13		1240		X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-2A	GW		13		0930		X	X	X	X	X	X	X	X	X	X	X	X	X	
MW-2B			13		1125		X	X	X	X	X	X	X	X	X	X	X	X	X	
DW-4			13		1335		X	X	X	X	X	X	X	X	X	X	X	X	X	
QCAB	LAB	VOAS	4			HCl	X													
QCIB	"	VOAS	4			HCl	X													
																				
440-159268 Chain of Custody																				
Relinquished By: 				Date/Time: 9-21-16 1645		Received By: 				Date/Time: 9/21/16 1645		Turnaround Time: (Check) same day _____ 72 hours _____ 24 hours _____ 5 days _____ 48 hours _____ normal _____								
Relinquished By: 				Date/Time: 9/21/16 1900		Received By: 				Date/Time: 9/21/16 19:00		Sample Integrity: (Check) intact _____ on ice _____								

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-159268-1

Login Number: 159268

List Source: 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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-159360-1

Client Project/Site: Republic Sunshine canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

10/5/2016 4:51:05 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@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

TestAmerica Job ID: 440-159360-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-159360-1	MW-1	Water	09/22/16 09:35	09/22/16 16:20
440-159360-2	DW-5	Water	09/22/16 08:25	09/22/16 16:20
440-159360-3	QCAB	Water	09/22/16 00:01	09/22/16 16:20
440-159360-4	QCTB	Water	09/22/16 00:01	09/22/16 16:20

Case Narrative

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

TestAmerica Job ID: 440-159360-1

Job ID: 440-159360-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-159360-1

Comments

No additional comments.

Receipt

The samples were received on 9/22/2016 4:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

GC/MS VOA

Method(s) 8260B: The following volatile samples were received and analyzed with significant headspace in the sample vial(s): DW-5 (440-159360-2). Significant headspace is defined as a bubble greater than 6 mm in diameter. All VOA vials provided had headspace.

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

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: MW-1

Date Collected: 09/22/16 09:35

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 12:46	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Acrolein	ND		50	2.5	ug/L			09/29/16 12:46	1
Acrylonitrile	ND		50	1.0	ug/L			09/29/16 12:46	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 12:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 12:46	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 12:46	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 12:46	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 12:46	1
Acetone	ND		20	10	ug/L			09/29/16 12:46	1
Acetonitrile	ND		20	10	ug/L			09/29/16 12:46	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 12:46	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 12:46	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 12:46	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 12:46	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 12:46	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 12:46	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 12:46	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 12:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 12:46	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 12:46	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 12:46	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 12:46	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 12:46	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: MW-1

Date Collected: 09/22/16 09:35

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 12:46	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Propionitrile	ND		20	10	ug/L			09/29/16 12:46	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
t-Butanol	22		10	5.0	ug/L			09/29/16 12:46	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Tetrahydrofuran	5.2 J		10	5.0	ug/L			09/29/16 12:46	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 12:46	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 12:46	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 12:46	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 12:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 12:46	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 12:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 12:46	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.8	T J	ug/L		4.73			09/29/16 12:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 128		09/29/16 12:46	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 12:46	1
Toluene-d8 (Surr)	105		80 - 128		09/29/16 12:46	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 12:46	1
Dibromofluoromethane (Surr)	97		76 - 132		09/29/16 12:46	1
Dibromofluoromethane (Surr)	97		76 - 132		09/29/16 12:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		0.98	0.25	ug/L		09/29/16 09:00	09/30/16 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	46		30 - 120	09/29/16 09:00	09/30/16 21:53	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		100	50	mg/L			09/23/16 08:39	200

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		09/29/16 09:34	10/02/16 20:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	150		20	10	mg/L			09/28/16 15:33	1
Total Dissolved Solids	3700		50	25	mg/L			09/29/16 08:52	1
Ammonia (as N)	3.8		0.50	0.10	mg/L		09/26/16 03:00	09/26/16 06:50	1
Total Organic Carbon	47		1.0	0.50	mg/L			09/23/16 12:17	10

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: MW-1

Date Collected: 09/22/16 09:35

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-1

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	680		4.0	4.0	mg/L			09/24/16 07:22	1

Client Sample ID: DW-5

Date Collected: 09/22/16 08:25

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 13:16	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Acrolein	ND		50	2.5	ug/L			09/29/16 13:16	1
Acrylonitrile	ND		50	1.0	ug/L			09/29/16 13:16	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 13:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 13:16	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 13:16	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 13:16	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 13:16	1
Acetone	ND		20	10	ug/L			09/29/16 13:16	1
Acetonitrile	ND		20	10	ug/L			09/29/16 13:16	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 13:16	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 13:16	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 13:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 13:16	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 13:16	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 13:16	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 13:16	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: DW-5

Date Collected: 09/22/16 08:25

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 13:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 13:16	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 13:16	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 13:16	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 13:16	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 13:16	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Propionitrile	ND		20	10	ug/L			09/29/16 13:16	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 13:16	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 13:16	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 13:16	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 13:16	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 13:16	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 13:16	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 13:16	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 13:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 13:16	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.9	T J	ug/L		2.67			09/29/16 13:16	1
Unknown	5.6	T J	ug/L		4.25			09/29/16 13:16	1
Butane, 2,3-dimethyl-	14	T J N	ug/L		4.76	79-29-8		09/29/16 13:16	1
Benzene, (2-methylpropyl)-	9.6	T J N	ug/L		11.77	538-93-2		09/29/16 13:16	1
1H-Indene, 2,3-dihydro-1,1-dimethyl-	6.9	T J N	ug/L		13.11	4912-92-9		09/29/16 13:16	1
Benzene, 1-ethyl-2,4-dimethyl-	21	T J N	ug/L		13.30	874-41-9		09/29/16 13:16	1
Benzene, pentamethyl-	12	T J N	ug/L		14.00	700-12-9		09/29/16 13:16	1
Benzene, pentamethyl-	6.9	T J N	ug/L		14.38	700-12-9		09/29/16 13:16	1
1H-Indene, 2,3-dihydro-4,7-dimethyl-	6.8	T J N	ug/L		14.71	6682-71-9		09/29/16 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/29/16 13:16	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 13:16	1
Toluene-d8 (Surr)	104		80 - 128		09/29/16 13:16	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 13:16	1
Dibromofluoromethane (Surr)	96		76 - 132		09/29/16 13:16	1
Dibromofluoromethane (Surr)	96		76 - 132		09/29/16 13:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.97	0.24	ug/L	-	09/29/16 09:00	09/30/16 22:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	63		30 - 120				09/29/16 09:00	09/30/16 22:14	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: DW-5

Date Collected: 09/22/16 08:25

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35		25	13	mg/L			09/23/16 08:52	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.82		0.50	0.25	mg/L		09/29/16 09:34	10/02/16 20:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	45		20	10	mg/L			09/28/16 15:34	1
Total Dissolved Solids	1100		10	5.0	mg/L			09/29/16 08:52	1
Ammonia (as N)	0.35	J	0.50	0.10	mg/L		09/26/16 03:00	09/26/16 06:50	1
Total Organic Carbon	12		1.0	0.50	mg/L			09/23/16 12:04	10
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	980		4.0	4.0	mg/L			09/24/16 07:37	1

Client Sample ID: QCAB

Date Collected: 09/22/16 00:01

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 13:45	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Acrolein	ND		50	2.5	ug/L			09/29/16 13:45	1
Acrylonitrile	ND		50	1.0	ug/L			09/29/16 13:45	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 13:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 13:45	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 13:45	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 13:45	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 13:45	1
Acetone	ND		20	10	ug/L			09/29/16 13:45	1
Acetonitrile	ND		20	10	ug/L			09/29/16 13:45	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 13:45	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 13:45	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 13:45	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 13:45	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: QCAB

Date Collected: 09/22/16 00:01

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 13:45	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 13:45	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 13:45	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 13:45	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 13:45	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 13:45	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 13:45	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 13:45	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 13:45	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 13:45	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Propionitrile	ND		20	10	ug/L			09/29/16 13:45	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 13:45	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 13:45	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 13:45	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 13:45	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 13:45	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 13:45	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 13:45	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 13:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 13:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/29/16 13:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/29/16 13:45	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 13:45	1
Toluene-d8 (Surr)	104		80 - 128		09/29/16 13:45	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/29/16 13:45	1
Dibromofluoromethane (Surr)	98		76 - 132		09/29/16 13:45	1
Dibromofluoromethane (Surr)	98		76 - 132		09/29/16 13:45	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: QCTB

Date Collected: 09/22/16 00:01

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 14:15	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Acrolein	ND		50	2.5	ug/L			09/29/16 14:15	1
Acrylonitrile	ND		50	1.0	ug/L			09/29/16 14:15	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 14:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 14:15	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 14:15	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 14:15	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 14:15	1
Acetone	ND		20	10	ug/L			09/29/16 14:15	1
Acetonitrile	ND		20	10	ug/L			09/29/16 14:15	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 14:15	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 14:15	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 14:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 14:15	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 14:15	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 14:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 14:15	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 14:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 14:15	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 14:15	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 14:15	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 14:15	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 14:15	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: QCTB

Date Collected: 09/22/16 00:01

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 14:15	1
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Propionitrile	ND		20	10	ug/L			09/29/16 14:15	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 14:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 14:15	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 14:15	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 14:15	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 14:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 14:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 14:15	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 14:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 14:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/29/16 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		09/29/16 14:15	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/29/16 14:15	1
Toluene-d8 (Surr)	104		80 - 128		09/29/16 14:15	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/29/16 14:15	1
Dibromofluoromethane (Surr)	98		76 - 132		09/29/16 14:15	1
Dibromofluoromethane (Surr)	98		76 - 132		09/29/16 14:15	1

TestAmerica Irvine

Method Summary

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

TestAmerica Job ID: 440-159360-1

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

Protocol References:

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

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

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

Laboratory References:

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

Lab Chronicle

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: MW-1

Date Collected: 09/22/16 09:35

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-1

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	358874	09/29/16 12:46	AYL	TAL IRV
Total/NA	Prep	3520C			1020 mL	1 mL	358922	09/29/16 09:00	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359428	09/30/16 21:53	DF	TAL IRV
Total/NA	Analysis	300.0		200			357378	09/23/16 08:39	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358929	09/29/16 09:34	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			359649	10/02/16 20:00	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:33	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 07:22	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	358896	09/29/16 08:52	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	357959	09/26/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357968	09/26/16 06:50	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357823	09/23/16 12:17	YZ	TAL IRV

Client Sample ID: DW-5

Date Collected: 09/22/16 08:25

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-2

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	358874	09/29/16 13:16	AYL	TAL IRV
Total/NA	Prep	3520C			1035 mL	1 mL	358922	09/29/16 09:00	BMN	TAL IRV
Total/NA	Analysis	8270C		1			359428	09/30/16 22:14	DF	TAL IRV
Total/NA	Analysis	300.0		50			357378	09/23/16 08:52	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	358929	09/29/16 09:34	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			359649	10/02/16 20:02	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	358727	09/28/16 15:34	MMP	TAL IRV
Total/NA	Analysis	SM 2320B		1			357917	09/24/16 07:37	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358896	09/29/16 08:52	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	357959	09/26/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			357968	09/26/16 06:50	YZ	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	357823	09/23/16 12:04	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 09/22/16 00:01

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-3

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	358874	09/29/16 13:45	AYL	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-159360-1

Client Sample ID: QCTB

Date Collected: 09/22/16 00:01

Date Received: 09/22/16 16:20

Lab Sample ID: 440-159360-4

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	358874	09/29/16 14:15	AYL	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: 440-159360-1

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

Lab Sample ID: MB 440-358874/4

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			09/29/16 08:23	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			09/29/16 08:23	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			09/29/16 08:23	1
2-Hexanone	ND		5.0	2.5	ug/L			09/29/16 08:23	1
Acetone	ND		20	10	ug/L			09/29/16 08:23	1
Acetonitrile	ND		20	10	ug/L			09/29/16 08:23	1
Benzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Allyl chloride	ND		1.0	0.50	ug/L			09/29/16 08:23	1
Bromoform	ND		1.0	0.40	ug/L			09/29/16 08:23	1
Bromomethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			09/29/16 08:23	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Chlorobenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Bromochloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Chloroethane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
Chloroform	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Chloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Dibromochloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Dibromomethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Bromodichloromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			09/29/16 08:23	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Ethylbenzene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Iodomethane	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Isobutyl alcohol	ND		25	13	ug/L			09/29/16 08:23	1
m,p-Xylene	ND		1.0	0.50	ug/L			09/29/16 08:23	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			09/29/16 08:23	1
Methyl methacrylate	ND		2.0	1.0	ug/L			09/29/16 08:23	1
Methylene Chloride	ND		2.0	0.88	ug/L			09/29/16 08:23	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Naphthalene	ND		1.0	0.40	ug/L			09/29/16 08:23	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: MB 440-358874/4

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Propionitrile	ND		20	10	ug/L			09/29/16 08:23	1
Styrene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
t-Butanol	ND		10	5.0	ug/L			09/29/16 08:23	1
Tetrachloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Tetrahydrofuran	ND		10	5.0	ug/L			09/29/16 08:23	1
Toluene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			09/29/16 08:23	1
Trichloroethene	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			09/29/16 08:23	1
Vinyl acetate	ND		4.0	2.0	ug/L			09/29/16 08:23	1
Vinyl chloride	ND		0.50	0.25	ug/L			09/29/16 08:23	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			09/29/16 08:23	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			09/29/16 08:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/29/16 08:23	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/29/16 08:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		09/29/16 08:23	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/29/16 08:23	1
Dibromofluoromethane (Surr)	96		76 - 132		09/29/16 08:23	1

Lab Sample ID: LCS 440-358874/5

Matrix: Water

Analysis Batch: 358874

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	23.9		ug/L		96	60 - 141
1,1,1-Trichloroethane	25.0	24.7		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		96	63 - 130
1,1,2-Trichloroethane	25.0	23.8		ug/L		95	70 - 130
1,1-Dichloroethane	25.0	23.6		ug/L		94	64 - 130
1,1-Dichloroethene	25.0	24.6		ug/L		98	70 - 130
1,1-Dichloropropene	25.0	24.9		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	25.0	25.4		ug/L		101	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	24.1		ug/L		96	52 - 140
1,2-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130
1,2-Dichloroethane	25.0	25.1		ug/L		100	57 - 138
1,2-Dichloropropane	25.0	24.6		ug/L		98	67 - 130
1,3-Dichlorobenzene	25.0	23.7		ug/L		95	70 - 130
1,3-Dichloropropane	25.0	23.3		ug/L		93	70 - 130
1,4-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: LCS 440-358874/5

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	26.0		ug/L		104	68 - 141
2-Hexanone	25.0	24.8		ug/L		99	10 - 150
Acetone	25.0	25.4		ug/L		101	10 - 150
Benzene	25.0	23.5		ug/L		94	68 - 130
Bromoform	25.0	26.0		ug/L		104	60 - 148
Bromomethane	25.0	22.7		ug/L		91	64 - 139
Carbon disulfide	25.0	24.6		ug/L		99	52 - 136
Carbon tetrachloride	25.0	25.8		ug/L		103	60 - 150
Chlorobenzene	25.0	23.6		ug/L		94	70 - 130
Bromochloromethane	25.0	22.3		ug/L		89	70 - 130
Chloroethane	25.0	24.5		ug/L		98	64 - 135
Chloroform	25.0	24.0		ug/L		96	70 - 130
Chloromethane	25.0	24.5		ug/L		98	47 - 140
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	70 - 133
cis-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 133
Dibromochloromethane	25.0	24.3		ug/L		97	69 - 145
Dibromomethane	25.0	24.0		ug/L		96	70 - 130
Bromodichloromethane	25.0	24.4		ug/L		98	70 - 132
Dichlorodifluoromethane	25.0	25.2		ug/L		101	29 - 150
Ethylbenzene	25.0	24.2		ug/L		97	70 - 130
m,p-Xylene	25.0	24.9		ug/L		100	70 - 130
Methylene Chloride	25.0	24.1		ug/L		96	52 - 130
Methyl tert-butyl ether	25.0	23.7		ug/L		95	63 - 131
Naphthalene	25.0	24.4		ug/L		98	60 - 140
o-Xylene	25.0	24.0		ug/L		96	70 - 130
Styrene	25.0	24.7		ug/L		99	70 - 134
t-Butanol	250	249		ug/L		100	70 - 130
Tetrachloroethene	25.0	24.7		ug/L		99	70 - 130
Toluene	25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	70 - 132
Trichloroethene	25.0	24.1		ug/L		97	70 - 130
Trichlorofluoromethane	25.0	26.4		ug/L		105	60 - 150
Vinyl acetate	25.0	26.2		ug/L		105	48 - 140
Vinyl chloride	25.0	24.5		ug/L		98	59 - 133
1,2-Dibromoethane (EDB)	25.0	24.7		ug/L		99	70 - 130
2-Butanone (MEK)	25.0	24.6		ug/L		98	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	26.2		ug/L		105	59 - 149

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: 440-159494-A-5 MS

Matrix: Water

Analysis Batch: 358874

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	27.8		ug/L		111	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	27.0		ug/L		108	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.7		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.2		ug/L		109	70 - 130
1,1-Dichloroethane	ND		25.0	26.3		ug/L		105	65 - 130
1,1-Dichloroethene	ND		25.0	27.2		ug/L		109	70 - 130
1,1-Dichloropropene	ND		25.0	27.6		ug/L		110	64 - 130
1,2,4-Trichlorobenzene	0.40 J		25.0	29.7		ug/L		119	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	28.1		ug/L		112	48 - 140
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
1,2-Dichloroethane	ND		25.0	28.3		ug/L		113	56 - 146
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	69 - 130
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		105	70 - 130
1,3-Dichloropropane	ND		25.0	27.3		ug/L		109	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
2,2-Dichloropropane	ND		25.0	29.6		ug/L		118	69 - 138
2-Hexanone	ND		25.0	27.6		ug/L		111	10 - 150
Acetone	ND		25.0	23.1		ug/L		92	10 - 150
Benzene	ND		25.0	26.3		ug/L		105	66 - 130
Bromoform	ND		25.0	29.3		ug/L		117	59 - 150
Bromomethane	ND		25.0	25.9		ug/L		104	62 - 131
Carbon disulfide	ND		25.0	27.4		ug/L		109	49 - 140
Carbon tetrachloride	ND		25.0	28.6		ug/L		114	60 - 150
Chlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130
Bromochloromethane	ND		25.0	25.5		ug/L		102	70 - 130
Chloroethane	ND		25.0	27.7		ug/L		111	68 - 130
Chloroform	ND		25.0	27.1		ug/L		108	70 - 130
Chloromethane	ND		25.0	27.8		ug/L		111	39 - 144
cis-1,2-Dichloroethene	ND		25.0	27.3		ug/L		109	70 - 130
cis-1,3-Dichloropropene	ND		25.0	29.1		ug/L		116	70 - 133
Dibromochloromethane	ND		25.0	27.6		ug/L		111	70 - 148
Dibromomethane	ND		25.0	26.9		ug/L		108	70 - 130
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 138
Dichlorodifluoromethane	ND		25.0	28.4		ug/L		114	25 - 142
Ethylbenzene	ND		25.0	26.8		ug/L		107	70 - 130
m,p-Xylene	ND		25.0	27.6		ug/L		110	70 - 133
Methylene Chloride	ND		25.0	26.9		ug/L		108	52 - 130
Methyl tert-butyl ether	ND		25.0	27.3		ug/L		109	70 - 130
Naphthalene	0.81 J		25.0	28.1		ug/L		109	60 - 140
o-Xylene	ND		25.0	27.0		ug/L		108	70 - 133
Styrene	ND		25.0	26.5		ug/L		106	29 - 150
t-Butanol	ND		250	277		ug/L		111	70 - 130
Tetrachloroethene	0.40 J		25.0	27.5		ug/L		109	70 - 137
Toluene	ND		25.0	27.3		ug/L		109	70 - 130
trans-1,2-Dichloroethene	ND		25.0	27.6		ug/L		110	70 - 130
trans-1,3-Dichloropropene	ND		25.0	28.7		ug/L		115	70 - 138
Trichloroethene	0.35 J		25.0	26.7		ug/L		105	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: 440-159494-A-5 MS

Matrix: Water

Analysis Batch: 358874

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
Trichlorofluoromethane	ND		25.0	28.9		ug/L		116	60 - 150
Vinyl acetate	ND		25.0	32.7		ug/L		131	23 - 150
Vinyl chloride	ND		25.0	28.1		ug/L		112	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	28.1		ug/L		112	70 - 131
2-Butanone (MEK)	ND		25.0	27.2		ug/L		109	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.7		ug/L		119	52 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132

Lab Sample ID: 440-159494-A-5 MSD

Matrix: Water

Analysis Batch: 358874

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	28.4		ug/L		114	60 - 130	2	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.6		ug/L		111	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	28.1		ug/L		112	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		25.0	28.5		ug/L		114	63 - 130	4	30
1,1,2-Trichloroethane	ND		25.0	28.1		ug/L		112	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	26.9		ug/L		108	65 - 130	2	20
1,1-Dichloroethene	ND		25.0	27.7		ug/L		111	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	28.1		ug/L		112	64 - 130	2	20
1,2,4-Trichlorobenzene	0.40	J	25.0	30.5		ug/L		122	60 - 140	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	30.0		ug/L		120	48 - 140	6	30
1,2-Dichlorobenzene	ND		25.0	26.9		ug/L		108	70 - 130	2	20
1,2-Dichloroethane	ND		25.0	29.1		ug/L		116	56 - 146	3	20
1,2-Dichloropropane	ND		25.0	28.6		ug/L		114	69 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	26.9		ug/L		108	70 - 130	3	20
1,3-Dichloropropane	ND		25.0	28.0		ug/L		112	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130	3	20
2,2-Dichloropropane	ND		25.0	29.9		ug/L		120	69 - 138	1	25
2-Hexanone	ND		25.0	29.9		ug/L		120	10 - 150	8	35
Acetone	ND		25.0	24.9		ug/L		100	10 - 150	8	35
Benzene	ND		25.0	26.8		ug/L		107	66 - 130	2	20
Bromoform	ND		25.0	30.7		ug/L		123	59 - 150	5	25
Bromomethane	ND		25.0	26.1		ug/L		104	62 - 131	1	25
Carbon disulfide	ND		25.0	27.8		ug/L		111	49 - 140	1	20
Carbon tetrachloride	ND		25.0	29.7		ug/L		119	60 - 150	4	25
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130	2	20
Bromochloromethane	ND		25.0	26.0		ug/L		104	70 - 130	2	25
Chloroethane	ND		25.0	28.3		ug/L		113	68 - 130	2	25
Chloroform	ND		25.0	27.5		ug/L		110	70 - 130	2	20
Chloromethane	ND		25.0	28.6		ug/L		114	39 - 144	3	25
cis-1,2-Dichloroethene	ND		25.0	27.6		ug/L		111	70 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	29.4		ug/L		118	70 - 133	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: 440-159494-A-5 MSD

Matrix: Water

Analysis Batch: 358874

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
Dibromochloromethane	ND		25.0	28.3		ug/L		113	70 - 148	2	25
Dibromomethane	ND		25.0	28.3		ug/L		113	70 - 130	5	25
Bromodichloromethane	ND		25.0	28.4		ug/L		114	70 - 138	3	20
Dichlorodifluoromethane	ND		25.0	28.7		ug/L		115	25 - 142	1	30
Ethylbenzene	ND		25.0	27.2		ug/L		109	70 - 130	1	20
m,p-Xylene	ND		25.0	27.9		ug/L		112	70 - 133	1	25
Methylene Chloride	ND		25.0	27.5		ug/L		110	52 - 130	2	20
Methyl tert-butyl ether	ND		25.0	28.4		ug/L		113	70 - 130	4	25
Naphthalene	0.81	J	25.0	30.0		ug/L		117	60 - 140	7	30
o-Xylene	ND		25.0	27.1		ug/L		108	70 - 133	0	20
Styrene	ND		25.0	27.6		ug/L		111	29 - 150	4	35
t-Butanol	ND		250	275		ug/L		110	70 - 130	1	25
Tetrachloroethene	0.40	J	25.0	28.2		ug/L		111	70 - 137	2	20
Toluene	ND		25.0	27.9		ug/L		111	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	28.2		ug/L		113	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	29.6		ug/L		119	70 - 138	3	25
Trichloroethene	0.35	J	25.0	27.9		ug/L		110	70 - 130	4	20
Trichlorofluoromethane	ND		25.0	30.0		ug/L		120	60 - 150	4	25
Vinyl acetate	ND		25.0	34.2		ug/L		137	23 - 150	4	30
Vinyl chloride	ND		25.0	28.7		ug/L		115	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	29.2		ug/L		117	70 - 131	4	25
2-Butanone (MEK)	ND		25.0	28.3		ug/L		113	48 - 140	4	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	32.2		ug/L		129	52 - 150	8	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

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

Lab Sample ID: MB 440-358922/1-A

Matrix: Water

Analysis Batch: 359428

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 358922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L	-	09/29/16 09:00	09/30/16 19:20	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120				09/29/16 09:00	09/30/16 19:20	1

Lab Sample ID: LCS 440-358922/2-A

Matrix: Water

Analysis Batch: 359428

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 358922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	0.862	J	ug/L		43	35 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: LCS 440-358922/2-A

Matrix: Water

Analysis Batch: 359428

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 358922

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)	54		30 - 120

Lab Sample ID: 440-159396-E-2-A MS

Matrix: Water

Analysis Batch: 359428

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 358922

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	ND		2.15	1.17		ug/L		54	35 - 120
Surrogate	MS	MS							
	%Recovery	Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	63		30 - 120						

Lab Sample ID: 440-159396-E-2-B MSD

Matrix: Water

Analysis Batch: 359428

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 358922

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		2.12	1.15		ug/L		55	35 - 120	1	25
Surrogate	MSD	MSD									
	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	63		30 - 120								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-357378/54

Matrix: Water

Analysis Batch: 357378

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			09/23/16 02:46	1

Lab Sample ID: LCS 440-357378/55

Matrix: Water

Analysis Batch: 357378

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.80		mg/L		96	90 - 110

Lab Sample ID: 440-159416-E-6 MS

Matrix: Water

Analysis Batch: 357378

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	160		1000	1110		mg/L		95	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-159416-E-6 MSD
Matrix: Water
Analysis Batch: 357378

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	160		1000	1130		mg/L		97	80 - 120	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-358929/1-A
Matrix: Water
Analysis Batch: 359649

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 358929

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		09/29/16 09:34	10/02/16 18:34	1

Lab Sample ID: LCS 440-358929/2-A
Matrix: Water
Analysis Batch: 359649

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 358929

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	10.3		mg/L		103	80 - 120

Lab Sample ID: 440-159323-E-3-B MS
Matrix: Water
Analysis Batch: 359649

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 358929

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	45		10.0	52.8	4	mg/L		73	75 - 125

Lab Sample ID: 440-159323-E-3-C MSD
Matrix: Water
Analysis Batch: 359649

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 358929

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	45		10.0	52.7	4	mg/L		72	75 - 125	0	20

Method: 410.4 - COD

Lab Sample ID: MB 440-358727/3
Matrix: Water
Analysis Batch: 358727

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			09/28/16 15:33	1

Lab Sample ID: LCS 440-358727/4
Matrix: Water
Analysis Batch: 358727

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	199		mg/L		99	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-159268-I-1 MS

Matrix: Water

Analysis Batch: 358727

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	28		200	221		mg/L		96	70 - 120

Lab Sample ID: 440-159268-I-1 MSD

Matrix: Water

Analysis Batch: 358727

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	28		200	219		mg/L		95	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-357917/3

Matrix: Water

Analysis Batch: 357917

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			09/24/16 06:28	1

Lab Sample ID: LCS 440-357917/2

Matrix: Water

Analysis Batch: 357917

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	85.8	86.7		mg/L		101	80 - 120

Lab Sample ID: 440-159247-L-1 DU

Matrix: Water

Analysis Batch: 357917

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	290		291		mg/L		0.4	20

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

Lab Sample ID: MB 440-358896/1

Matrix: Water

Analysis Batch: 358896

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			09/29/16 08:52	1

Lab Sample ID: LCS 440-358896/2

Matrix: Water

Analysis Batch: 358896

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	978		mg/L		98	90 - 110

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

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

Lab Sample ID: 440-159686-A-1 DU

Matrix: Water

Analysis Batch: 358896

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	7300		7180		mg/L		2	5

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-357959/2-A

Matrix: Water

Analysis Batch: 357968

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 357959

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		09/26/16 03:00	09/26/16 06:50	1

Lab Sample ID: LCS 440-357959/1-A

Matrix: Water

Analysis Batch: 357968

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 357959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	2.50	2.37		mg/L		95	85 - 115

Lab Sample ID: 440-159623-B-1-B MS

Matrix: Water

Analysis Batch: 357968

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 357959

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Ammonia (as N)	ND		2.50	2.37		mg/L		95	75 - 125

Lab Sample ID: 440-159623-B-1-C MSD

Matrix: Water

Analysis Batch: 357968

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 357959

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ammonia (as N)	ND		2.50	2.28		mg/L		91	75 - 125	4	15

Lab Sample ID: 440-159413-B-2-C DU

Matrix: Water

Analysis Batch: 357968

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 357959

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Ammonia (as N)	64		61.7		mg/L		4	15

Method: SM 5310C - TOC

Lab Sample ID: MB 440-357823/7

Matrix: Water

Analysis Batch: 357823

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.10	0.050	mg/L			09/23/16 08:23	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-159360-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCS 440-357823/6

Matrix: Water

Analysis Batch: 357823

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	10.0		mg/L		100	90 - 110

Lab Sample ID: MRL 440-357823/5

Matrix: Water

Analysis Batch: 357823

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	0.0787	J	mg/L		79	50 - 150

Lab Sample ID: 440-159304-B-20 MS

Matrix: Water

Analysis Batch: 357823

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	0.46		10.0	10.9		mg/L		104	80 - 120

Lab Sample ID: 440-159304-B-20 MSD

Matrix: Water

Analysis Batch: 357823

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	0.46		10.0	10.8		mg/L		103	80 - 120	1	20

QC Association Summary

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

TestAmerica Job ID: 440-159360-1

GC/MS VOA

Analysis Batch: 358874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	8260B	
440-159360-2	DW-5	Total/NA	Water	8260B	
440-159360-3	QCAB	Total/NA	Water	8260B	
440-159360-4	QCTB	Total/NA	Water	8260B	
MB 440-358874/4	Method Blank	Total/NA	Water	8260B	
LCS 440-358874/5	Lab Control Sample	Total/NA	Water	8260B	
440-159494-A-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-159494-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 358922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	3520C	
440-159360-2	DW-5	Total/NA	Water	3520C	
MB 440-358922/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-358922/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-159396-E-2-A MS	Matrix Spike	Total/NA	Water	3520C	
440-159396-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 359428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	8270C	358922
440-159360-2	DW-5	Total/NA	Water	8270C	358922
MB 440-358922/1-A	Method Blank	Total/NA	Water	8270C	358922
LCS 440-358922/2-A	Lab Control Sample	Total/NA	Water	8270C	358922
440-159396-E-2-A MS	Matrix Spike	Total/NA	Water	8270C	358922
440-159396-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	358922

HPLC/IC

Analysis Batch: 357378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	300.0	
440-159360-2	DW-5	Total/NA	Water	300.0	
MB 440-357378/54	Method Blank	Total/NA	Water	300.0	
LCS 440-357378/55	Lab Control Sample	Total/NA	Water	300.0	
440-159416-E-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-159416-E-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 358929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total Recoverable	Water	3005A	
440-159360-2	DW-5	Total Recoverable	Water	3005A	
MB 440-358929/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-358929/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-159323-E-3-B MS	Matrix Spike	Total Recoverable	Water	3005A	
440-159323-E-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159360-1

Analysis Batch: 359649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total Recoverable	Water	6010B	358929
440-159360-2	DW-5	Total Recoverable	Water	6010B	358929
MB 440-358929/1-A	Method Blank	Total Recoverable	Water	6010B	358929
LCS 440-358929/2-A	Lab Control Sample	Total Recoverable	Water	6010B	358929
440-159323-E-3-B MS	Matrix Spike	Total Recoverable	Water	6010B	358929
440-159323-E-3-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	358929

General Chemistry

Analysis Batch: 357823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	SM 5310C	
440-159360-2	DW-5	Total/NA	Water	SM 5310C	
MB 440-357823/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-357823/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-357823/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-159304-B-20 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-159304-B-20 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 357917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	SM 2320B	
440-159360-2	DW-5	Total/NA	Water	SM 2320B	
MB 440-357917/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-357917/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-159247-L-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Prep Batch: 357959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	SM 4500 NH3 B	
440-159360-2	DW-5	Total/NA	Water	SM 4500 NH3 B	
MB 440-357959/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-357959/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-159623-B-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-159623-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-159413-B-2-C DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 357968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	SM 4500 NH3 D	357959
440-159360-2	DW-5	Total/NA	Water	SM 4500 NH3 D	357959
MB 440-357959/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	357959
LCS 440-357959/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	357959
440-159623-B-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	357959
440-159623-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	357959
440-159413-B-2-C DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	357959

Analysis Batch: 358727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	410.4	
440-159360-2	DW-5	Total/NA	Water	410.4	
MB 440-358727/3	Method Blank	Total/NA	Water	410.4	
LCS 440-358727/4	Lab Control Sample	Total/NA	Water	410.4	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-159360-1

General Chemistry (Continued)

Analysis Batch: 358727 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159268-I-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-159268-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 358896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-159360-1	MW-1	Total/NA	Water	SM 2540C	
440-159360-2	DW-5	Total/NA	Water	SM 2540C	
MB 440-358896/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-358896/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-159686-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Definitions/Glossary

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

TestAmerica Job ID: 440-159360-1

Qualifiers

GC/MS VOA

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

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.
N	Presumptive evidence of material.

GC/MS Semi VOA

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

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-159360-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16 *
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

[illegible]

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-159360-1

Login Number: 159360

List Source: TestAmerica Irvine

List Number: 1

Creator: Avila, Stephanie 1

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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-166208-1

Client Project/Site: Republic Sunshine Canyon

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

11/29/2016 12:02:42 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@testamericainc.com

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results through

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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: 440-166208-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-166208-1	DW-3(A)	Water	11/15/16 11:25	11/16/16 17:00
440-166208-2	DW-3(B)	Water	11/15/16 11:25	11/16/16 17:00
440-166208-3	DW-5(A)	Water	11/15/16 12:32	11/16/16 17:00
440-166208-4	DW-5(B)	Water	11/15/16 12:32	11/16/16 17:00

Case Narrative

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

TestAmerica Job ID: 440-166208-1

Job ID: 440-166208-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-166208-1

Comments

No additional comments.

Receipt

The samples were received on 11/16/2016 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

General Chemistry

Method(s) SM 5310C: The closing calibration blank (CCB) for analytical batch 440-370192 contained Total Organic Carbon above the reporting limit (RL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Client Sample Results

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

TestAmerica Job ID: 440-166208-1

Client Sample ID: DW-3(A)

Date Collected: 11/15/16 11:25

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO ₃	170		4.0	4.0	mg/L	-		11/19/16 11:52	1

Client Sample ID: DW-3(B)

Date Collected: 11/15/16 11:25

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO ₃	170		4.0	4.0	mg/L	-		11/19/16 12:07	1

Client Sample ID: DW-5(A)

Date Collected: 11/15/16 12:32

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-3

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	7.5		0.10	0.050	mg/L	-		11/18/16 10:53	1

Client Sample ID: DW-5(B)

Date Collected: 11/15/16 12:32

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	7.8		0.10	0.050	mg/L	-		11/18/16 11:09	1

Method Summary

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

TestAmerica Job ID: 440-166208-1

Method	Method Description	Protocol	Laboratory
SM 2320B	Alkalinity	SM	TAL IRV
SM 5310C	TOC	SM	TAL IRV

Protocol References:

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

Laboratory References:

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

Lab Chronicle

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

TestAmerica Job ID: 440-166208-1

Client Sample ID: DW-3(A)

Date Collected: 11/15/16 11:25

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-1

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	SM 2320B		1			370444	11/19/16 11:52	YZ	TAL IRV

Client Sample ID: DW-3(B)

Date Collected: 11/15/16 11:25

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-2

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	SM 2320B		1			370444	11/19/16 12:07	YZ	TAL IRV

Client Sample ID: DW-5(A)

Date Collected: 11/15/16 12:32

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-3

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	SM 5310C		1	100 mL	100 mL	370192	11/18/16 10:53	YZ	TAL IRV

Client Sample ID: DW-5(B)

Date Collected: 11/15/16 12:32

Date Received: 11/16/16 17:00

Lab Sample ID: 440-166208-4

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	SM 5310C		1	100 mL	100 mL	370192	11/18/16 11:09	YZ	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: 440-166208-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-370444/3

Matrix: Water

Analysis Batch: 370444

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	-		11/19/16 10:33	1

Lab Sample ID: LCS 440-370444/2

Matrix: Water

Analysis Batch: 370444

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	85.8	86.2		mg/L	-	101	80 - 120

Lab Sample ID: 440-166208-1 DU

Matrix: Water

Analysis Batch: 370444

Client Sample ID: DW-3(A)

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	170		169		mg/L	-	0.05	20

Method: SM 5310C - TOC

Lab Sample ID: MB 440-370192/7

Matrix: Water

Analysis Batch: 370192

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	-		11/18/16 08:19	1

Lab Sample ID: LCS 440-370192/6

Matrix: Water

Analysis Batch: 370192

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	9.98		mg/L	-	100	90 - 110

Lab Sample ID: MRL 440-370192/5

Matrix: Water

Analysis Batch: 370192

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	0.0713	J	mg/L	-	71	50 - 150

Lab Sample ID: 440-166149-G-1 MS

Matrix: Water

Analysis Batch: 370192

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	0.26		10.0	11.4		mg/L	-	112	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-166208-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-166149-G-1 MSD

Matrix: Water

Analysis Batch: 370192

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	0.26		10.0	9.67		mg/L	—	94	80 - 120	17	20

QC Association Summary

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

TestAmerica Job ID: 440-166208-1

General Chemistry

Analysis Batch: 370192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-166208-3	DW-5(A)	Total/NA	Water	SM 5310C	
440-166208-4	DW-5(B)	Total/NA	Water	SM 5310C	
MB 440-370192/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-370192/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-370192/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-166149-G-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-166149-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 370444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-166208-1	DW-3(A)	Total/NA	Water	SM 2320B	
440-166208-2	DW-3(B)	Total/NA	Water	SM 2320B	
MB 440-370444/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-370444/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-166208-1 DU	DW-3(A)	Total/NA	Water	SM 2320B	

Definitions/Glossary

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

TestAmerica Job ID: 440-166208-1

Qualifiers

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-166208-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

TestAmerica Irvine
17461 Derian Ave
Suite 100

Irvine, CA 92614
Phone: 949.261.10

Phone: 949.261.1022 Fax:

Chain of Custody Record

069167

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

* Peter *

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:[illegible]

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-166208-1

Login Number: 166208

List Source: TestAmerica Irvine

List Number: 1

Creator: Escalante, Maria I

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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-170251-1

Client Project/Site: Sunshine Landfill

For:

Geo-Logic Associates

11415 West Bernardo Court

Suite 200

San Diego, California 92127

Attn: Kyle Welchans



Authorized for release by:

1/12/2017 12:49:27 PM

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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: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-170251-1	Subdrain (N)	Water	12/20/16 10:08	12/20/16 16:00
440-170251-2	Combined Subdrains	Water	12/20/16 10:40	12/20/16 16:00
440-170251-3	Extraction Trench	Water	12/20/16 11:20	12/20/16 16:00
440-170251-4	DW-1	Water	12/20/16 14:00	12/20/16 16:00
440-170251-5	DW-2	Water	12/20/16 13:15	12/20/16 16:00
440-170251-6	PZ-2	Water	12/20/16 11:55	12/20/16 16:00
440-170251-7	MW-6	Water	12/20/16 10:50	12/20/16 16:00
440-170251-8	MW-14	Water	12/20/16 09:13	12/20/16 16:00
440-170251-9	CM-9R3	Water	12/20/16 08:50	12/20/16 16:00
440-170251-10	CM-11R	Water	12/20/16 10:45	12/20/16 16:00
440-170251-11	PZ-4	Water	12/20/16 14:35	12/20/16 16:00
440-170251-12	CM-10R	Water	12/20/16 13:00	12/20/16 16:00
440-170251-13	QCAB	Water	12/20/16 00:01	12/20/16 16:00
440-170251-14	QCTB	Water	12/20/16 00:01	12/20/16 16:00

Case Narrative

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Job ID: 440-170251-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-170251-1

Comments

No additional comments.

Receipt

The samples were received on 12/20/2016 4:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.9° C, 1.3° C, 1.8° C and 2.0° C.

Receipt Exceptions

The following sample was received at the laboratory without a sample collection time documented on the chain of custody: QCAB (440-170251-13) and QCTB (440-170251-14). The laboratory was instructed to use a sample collection time of 00:01.

GC/MS VOA

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

GC/MS Semi VOA

Method(s) 8270C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-377944 and analytical batch 440-378155. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8270C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-378304 and analytical batch 440-378647. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

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

HPLC/IC

Method(s) 300.0: The following samples was diluted for Bromide and Fluoride due to the nature of the sample matrix: Subdrain (N) (440-170251-1), DW-1 (440-170251-4), PZ-2 (440-170251-6), MW-6 (440-170251-7), MW-14 (440-170251-8), CM-9R3 (440-170251-9), CM-11R (440-170251-10) and CM10R (440-170251-12). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-377105 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The following samples was diluted for Nitrate as N due to the nature of the sample matrix: Subdrain (N) (440-170251-1), Combined Subdrains (440-170251-2), Extraction Trench (440-170251-3), DW-1 (440-170251-4), PZ-2 (440-170251-6), MW-6 (440-170251-7), MW-14 (440-170251-8), CM-9R3 (440-170251-9) and CM10R (440-170251-12). 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

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: Elevated reporting limits are provided for the following sample due to insufficient sample provided for 3520C preparation/analysis: CM-11R (440-170251-10).

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: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Job ID: 440-170251-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

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: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-170251-1

Date Collected: 12/20/16 10:08

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 12:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 12:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 12:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,4-Dichlorobenzene	0.68		0.50	0.25	ug/L			12/23/16 12:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 12:21	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 12:21	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 12:21	1
Acetone	ND		20	10	ug/L			12/23/16 12:21	1
Acetonitrile	ND		20	10	ug/L			12/23/16 12:21	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 12:21	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 12:21	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 12:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 12:21	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
cis-1,2-Dichloroethene	0.48	J	0.50	0.25	ug/L			12/23/16 12:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 12:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 12:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 12:21	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 12:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 12:21	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 12:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 12:21	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 12:21	1
Methyl tert-butyl ether	0.45	J	0.50	0.25	ug/L			12/23/16 12:21	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 12:21	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 12:21	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Subdrain (N)

Lab Sample ID: 440-170251-1

Date Collected: 12/20/16 10:08

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/23/16 12:21	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
t-Butanol	19	ID	10	5.0	ug/L			12/23/16 12:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 12:21	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 12:21	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 12:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 12:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 12:21	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 12:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 12:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 12:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 12:21	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 12:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.1	T J	ug/L		4.74			12/23/16 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		12/23/16 12:21	1
4-Bromofluorobenzene (Surr)	102		80 - 120		12/23/16 12:21	1
Dibromofluoromethane (Surr)	115		76 - 132		12/23/16 12:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15		0.97	0.24	ug/L	-	12/23/16 11:23	12/24/16 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		30 - 120				12/23/16 11:23	12/24/16 14:38	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.6	J	2.5	1.3	mg/L			12/20/16 20:29	5
Nitrate as N	ND		0.55	0.28	mg/L			12/20/16 20:29	5
Chloride	120		2.5	1.3	mg/L			12/20/16 20:29	5
Fluoride	ND		2.5	1.3	mg/L			12/20/16 20:29	5
Sulfate	1300		100	50	mg/L			12/20/16 20:40	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	7.6		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:25	1
Manganese	3.1		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:25	1
Magnesium	180		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:25	1
Iron	13	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:25	1
Sodium	250		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:25	1
Calcium	260		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:25	1
Boron	0.51		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:25	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	59		20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	3000		50	25	mg/L			12/25/16 10:08	1
Ammonia (as N)	3.9		1.0	0.20	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:23	1
Total Organic Carbon	24		1.0	0.50	mg/L			01/05/17 11:12	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	920		4.0	4.0	mg/L			12/21/16 05:35	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/21/16 05:35	1
Carbon Dioxide, Free	250		2.0	2.0	mg/L			01/10/17 14:22	1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-170251-2

Date Collected: 12/20/16 10:40

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 12:48	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 12:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 12:48	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,4-Dichlorobenzene	0.80		0.50	0.25	ug/L			12/23/16 12:48	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 12:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 12:48	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 12:48	1
Acetone	ND		20	10	ug/L			12/23/16 12:48	1
Acetonitrile	ND		20	10	ug/L			12/23/16 12:48	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 12:48	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 12:48	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 12:48	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 12:48	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
cis-1,2-Dichloroethene	2.3		0.50	0.25	ug/L			12/23/16 12:48	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Combined Subdrains

Lab Sample ID: 440-170251-2

Date Collected: 12/20/16 10:40

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 12:48	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 12:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 12:48	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 12:48	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 12:48	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 12:48	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 12:48	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 12:48	1
Methyl tert-butyl ether	1.3		0.50	0.25	ug/L			12/23/16 12:48	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 12:48	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Propionitrile	ND		20	10	ug/L			12/23/16 12:48	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
t-Butanol	36		10	5.0	ug/L			12/23/16 12:48	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Tetrahydrofuran	7.2 J		10	5.0	ug/L			12/23/16 12:48	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 12:48	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 12:48	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 12:48	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 12:48	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 12:48	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 12:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 12:48	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 12:48	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 12:48	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.9	T J	ug/L		4.74			12/23/16 12:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		12/23/16 12:48	1
4-Bromofluorobenzene (Surr)	101		80 - 120		12/23/16 12:48	1
Dibromofluoromethane (Surr)	115		76 - 132		12/23/16 12:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		1.0	0.26	ug/L		12/23/16 11:23	12/24/16 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	47		30 - 120	12/23/16 11:23	12/24/16 14:59	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.5		1.0	0.50	mg/L			12/20/16 20:51	2
Nitrate as N	ND		0.22	0.11	mg/L			12/20/16 20:51	2
Chloride	130		50	25	mg/L			12/20/16 21:01	100

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Combined Subdrains

Date Collected: 12/20/16 10:40

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5		1.0	0.50	mg/L			12/20/16 20:51	2
Sulfate	1700		50	25	mg/L			12/20/16 21:01	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	17		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:34	1
Manganese	4.7		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:34	1
Magnesium	210		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:34	1
Iron	53	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:34	1
Sodium	360		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:34	1
Calcium	390		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:34	1
Boron	1.0		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	81		20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	3500		50	25	mg/L			12/25/16 10:08	1
Ammonia (as N)	4.6		1.0	0.20	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:23	1
Total Organic Carbon	29		1.0	0.50	mg/L			01/06/17 06:55	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	830		4.0	4.0	mg/L			12/21/16 06:03	1
Bicarbonate Alkalinity as CaCO3	830		4.0	4.0	mg/L			12/21/16 06:03	1
Carbon Dioxide, Free	380		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: Extraction Trench

Date Collected: 12/20/16 11:20

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 13:16	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 13:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 13:16	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,4-Dichlorobenzene	0.41	J	0.50	0.25	ug/L			12/23/16 13:16	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 13:16	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 13:16	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 13:16	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-170251-3

Date Collected: 12/20/16 11:20

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	18	J	20	10	ug/L			12/23/16 13:16	1
Acetonitrile	ND		20	10	ug/L			12/23/16 13:16	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 13:16	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 13:16	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 13:16	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 13:16	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
cis-1,2-Dichloroethene	1.4		0.50	0.25	ug/L			12/23/16 13:16	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 13:16	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 13:16	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 13:16	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 13:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 13:16	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 13:16	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 13:16	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 13:16	1
Methyl tert-butyl ether	0.78		0.50	0.25	ug/L			12/23/16 13:16	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 13:16	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Propionitrile	ND		20	10	ug/L			12/23/16 13:16	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
t-Butanol	46		10	5.0	ug/L			12/23/16 13:16	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Tetrahydrofuran	7.8	J	10	5.0	ug/L			12/23/16 13:16	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 13:16	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 13:16	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 13:16	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 13:16	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 13:16	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 13:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 13:16	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 13:16	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 13:16	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-170251-3

Date Collected: 12/20/16 11:20

Matrix: Water

Date Received: 12/20/16 16:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/23/16 13:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128					12/23/16 13:16	1
4-Bromofluorobenzene (Surr)	104		80 - 120					12/23/16 13:16	1
Dibromofluoromethane (Surr)	115		76 - 132					12/23/16 13:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20		0.98	0.25	ug/L		12/23/16 11:23	12/24/16 15:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	44		30 - 120				12/23/16 11:23	12/24/16 15:21	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	3.0		1.0	0.50	mg/L			12/20/16 21:11	2
Nitrate as N	ND		0.22	0.11	mg/L			12/20/16 21:11	2
Chloride	180		50	25	mg/L			12/20/16 21:22	100
Fluoride	2.2		1.0	0.50	mg/L			12/20/16 21:11	2
Sulfate	1800		50	25	mg/L			12/20/16 21:22	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	37		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:36	1
Manganese	3.4		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:36	1
Magnesium	200		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:36	1
Iron	34	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:36	1
Sodium	440		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:36	1
Calcium	410		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:36	1
Boron	1.6		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	130		20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	3500		50	25	mg/L			12/25/16 10:08	1
Ammonia (as N)	8.8		2.5	0.50	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:23	1
Total Organic Carbon	31		1.0	0.50	mg/L			01/05/17 17:04	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	810		4.0	4.0	mg/L			12/21/16 06:16	1
Bicarbonate Alkalinity as CaCO3	810		4.0	4.0	mg/L			12/21/16 06:16	1
Carbon Dioxide, Free	250		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: DW-1

Lab Sample ID: 440-170251-4

Date Collected: 12/20/16 14:00

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 13:44	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: DW-1

Date Collected: 12/20/16 14:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 13:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 13:44	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 13:44	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 13:44	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 13:44	1
Acetone	ND		20	10	ug/L			12/23/16 13:44	1
Acetonitrile	ND		20	10	ug/L			12/23/16 13:44	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 13:44	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 13:44	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 13:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 13:44	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 13:44	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 13:44	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 13:44	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 13:44	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 13:44	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 13:44	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 13:44	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 13:44	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 13:44	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Propionitrile	ND		20	10	ug/L			12/23/16 13:44	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: DW-1

Date Collected: 12/20/16 14:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 13:44	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 13:44	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 13:44	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 13:44	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 13:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 13:44	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 13:44	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 13:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 13:44	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 13:44	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 13:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/23/16 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		12/23/16 13:44	1
4-Bromofluorobenzene (Surr)	105		80 - 120		12/23/16 13:44	1
Dibromofluoromethane (Surr)	120		76 - 132		12/23/16 13:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.94	0.24	ug/L		12/23/16 11:23	12/24/16 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	57		30 - 120	12/23/16 11:23	12/24/16 15:43	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			12/20/16 21:32	5
Nitrate as N	ND		0.55	0.28	mg/L			12/20/16 21:32	5
Chloride	13		2.5	1.3	mg/L			12/20/16 21:32	5
Fluoride	3.5		2.5	1.3	mg/L			12/20/16 21:32	5
Sulfate	1800		100	50	mg/L			12/20/16 22:03	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	1.3		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:38	1
Manganese	ND		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:38	1
Magnesium	1.7		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:38	1
Iron	0.062	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:38	1
Sodium	1000		2.5	1.3	mg/L		01/01/17 09:48	01/09/17 18:31	5
Calcium	3.0		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:38	1
Boron	2.0		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:38	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: DW-1

Date Collected: 12/20/16 14:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 15:36	1
Total Dissolved Solids	3200		50	25	mg/L			12/25/16 10:08	1
Ammonia (as N)	2.1		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	0.82		0.10	0.040	mg/L			12/21/16 22:23	2
Total Organic Carbon	3.0		0.10	0.050	mg/L			01/06/17 09:07	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	560		4.0	4.0	mg/L			12/21/16 06:27	1
Bicarbonate Alkalinity as CaCO3	450		4.0	4.0	mg/L			12/21/16 06:27	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: DW-2

Date Collected: 12/20/16 13:15

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 14:12	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 14:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 14:12	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 14:12	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 14:12	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 14:12	1
Acetone	ND		20	10	ug/L			12/23/16 14:12	1
Acetonitrile	ND		20	10	ug/L			12/23/16 14:12	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 14:12	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 14:12	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 14:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 14:12	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:12	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: DW-2

Date Collected: 12/20/16 13:15

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-5

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			12/23/16 14:12	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 14:12	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 14:12	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 14:12	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 14:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 14:12	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 14:12	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 14:12	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 14:12	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 14:12	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Propionitrile	ND		20	10	ug/L			12/23/16 14:12	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 14:12	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 14:12	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 14:12	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 14:12	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 14:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 14:12	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 14:12	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 14:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 14:12	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 14:12	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 14:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.1	T J	ug/L		4.75			12/23/16 14:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		12/23/16 14:12	1
4-Bromofluorobenzene (Surr)	108		80 - 120		12/23/16 14:12	1
Dibromofluoromethane (Surr)	121		76 - 132		12/23/16 14:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.96	0.24	ug/L		12/23/16 11:23	12/24/16 16:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	50		30 - 120				12/23/16 11:23	12/24/16 16:05	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: DW-2

Date Collected: 12/20/16 13:15

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-5

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.36	J	0.50	0.25	mg/L			12/20/16 22:39	1
Nitrate as N	ND		0.11	0.055	mg/L			12/20/16 22:39	1
Chloride	11		0.50	0.25	mg/L			12/24/16 07:34	1
Fluoride	ND		0.50	0.25	mg/L			12/20/16 22:39	1
Sulfate	1100		25	13	mg/L			12/20/16 22:49	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	4.4		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:52	1
Manganese	0.16		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:52	1
Magnesium	72		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:52	1
Iron	1.3	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:52	1
Sodium	460		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:52	1
Calcium	110		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:52	1
Boron	0.61		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	1900		20	10	mg/L			12/25/16 10:08	1
Ammonia (as N)	3.3		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:23	1
Total Organic Carbon	1.6		0.10	0.050	mg/L			01/05/17 09:52	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	370		4.0	4.0	mg/L			12/21/16 06:36	1
Bicarbonate Alkalinity as CaCO3	370		4.0	4.0	mg/L			12/21/16 06:36	1
Carbon Dioxide, Free	28		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: PZ-2

Date Collected: 12/20/16 11:55

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-6

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			12/23/16 14:39	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 14:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 14:39	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:39	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: PZ-2

Lab Sample ID: 440-170251-6

Date Collected: 12/20/16 11:55

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 14:39	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 14:39	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 14:39	1
Acetone	ND		20	10	ug/L			12/23/16 14:39	1
Acetonitrile	ND		20	10	ug/L			12/23/16 14:39	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 14:39	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 14:39	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 14:39	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 14:39	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 14:39	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 14:39	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 14:39	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 14:39	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 14:39	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 14:39	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 14:39	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 14:39	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 14:39	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Propionitrile	ND		20	10	ug/L			12/23/16 14:39	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 14:39	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 14:39	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 14:39	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 14:39	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 14:39	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 14:39	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 14:39	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 14:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 14:39	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: PZ-2

Date Collected: 12/20/16 11:55

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 14:39	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 14:39	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.7	T J	ug/L		4.75			12/23/16 14:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		12/23/16 14:39	1
4-Bromofluorobenzene (Surr)	105		80 - 120		12/23/16 14:39	1
Dibromofluoromethane (Surr)	121		76 - 132		12/23/16 14:39	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	0.26	ug/L		12/23/16 11:23	12/24/16 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120	12/23/16 11:23	12/24/16 16:27	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	2.5	mg/L			12/20/16 23:00	10
Nitrate as N	ND		1.1	0.55	mg/L			12/20/16 23:00	10
Chloride	11		5.0	2.5	mg/L			12/24/16 07:54	10
Fluoride	ND		5.0	2.5	mg/L			12/20/16 23:00	10
Sulfate	2700		100	50	mg/L			12/20/16 23:10	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	2.7		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:55	1
Manganese	0.026		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:55	1
Magnesium	11		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:55	1
Iron	0.050	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:55	1
Sodium	1300		2.5	1.3	mg/L		01/01/17 09:48	01/09/17 18:33	5
Calcium	13		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:55	1
Boron	1.4		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	4000		100	50	mg/L			12/25/16 10:08	1
Ammonia (as N)	3.3		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	0.037	J	0.050	0.020	mg/L			12/21/16 22:23	1
Total Organic Carbon	2.7		0.10	0.050	mg/L			01/05/17 10:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	370		4.0	4.0	mg/L			12/21/16 06:45	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/21/16 06:45	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 16:00	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: MW-6

Date Collected: 12/20/16 10:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 15:07	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 15:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 15:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 15:07	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 15:07	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 15:07	1
Acetone	ND		20	10	ug/L			12/23/16 15:07	1
Acetonitrile	ND		20	10	ug/L			12/23/16 15:07	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 15:07	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 15:07	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 15:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 15:07	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 15:07	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 15:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 15:07	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 15:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 15:07	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 15:07	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 15:07	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 15:07	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 15:07	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 15:07	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: MW-6

Date Collected: 12/20/16 10:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/23/16 15:07	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 15:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 15:07	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 15:07	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 15:07	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 15:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 15:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 15:07	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 15:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 15:07	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 15:07	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 15:07	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.5	T J	ug/L		4.75			12/23/16 15:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		12/23/16 15:07	1
4-Bromofluorobenzene (Surr)	105		80 - 120		12/23/16 15:07	1
Dibromofluoromethane (Surr)	120		76 - 132		12/23/16 15:07	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		12/23/16 11:23	12/24/16 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	69		30 - 120	12/23/16 11:23	12/24/16 16:49	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.81	J	1.0	0.50	mg/L			12/20/16 23:20	2
Nitrate as N	ND		0.22	0.11	mg/L			12/20/16 23:20	2
Chloride	28		1.0	0.50	mg/L			12/24/16 08:15	2
Fluoride	1.9		1.0	0.50	mg/L			12/20/16 23:20	2
Sulfate	1700		50	25	mg/L			12/20/16 23:31	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	6.6		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:57	1
Manganese	0.86		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:57	1
Magnesium	170		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:57	1
Iron	8.3	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:57	1
Sodium	280		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:57	1
Calcium	340		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:57	1
Boron	0.69		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:57	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	17	J	20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	2700		20	10	mg/L			12/27/16 08:22	1
Ammonia (as N)	1.4		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	1.2		0.10	0.040	mg/L			12/21/16 22:23	2
Total Organic Carbon	4.8		0.10	0.050	mg/L			01/05/17 10:18	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	400		4.0	4.0	mg/L			12/21/16 06:54	1
Bicarbonate Alkalinity as CaCO3	400		4.0	4.0	mg/L			12/21/16 06:54	1
Carbon Dioxide, Free	97		2.0	2.0	mg/L			12/22/16 16:00	1

Client Sample ID: MW-14

Date Collected: 12/20/16 09:13

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-8

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			12/23/16 15:35	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 15:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 15:35	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 15:35	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 15:35	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 15:35	1
Acetone	ND		20	10	ug/L			12/23/16 15:35	1
Acetonitrile	ND		20	10	ug/L			12/23/16 15:35	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 15:35	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 15:35	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 15:35	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 15:35	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: MW-14

Date Collected: 12/20/16 09:13

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 15:35	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 15:35	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 15:35	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 15:35	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 15:35	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 15:35	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 15:35	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 15:35	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 15:35	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Propionitrile	ND		20	10	ug/L			12/23/16 15:35	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 15:35	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 15:35	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 15:35	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 15:35	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 15:35	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 15:35	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 15:35	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 15:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 15:35	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 15:35	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 15:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethane, 1-chloro-1-fluoro-	2.7	T J N	ug/L		2.81	1615-75-4		12/23/16 15:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		12/23/16 15:35	1
4-Bromofluorobenzene (Surr)	104		80 - 120		12/23/16 15:35	1
Dibromofluoromethane (Surr)	123		76 - 132		12/23/16 15:35	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		12/23/16 11:23	12/24/16 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	42		30 - 120	12/23/16 11:23	12/24/16 17:11	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.73	J	1.0	0.50	mg/L			12/20/16 23:41	2
Nitrate as N	ND		0.22	0.11	mg/L			12/20/16 23:41	2
Chloride	25		1.0	0.50	mg/L			12/24/16 08:35	2

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: MW-14

Date Collected: 12/20/16 09:13

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-8

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.2		1.0	0.50	mg/L			12/20/16 23:41	2
Sulfate	1500		50	25	mg/L			12/20/16 23:52	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	7.9		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:59	1
Manganese	3.0		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:59	1
Magnesium	140		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:59	1
Iron	0.60	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:59	1
Sodium	280		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:59	1
Calcium	350		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:59	1
Boron	0.43		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 09:32	1
Total Dissolved Solids	2600		20	10	mg/L			12/27/16 08:22	1
Ammonia (as N)	0.24	J	0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:23	1
Total Organic Carbon	4.0		0.10	0.050	mg/L			01/05/17 10:33	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		4.0	4.0	mg/L			12/21/16 07:07	1
Bicarbonate Alkalinity as CaCO3	380		4.0	4.0	mg/L			12/21/16 07:07	1
Carbon Dioxide, Free	62		2.0	2.0	mg/L			12/22/16 16:00	1

Client Sample ID: CM-9R3

Date Collected: 12/20/16 08:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-9

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			12/23/16 16:03	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 16:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 16:03	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 16:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 16:03	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 16:03	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-9R3

Date Collected: 12/20/16 08:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/23/16 16:03	1
Acetonitrile	ND		20	10	ug/L			12/23/16 16:03	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 16:03	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 16:03	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 16:03	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 16:03	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 16:03	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 16:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 16:03	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 16:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 16:03	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 16:03	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 16:03	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 16:03	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 16:03	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Propionitrile	ND		20	10	ug/L			12/23/16 16:03	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 16:03	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 16:03	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 16:03	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 16:03	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 16:03	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 16:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 16:03	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 16:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 16:03	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 16:03	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 16:03	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-9R3

Date Collected: 12/20/16 08:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-9

Matrix: Water

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.8	T J	ug/L		4.75			12/23/16 16:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128					12/23/16 16:03	1
4-Bromofluorobenzene (Surr)	107		80 - 120					12/23/16 16:03	1
Dibromofluoromethane (Surr)	124		76 - 132					12/23/16 16:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.24	ug/L		12/23/16 11:23	12/24/16 17:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	49		30 - 120				12/23/16 11:23	12/24/16 17:33	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			12/21/16 00:02	5
Nitrate as N	ND		0.55	0.28	mg/L			12/21/16 00:02	5
Chloride	14		2.5	1.3	mg/L			12/24/16 08:55	5
Fluoride	3.7		2.5	1.3	mg/L			12/21/16 00:02	5
Sulfate	3200		100	50	mg/L			12/21/16 00:12	200

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		01/01/17 09:48	01/09/17 14:01	1
Manganese	3.9		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:01	1
Magnesium	260		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:01	1
Iron	19	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 14:01	1
Sodium	600		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 14:01	1
Calcium	390		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 14:01	1
Boron	2.2		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 14:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	11	J	20	10	mg/L			01/04/17 09:33	1
Total Dissolved Solids	4700		100	50	mg/L			12/27/16 08:22	1
Ammonia (as N)	7.3		2.5	0.50	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	0.020	J	0.050	0.020	mg/L			12/21/16 22:24	1
Total Organic Carbon	5.8		0.10	0.050	mg/L			01/05/17 10:47	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	180		4.0	4.0	mg/L			12/21/16 07:24	1
Bicarbonate Alkalinity as CaCO3	180		4.0	4.0	mg/L			12/21/16 07:24	1
Carbon Dioxide, Free	88		2.0	2.0	mg/L			12/22/16 16:00	1

Client Sample ID: CM-11R

Date Collected: 12/20/16 10:45

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 16:30	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-11R

Lab Sample ID: 440-170251-10

Date Collected: 12/20/16 10:45

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 16:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 16:30	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 16:30	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 16:30	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 16:30	1
Acetone	ND		20	10	ug/L			12/23/16 16:30	1
Acetonitrile	ND		20	10	ug/L			12/23/16 16:30	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 16:30	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 16:30	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 16:30	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 16:30	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 16:30	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 16:30	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 16:30	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 16:30	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 16:30	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 16:30	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 16:30	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 16:30	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 16:30	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Propionitrile	ND		20	10	ug/L			12/23/16 16:30	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-11R

Date Collected: 12/20/16 10:45

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 16:30	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 16:30	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 16:30	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 16:30	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 16:30	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 16:30	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 16:30	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 16:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 16:30	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 16:30	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 16:30	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.8	T J	ug/L		4.76			12/23/16 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		12/23/16 16:30	1
4-Bromofluorobenzene (Surr)	105		80 - 120		12/23/16 16:30	1
Dibromofluoromethane (Surr)	123		76 - 132		12/23/16 16:30	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	0.28	ug/L		12/27/16 08:45	12/29/16 12:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	71		30 - 120	12/27/16 08:45	12/29/16 12:33	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			12/21/16 00:43	5
Nitrate as N	0.79		0.55	0.28	mg/L			12/21/16 00:43	5
Chloride	11		2.5	1.3	mg/L			12/24/16 09:16	5
Fluoride	2.3 J		2.5	1.3	mg/L			12/21/16 00:43	5
Sulfate	2400		100	50	mg/L			12/21/16 00:54	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	9.1		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 14:03	1
Manganese	1.1		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:03	1
Magnesium	99		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:03	1
Iron	1.2 B		0.040	0.010	mg/L		01/01/17 09:48	01/09/17 14:03	1
Sodium	840		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 14:03	1
Calcium	160		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 14:03	1
Boron	1.8		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 14:03	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-11R

Date Collected: 12/20/16 10:45

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-10

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 09:33	1
Total Dissolved Solids	3600		50	25	mg/L			12/27/16 08:22	1
Ammonia (as N)	2.2		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:24	1
Total Organic Carbon	4.3		0.10	0.050	mg/L			01/05/17 11:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	100		4.0	4.0	mg/L			12/21/16 07:30	1
Bicarbonate Alkalinity as CaCO3	100		4.0	4.0	mg/L			12/21/16 07:30	1
Carbon Dioxide, Free	48		2.0	2.0	mg/L			12/22/16 16:00	1

Client Sample ID: PZ-4

Date Collected: 12/20/16 14:35

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 16:58	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 16:58	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 16:58	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 16:58	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 16:58	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 16:58	1
Acetone	ND		20	10	ug/L			12/23/16 16:58	1
Acetonitrile	ND		20	10	ug/L			12/23/16 16:58	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 16:58	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 16:58	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 16:58	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 16:58	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:58	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: PZ-4

Lab Sample ID: 440-170251-11

Date Collected: 12/20/16 14:35

Matrix: Water

Date Received: 12/20/16 16:00

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			12/23/16 16:58	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 16:58	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 16:58	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 16:58	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 16:58	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 16:58	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 16:58	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 16:58	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 16:58	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 16:58	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Propionitrile	ND		20	10	ug/L			12/23/16 16:58	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 16:58	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 16:58	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 16:58	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 16:58	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 16:58	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 16:58	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 16:58	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 16:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 16:58	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 16:58	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 16:58	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/23/16 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 128		12/23/16 16:58	1
4-Bromofluorobenzene (Surr)	105		80 - 120		12/23/16 16:58	1
Dibromofluoromethane (Surr)	123		76 - 132		12/23/16 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		12/27/16 08:45	12/29/16 12:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	58		30 - 120				12/27/16 08:45	12/29/16 12:55	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: PZ-4

Date Collected: 12/20/16 14:35

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-11

Matrix: Water

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			12/21/16 01:04	1
Nitrate as N	ND		0.11	0.055	mg/L			12/21/16 01:04	1
Chloride	9.1		0.50	0.25	mg/L			12/24/16 09:36	1
Fluoride	1.3		0.50	0.25	mg/L			12/21/16 01:04	1
Sulfate	510		25	13	mg/L			12/21/16 01:14	50

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		01/01/17 09:48	01/09/17 14:06	1
Manganese	0.12		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:06	1
Magnesium	76		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:06	1
Iron	0.95	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 14:06	1
Sodium	110		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 14:06	1
Calcium	130		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 14:06	1
Boron	0.18		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 09:33	1
Total Dissolved Solids	1100		10	5.0	mg/L			12/27/16 08:22	1
Ammonia (as N)	2.5		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:24	1
Total Organic Carbon	1.2		0.10	0.050	mg/L			01/05/17 12:11	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/21/16 07:39	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/21/16 07:39	1
Carbon Dioxide, Free	44		2.0	2.0	mg/L			12/22/16 16:00	1

Client Sample ID: CM-10R

Date Collected: 12/20/16 13:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-12

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 17:26	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 17:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 17:26	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:26	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-10R

Lab Sample ID: 440-170251-12

Date Collected: 12/20/16 13:00

Matrix: Water

Date Received: 12/20/16 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 17:26	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 17:26	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 17:26	1
Acetone	ND		20	10	ug/L			12/23/16 17:26	1
Acetonitrile	ND		20	10	ug/L			12/23/16 17:26	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 17:26	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 17:26	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 17:26	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 17:26	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 17:26	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 17:26	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 17:26	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 17:26	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 17:26	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 17:26	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 17:26	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 17:26	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 17:26	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Propionitrile	ND		20	10	ug/L			12/23/16 17:26	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 17:26	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 17:26	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 17:26	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 17:26	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 17:26	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 17:26	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 17:26	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 17:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 17:26	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-10R

Date Collected: 12/20/16 13:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-12

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 17:26	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 17:26	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.0	T J	ug/L		2.12			12/23/16 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		12/23/16 17:26	1
4-Bromofluorobenzene (Surr)	106		80 - 120		12/23/16 17:26	1
Dibromofluoromethane (Surr)	123		76 - 132		12/23/16 17:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.98	0.24	ug/L		12/27/16 08:45	12/29/16 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		30 - 120	12/27/16 08:45	12/29/16 13:17	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			12/21/16 01:25	2
Nitrate as N	ND		0.22	0.11	mg/L			12/21/16 01:25	2
Chloride	11		1.0	0.50	mg/L			12/24/16 07:22	2
Fluoride	1.8		1.0	0.50	mg/L			12/21/16 01:25	2
Sulfate	1800		50	25	mg/L			12/21/16 01:35	100

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		01/01/17 09:48	01/09/17 14:08	1
Manganese	0.56		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:08	1
Magnesium	210		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 14:08	1
Iron	0.53	B	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 14:08	1
Sodium	270		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 14:08	1
Calcium	320		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 14:08	1
Boron	1.1		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	18	J	20	10	mg/L			01/04/17 09:33	1
Total Dissolved Solids	3000		20	10	mg/L			12/27/16 08:22	1
Ammonia (as N)	15		5.0	1.0	mg/L		12/27/16 06:00	12/27/16 06:30	1
Total Sulfide	4.1		0.25	0.10	mg/L			12/21/16 22:24	5
Total Organic Carbon	3.6		0.10	0.050	mg/L			01/05/17 12:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	420		4.0	4.0	mg/L			12/21/16 07:49	1
Bicarbonate Alkalinity as CaCO3	420		4.0	4.0	mg/L			12/21/16 07:49	1
Carbon Dioxide, Free	110		2.0	2.0	mg/L			12/22/16 16:00	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: QCAB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-13

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 17:53	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 17:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 17:53	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 17:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 17:53	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 17:53	1
Acetone	ND		20	10	ug/L			12/23/16 17:53	1
Acetonitrile	ND		20	10	ug/L			12/23/16 17:53	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 17:53	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 17:53	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 17:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 17:53	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 17:53	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 17:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 17:53	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 17:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 17:53	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 17:53	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 17:53	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 17:53	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 17:53	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 17:53	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: QCAB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-13

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/23/16 17:53	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 17:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 17:53	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 17:53	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 17:53	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 17:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 17:53	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 17:53	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 17:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 17:53	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 17:53	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 17:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.5	T J	ug/L		4.75			12/23/16 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		12/23/16 17:53	1
4-Bromofluorobenzene (Surr)	107		80 - 120		12/23/16 17:53	1
Dibromofluoromethane (Surr)	123		76 - 132		12/23/16 17:53	1

Client Sample ID: QCTB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-14

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 18:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 18:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 18:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 18:21	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: QCTB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-14

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 18:21	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 18:21	1
Acetone	ND		20	10	ug/L			12/23/16 18:21	1
Acetonitrile	ND		20	10	ug/L			12/23/16 18:21	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 18:21	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 18:21	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 18:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 18:21	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 18:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 18:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 18:21	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 18:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 18:21	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 18:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 18:21	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 18:21	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 18:21	1
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Propionitrile	ND		20	10	ug/L			12/23/16 18:21	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 18:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 18:21	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 18:21	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 18:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 18:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 18:21	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 18:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 18:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 18:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 18:21	1

TestAmerica Irvine

Client Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: QCTB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-14

Matrix: Water

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			12/23/16 18:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/23/16 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 128		12/23/16 18:21	1
4-Bromofluorobenzene (Surr)	108		80 - 120		12/23/16 18:21	1
Dibromofluoromethane (Surr)	121		76 - 132		12/23/16 18:21	1

Method Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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 CO2 C	Free Carbon Dioxide	SM	TAL IRV
SM 4500 NH3 D	Ammonia	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5310C	TOC	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 = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Subdrain (N)

Date Collected: 12/20/16 10:08

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-1

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	377848	12/23/16 12:21	TCN	TAL IRV
Total/NA	Prep	3520C			1030 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 14:38	DF	TAL IRV
Total/NA	Analysis	300.0		5			377104	12/20/16 20:29	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377105	12/20/16 20:29	NN	TAL IRV
Total/NA	Analysis	300.0		200			377105	12/20/16 20:40	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:25	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 05:35	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	381044	01/10/17 14:22	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			25 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380231	01/05/17 11:12	YZ	TAL IRV

Client Sample ID: Combined Subdrains

Date Collected: 12/20/16 10:40

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-2

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	377848	12/23/16 12:48	TCN	TAL IRV
Total/NA	Prep	3520C			965 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 14:59	DF	TAL IRV
Total/NA	Analysis	300.0		2			377104	12/20/16 20:51	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377105	12/20/16 20:51	NN	TAL IRV
Total/NA	Analysis	300.0		100			377105	12/20/16 21:01	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:34	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 06:03	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			25 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380347	01/06/17 06:55	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: Extraction Trench

Lab Sample ID: 440-170251-3

Date Collected: 12/20/16 11:20

Matrix: Water

Date Received: 12/20/16 16:00

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	377848	12/23/16 13:16	TCN	TAL IRV
Total/NA	Prep	3520C			1020 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 15:21	DF	TAL IRV
Total/NA	Analysis	300.0		2			377104	12/20/16 21:11	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377105	12/20/16 21:11	NN	TAL IRV
Total/NA	Analysis	300.0		100			377105	12/20/16 21:22	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:36	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 06:16	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380232	01/05/17 17:04	YZ	TAL IRV

Client Sample ID: DW-1

Lab Sample ID: 440-170251-4

Date Collected: 12/20/16 14:00

Matrix: Water

Date Received: 12/20/16 16:00

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	377848	12/23/16 13:44	TCN	TAL IRV
Total/NA	Prep	3520C			1060 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 15:43	DF	TAL IRV
Total/NA	Analysis	300.0		5			377104	12/20/16 21:32	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377105	12/20/16 21:32	NN	TAL IRV
Total/NA	Analysis	300.0		200			377105	12/20/16 22:03	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:38	EN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		5			380859	01/09/17 18:31	B1H	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379832	01/04/17 15:36	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 06:27	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		2	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380347	01/06/17 09:07	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: DW-2

Date Collected: 12/20/16 13:15

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-5

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	377848	12/23/16 14:12	TCN	TAL IRV
Total/NA	Prep	3520C			1045 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 16:05	DF	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	377956	12/24/16 07:34	NTN	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	377104	12/20/16 22:39	NTN	TAL IRV
Total/NA	Analysis	300.0		1	5 mL	1.0 mL	377105	12/20/16 22:39	NN	TAL IRV
Total/NA	Analysis	300.0		50			377105	12/20/16 22:49	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:52	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 06:36	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380231	01/05/17 09:52	YZ	TAL IRV

Client Sample ID: PZ-2

Date Collected: 12/20/16 11:55

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-6

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	377848	12/23/16 14:39	TCN	TAL IRV
Total/NA	Prep	3520C			960 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 16:27	DF	TAL IRV
Total/NA	Analysis	300.0		10			377956	12/24/16 07:54	NTN	TAL IRV
Total/NA	Analysis	300.0		10			377104	12/20/16 23:00	NTN	TAL IRV
Total/NA	Analysis	300.0		10			377105	12/20/16 23:00	NN	TAL IRV
Total/NA	Analysis	300.0		200			377105	12/20/16 23:10	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:55	EN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		5			380859	01/09/17 18:33	B1H	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 06:45	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: PZ-2

Date Collected: 12/20/16 11:55

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-6

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	SM 5310C		1	100 mL	100 mL	380231	01/05/17 10:04	YZ	TAL IRV

Client Sample ID: MW-6

Date Collected: 12/20/16 10:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-7

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	377848	12/23/16 15:07	TCN	TAL IRV
Total/NA	Prep	3520C			1020 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 16:49	DF	TAL IRV
Total/NA	Analysis	300.0		2			377956	12/24/16 08:15	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	377104	12/20/16 23:20	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	377105	12/20/16 23:20	NN	TAL IRV
Total/NA	Analysis	300.0		100			377105	12/20/16 23:31	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:57	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 06:54	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378295	12/27/16 08:22	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		2	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380231	01/05/17 10:18	YZ	TAL IRV

Client Sample ID: MW-14

Date Collected: 12/20/16 09:13

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-8

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	377848	12/23/16 15:35	TCN	TAL IRV
Total/NA	Prep	3520C			990 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 17:11	DF	TAL IRV
Total/NA	Analysis	300.0		2			377956	12/24/16 08:35	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	377104	12/20/16 23:41	NTN	TAL IRV
Total/NA	Analysis	300.0		2	5 mL	1.0 mL	377105	12/20/16 23:41	NN	TAL IRV
Total/NA	Analysis	300.0		100			377105	12/20/16 23:52	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 13:59	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:32	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 07:07	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: MW-14

Date Collected: 12/20/16 09:13

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-8

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	SM 2540C		1	50 mL	100 mL	378295	12/27/16 08:22	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:23	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380231	01/05/17 10:33	YZ	TAL IRV

Client Sample ID: CM-9R3

Date Collected: 12/20/16 08:50

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	377848	12/23/16 16:03	TCN	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	377944	12/23/16 11:23	AP	TAL IRV
Total/NA	Analysis	8270C		1			378155	12/24/16 17:33	DF	TAL IRV
Total/NA	Analysis	300.0		5			377956	12/24/16 08:55	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377104	12/21/16 00:02	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377105	12/21/16 00:02	NN	TAL IRV
Total/NA	Analysis	300.0		200			377105	12/21/16 00:12	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 14:01	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:33	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 07:24	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	378295	12/27/16 08:22	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:24	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380231	01/05/17 10:47	YZ	TAL IRV

Client Sample ID: CM-11R

Date Collected: 12/20/16 10:45

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	377848	12/23/16 16:30	TCN	TAL IRV
Total/NA	Prep	3520C			890 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 12:33	HN	TAL IRV
Total/NA	Analysis	300.0		5			377956	12/24/16 09:16	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377104	12/21/16 00:43	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377105	12/21/16 00:43	NN	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-11R

Date Collected: 12/20/16 10:45

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200			377105	12/21/16 00:54	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 14:03	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:33	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 07:30	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378295	12/27/16 08:22	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:24	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380231	01/05/17 11:00	YZ	TAL IRV

Client Sample ID: PZ-4

Date Collected: 12/20/16 14:35

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	377848	12/23/16 16:58	TCN	TAL IRV
Total/NA	Prep	3520C			995 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 12:55	HN	TAL IRV
Total/NA	Analysis	300.0		1			377956	12/24/16 09:36	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377104	12/21/16 01:04	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377105	12/21/16 01:04	NN	TAL IRV
Total/NA	Analysis	300.0		50			377105	12/21/16 01:14	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 14:06	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:33	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 07:39	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	378295	12/27/16 08:22	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377512	12/21/16 22:24	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 12:11	YZ	TAL IRV

Client Sample ID: CM-10R

Date Collected: 12/20/16 13:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-12

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	377848	12/23/16 17:26	TCN	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Client Sample ID: CM-10R

Date Collected: 12/20/16 13:00

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-12

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			1025 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 13:17	HN	TAL IRV
Total/NA	Analysis	300.0		2			377954	12/24/16 07:22	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377104	12/21/16 01:25	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377105	12/21/16 01:25	NN	TAL IRV
Total/NA	Analysis	300.0		100			377105	12/21/16 01:35	NN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379355	01/01/17 09:48	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380783	01/09/17 14:08	EN	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379704	01/04/17 09:33	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377319	12/21/16 07:49	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378295	12/27/16 08:22	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 16:00	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			5.0 mL	50 mL	378257	12/27/16 06:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378263	12/27/16 06:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		5	7.5 mL	7.5 mL	377512	12/21/16 22:24	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 12:24	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-13

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	377848	12/23/16 17:53	TCN	TAL IRV

Client Sample ID: QCTB

Date Collected: 12/20/16 00:01

Date Received: 12/20/16 16:00

Lab Sample ID: 440-170251-14

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	377848	12/23/16 18:21	TCN	TAL IRV

Laboratory References:

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

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: MB 440-377848/8

Matrix: Water

Analysis Batch: 377848

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/23/16 10:02	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/23/16 10:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/23/16 10:02	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/23/16 10:02	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/23/16 10:02	1
2-Hexanone	ND		5.0	2.5	ug/L			12/23/16 10:02	1
Acetone	ND		20	10	ug/L			12/23/16 10:02	1
Acetonitrile	ND		20	10	ug/L			12/23/16 10:02	1
Benzene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Allyl chloride	ND		1.0	0.50	ug/L			12/23/16 10:02	1
Bromoform	ND		1.0	0.40	ug/L			12/23/16 10:02	1
Bromomethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/23/16 10:02	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Chloroethane	ND		1.0	0.40	ug/L			12/23/16 10:02	1
Chloroform	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Chloromethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Dibromomethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/23/16 10:02	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 10:02	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Iodomethane	ND		2.0	1.0	ug/L			12/23/16 10:02	1
Isobutyl alcohol	ND		25	13	ug/L			12/23/16 10:02	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/23/16 10:02	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/23/16 10:02	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/23/16 10:02	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/23/16 10:02	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Naphthalene	ND		1.0	0.40	ug/L			12/23/16 10:02	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: MB 440-377848/8

Matrix: Water

Analysis Batch: 377848

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Propionitrile	ND		20	10	ug/L			12/23/16 10:02	1
Styrene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
t-Butanol	ND		10	5.0	ug/L			12/23/16 10:02	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/23/16 10:02	1
Toluene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/23/16 10:02	1
Trichloroethene	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/23/16 10:02	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/23/16 10:02	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/23/16 10:02	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/23/16 10:02	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/23/16 10:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/23/16 10:02	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/23/16 10:02	1
Acrolein	ND		5.0	2.5	ug/L			12/23/16 10:02	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/23/16 10:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 128		12/23/16 10:02	1
4-Bromofluorobenzene (Surr)	104		80 - 120		12/23/16 10:02	1
Dibromofluoromethane (Surr)	114		76 - 132		12/23/16 10:02	1

Lab Sample ID: LCS 440-377848/9

Matrix: Water

Analysis Batch: 377848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	24.8		ug/L		99	63 - 130
1,1,1,2-Tetrachloroethane	25.0	28.9		ug/L		116	60 - 141
1,1,1-Trichloroethane	25.0	29.1		ug/L		116	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.5		ug/L		90	63 - 130
1,1,2-Trichloroethane	25.0	25.7		ug/L		103	70 - 130
1,1-Dichloroethane	25.0	25.7		ug/L		103	64 - 130
1,1-Dichloroethene	25.0	24.6		ug/L		99	70 - 130
1,1-Dichloropropene	25.0	26.1		ug/L		104	70 - 130
1,2,4-Trichlorobenzene	25.0	29.1		ug/L		116	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	25.5		ug/L		102	52 - 140
1,2-Dichlorobenzene	25.0	24.6		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	30.0		ug/L		120	57 - 138
1,2-Dichloropropane	25.0	26.7		ug/L		107	67 - 130
1,3-Dichlorobenzene	25.0	23.8		ug/L		95	70 - 130

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: LCS 440-377848/9

Matrix: Water

Analysis Batch: 377848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	25.0		ug/L		100	70 - 130
1,4-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130
2,2-Dichloropropane	25.0	32.3		ug/L		129	68 - 141
2-Hexanone	25.0	31.4		ug/L		125	10 - 150
Acetone	25.0	25.2		ug/L		101	10 - 150
Benzene	25.0	24.5		ug/L		98	68 - 130
Bromoform	25.0	28.8		ug/L		115	60 - 148
Bromomethane	25.0	29.5		ug/L		118	64 - 139
Carbon disulfide	25.0	25.2		ug/L		101	52 - 136
Carbon tetrachloride	25.0	31.2		ug/L		125	60 - 150
Chlorobenzene	25.0	24.3		ug/L		97	70 - 130
Bromochloromethane	25.0	27.2		ug/L		109	70 - 130
Chloroethane	25.0	28.3		ug/L		113	64 - 135
Chloroform	25.0	28.2		ug/L		113	70 - 130
Chloromethane	25.0	31.6		ug/L		126	47 - 140
cis-1,2-Dichloroethene	25.0	26.9		ug/L		107	70 - 133
cis-1,3-Dichloropropene	25.0	29.6		ug/L		118	70 - 133
Dibromochloromethane	25.0	29.6		ug/L		118	69 - 145
Dibromomethane	25.0	27.8		ug/L		111	70 - 130
Bromodichloromethane	25.0	30.6		ug/L		122	70 - 132
Dichlorodifluoromethane	25.0	29.7		ug/L		119	29 - 150
Ethylbenzene	25.0	25.1		ug/L		101	70 - 130
m,p-Xylene	25.0	26.0		ug/L		104	70 - 130
Methylene Chloride	25.0	24.5		ug/L		98	52 - 130
Methyl tert-butyl ether	25.0	28.3		ug/L		113	63 - 131
Naphthalene	25.0	27.2		ug/L		109	60 - 140
o-Xylene	25.0	25.6		ug/L		102	70 - 130
Styrene	25.0	26.0		ug/L		104	70 - 134
t-Butanol	250	256		ug/L		102	70 - 130
Tetrachloroethene	25.0	24.9		ug/L		100	70 - 130
Toluene	25.0	24.6		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	26.9		ug/L		108	70 - 130
trans-1,3-Dichloropropene	25.0	30.0		ug/L		120	70 - 132
Trichloroethene	25.0	26.9		ug/L		108	70 - 130
Trichlorofluoromethane	25.0	31.4		ug/L		125	60 - 150
Vinyl acetate	25.0	29.7		ug/L		119	48 - 140
Vinyl chloride	25.0	31.3		ug/L		125	59 - 133
1,2-Dibromoethane (EDB)	25.0	27.8		ug/L		111	70 - 130
2-Butanone (MEK)	25.0	26.2		ug/L		105	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	31.0		ug/L		124	59 - 149
Acrylonitrile	250	261		ug/L		104	48 - 140
Acrolein	25.0	29.2		ug/L		117	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	111		76 - 132

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: 440-168970-AU-6 MS

Matrix: Water

Analysis Batch: 377848

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	24.9		ug/L		100	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	60 - 149
1,1,1-Trichloroethane	ND		25.0	27.2		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	22.6		ug/L		90	63 - 130
1,1,2-Trichloroethane	ND		25.0	24.9		ug/L		100	70 - 130
1,1-Dichloroethane	ND		25.0	24.4		ug/L		97	65 - 130
1,1-Dichloroethene	ND		25.0	23.2		ug/L		93	70 - 130
1,1-Dichloropropene	ND		25.0	23.8		ug/L		95	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	29.0		ug/L		116	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	25.2		ug/L		101	48 - 140
1,2-Dichlorobenzene	ND		25.0	24.0		ug/L		96	70 - 130
1,2-Dichloroethane	ND		25.0	29.0		ug/L		116	56 - 146
1,2-Dichloropropane	ND		25.0	25.9		ug/L		103	69 - 130
1,3-Dichlorobenzene	ND		25.0	23.7		ug/L		95	70 - 130
1,3-Dichloropropane	ND		25.0	24.2		ug/L		97	70 - 130
1,4-Dichlorobenzene	ND		25.0	23.7		ug/L		95	70 - 130
2,2-Dichloropropane	ND		25.0	30.6		ug/L		122	69 - 138
2-Hexanone	ND		25.0	29.4		ug/L		118	10 - 150
Acetone	ND		25.0	22.7		ug/L		91	10 - 150
Benzene	ND		25.0	22.9		ug/L		92	66 - 130
Bromoform	ND		25.0	28.0		ug/L		112	59 - 150
Bromomethane	ND		25.0	26.9		ug/L		108	62 - 131
Carbon disulfide	ND		25.0	23.6		ug/L		95	49 - 140
Carbon tetrachloride	ND		25.0	28.6		ug/L		114	60 - 150
Chlorobenzene	ND		25.0	22.6		ug/L		90	70 - 130
Bromochloromethane	ND		25.0	26.8		ug/L		107	70 - 130
Chloroethane	ND		25.0	25.0		ug/L		100	68 - 130
Chloroform	ND		25.0	27.0		ug/L		108	70 - 130
Chloromethane	ND		25.0	27.8		ug/L		111	39 - 144
cis-1,2-Dichloroethene	ND		25.0	25.5		ug/L		102	70 - 130
cis-1,3-Dichloropropene	ND		25.0	28.4		ug/L		113	70 - 133
Dibromochloromethane	ND		25.0	28.8		ug/L		115	70 - 148
Dibromomethane	ND		25.0	27.6		ug/L		111	70 - 130
Bromodichloromethane	ND		25.0	29.9		ug/L		120	70 - 138
Dichlorodifluoromethane	ND		25.0	25.8		ug/L		103	25 - 142
Ethylbenzene	ND		25.0	23.0		ug/L		92	70 - 130
m,p-Xylene	ND		25.0	24.2		ug/L		97	70 - 133
Methylene Chloride	0.96 J		25.0	25.0		ug/L		96	52 - 130
Methyl tert-butyl ether	ND		25.0	28.2		ug/L		113	70 - 130
Naphthalene	ND		25.0	26.3		ug/L		105	60 - 140
o-Xylene	ND		25.0	23.9		ug/L		96	70 - 133
Styrene	ND		25.0	24.1		ug/L		97	29 - 150
t-Butanol	ND		250	193		ug/L		77	70 - 130
Tetrachloroethene	ND		25.0	23.0		ug/L		92	70 - 137
Toluene	ND		25.0	22.7		ug/L		91	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		25.0	30.0		ug/L		120	70 - 138
Trichloroethene	21		25.0	44.4		ug/L		92	70 - 130

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: 440-168970-AU-6 MS

Matrix: Water

Analysis Batch: 377848

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
Trichlorofluoromethane	ND		25.0	28.7		ug/L		115	60 - 150
Vinyl acetate	ND		25.0	31.5		ug/L		126	23 - 150
Vinyl chloride	ND		25.0	29.7		ug/L		119	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	26.7		ug/L		107	70 - 131
2-Butanone (MEK)	ND		25.0	24.1		ug/L		96	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.7		ug/L		119	52 - 150
Acrylonitrile	ND		250	244		ug/L		98	38 - 144
Acrolein	ND		25.0	30.3		ug/L		121	10 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	113		76 - 132

Lab Sample ID: 440-168970-AU-6 MSD

Matrix: Water

Analysis Batch: 377848

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	ND		25.0	24.7		ug/L		99	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	27.3		ug/L		109	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	27.3		ug/L		109	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	22.7		ug/L		91	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	24.9		ug/L		100	70 - 130	0	25
1,1-Dichloroethane	ND		25.0	24.3		ug/L		97	65 - 130	0	20
1,1-Dichloroethene	ND		25.0	23.2		ug/L		93	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	24.6		ug/L		98	64 - 130	3	20
1,2,4-Trichlorobenzene	ND		25.0	28.9		ug/L		115	60 - 140	0	20
1,2-Dibromo-3-Chloropropane	ND		25.0	24.2		ug/L		97	48 - 140	4	30
1,2-Dichlorobenzene	ND		25.0	24.4		ug/L		98	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	28.8		ug/L		115	56 - 146	1	20
1,2-Dichloropropane	ND		25.0	25.7		ug/L		103	69 - 130	1	20
1,3-Dichlorobenzene	ND		25.0	23.7		ug/L		95	70 - 130	0	20
1,3-Dichloropropane	ND		25.0	23.4		ug/L		93	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	23.7		ug/L		95	70 - 130	0	20
2,2-Dichloropropane	ND		25.0	30.9		ug/L		124	69 - 138	1	25
2-Hexanone	ND		25.0	28.3		ug/L		113	10 - 150	4	35
Acetone	ND		25.0	23.4		ug/L		94	10 - 150	3	35
Benzene	ND		25.0	23.0		ug/L		92	66 - 130	0	20
Bromoform	ND		25.0	27.5		ug/L		110	59 - 150	2	25
Bromomethane	ND		25.0	27.8		ug/L		111	62 - 131	3	25
Carbon disulfide	ND		25.0	23.6		ug/L		94	49 - 140	0	20
Carbon tetrachloride	ND		25.0	28.3		ug/L		113	60 - 150	1	25
Chlorobenzene	ND		25.0	22.8		ug/L		91	70 - 130	1	20
Bromochloromethane	ND		25.0	26.5		ug/L		106	70 - 130	1	25
Chloroethane	ND		25.0	26.0		ug/L		104	68 - 130	4	25
Chloroform	ND		25.0	26.9		ug/L		108	70 - 130	0	20
Chloromethane	ND		25.0	26.3		ug/L		105	39 - 144	6	25

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: 440-168970-AU-6 MSD

Matrix: Water

Analysis Batch: 377848

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	ND		25.0	25.9		ug/L		104	70 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	28.7		ug/L		115	70 - 133	1	20
Dibromochloromethane	ND		25.0	28.0		ug/L		112	70 - 148	3	25
Dibromomethane	ND		25.0	26.8		ug/L		107	70 - 130	3	25
Bromodichloromethane	ND		25.0	29.3		ug/L		117	70 - 138	2	20
Dichlorodifluoromethane	ND		25.0	24.7		ug/L		99	25 - 142	4	30
Ethylbenzene	ND		25.0	23.3		ug/L		93	70 - 130	1	20
m,p-Xylene	ND		25.0	24.6		ug/L		98	70 - 133	1	25
Methylene Chloride	0.96	J	25.0	24.6		ug/L		94	52 - 130	2	20
Methyl tert-butyl ether	ND		25.0	27.9		ug/L		112	70 - 130	1	25
Naphthalene	ND		25.0	26.0		ug/L		104	60 - 140	1	30
o-Xylene	ND		25.0	23.6		ug/L		94	70 - 133	1	20
Styrene	ND		25.0	23.9		ug/L		96	29 - 150	1	35
t-Butanol	ND		250	219		ug/L		87	70 - 130	13	25
Tetrachloroethene	ND		25.0	23.2		ug/L		93	70 - 137	1	20
Toluene	ND		25.0	22.9		ug/L		91	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	25.6		ug/L		103	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	29.4		ug/L		117	70 - 138	2	25
Trichloroethene	21		25.0	44.4		ug/L		92	70 - 130	0	20
Trichlorofluoromethane	ND		25.0	28.3		ug/L		113	60 - 150	1	25
Vinyl acetate	ND		25.0	29.2		ug/L		117	23 - 150	7	30
Vinyl chloride	ND		25.0	28.3		ug/L		113	50 - 137	5	30
1,2-Dibromoethane (EDB)	ND		25.0	26.3		ug/L		105	70 - 131	2	25
2-Butanone (MEK)	ND		25.0	24.5		ug/L		98	48 - 140	2	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.2		ug/L		113	52 - 150	5	35
Acrylonitrile	ND		250	234		ug/L		94	38 - 144	4	40
Acrolein	ND		25.0	28.0		ug/L		112	10 - 147	8	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	113		76 - 132

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

Lab Sample ID: MB 440-377944/1-A

Matrix: Water

Analysis Batch: 378155

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 377944

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L	-	12/23/16 11:23	12/24/16 19:23	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		30 - 120				12/23/16 11:23	12/24/16 19:23	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: LCS 440-377944/2-A

Matrix: Water

Analysis Batch: 378155

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 377944

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane			2.00	0.946	J	ug/L	-	47	35 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	50		30 - 120						

Lab Sample ID: LCSD 440-377944/3-A

Matrix: Water

Analysis Batch: 378155

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 377944

Top Data: 01/11/2024							Top Data: 01/11/2024				
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			2.00	1.15		ug/L	-	57	35 - 120	19	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	59		30 - 120								

Lab Sample ID: MB 440-378304/1-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 378304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L	-	12/27/16 08:45	12/28/16 16:21	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120				12/27/16 08:45	12/28/16 16:21	1

Lab Sample ID: LCS 440-378304/2-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 378304

			Spike	LCS	LCS				
Analyte			Added	Result	Qualifier	Unit	D	%Rec	%Rec.
1,4-Dioxane			2.00	1.12		ug/L	-	56	Limits
Surrogate	LCS	LCS							
	%Recovery	Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	59		30 - 120						

Lab Sample ID: LCSD 440-378304/3-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 378304

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane			2.00	1.33		ug/L	-	67	35 - 120	17	35
Surrogate	LCSD	LCSD									
	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	68		30 - 120								

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-377104/4

Matrix: Water

Analysis Batch: 377104

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			12/20/16 14:14	1

Lab Sample ID: LCS 440-377104/2

Matrix: Water

Analysis Batch: 377104

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	1.08		mg/L		95	90 - 110

Lab Sample ID: 440-170251-4 MS

Matrix: Water

Analysis Batch: 377104

Client Sample ID: DW-1

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	5.15		mg/L		91	80 - 120

Lab Sample ID: 440-170251-4 MSD

Matrix: Water

Analysis Batch: 377104

Client Sample ID: DW-1

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	5.28		mg/L		94	80 - 120	2	20

Lab Sample ID: MB 440-377105/4

Matrix: Water

Analysis Batch: 377105

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			12/20/16 14:14	1
Chloride	ND		0.50	0.25	mg/L			12/20/16 14:14	1
Fluoride	ND		0.50	0.25	mg/L			12/20/16 14:14	1
Sulfate	ND		0.50	0.25	mg/L			12/20/16 14:14	1

Lab Sample ID: LCS 440-377105/2

Matrix: Water

Analysis Batch: 377105

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.01		mg/L		100	90 - 110
Chloride	5.00	4.57		mg/L		91	90 - 110
Fluoride	5.00	4.99		mg/L		100	90 - 110
Sulfate	5.00	4.99		mg/L		100	90 - 110

Lab Sample ID: 440-170251-4 MS

Matrix: Water

Analysis Batch: 377105

Client Sample ID: DW-1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		25.0	24.3		mg/L		97	80 - 120

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-170251-4 MS

Matrix: Water

Analysis Batch: 377105

Client Sample ID: DW-1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	13		25.0	35.9		mg/L		92	80 - 120
Fluoride	3.5		25.0	28.7		mg/L		101	80 - 120

Lab Sample ID: 440-170251-4 MSD

Matrix: Water

Analysis Batch: 377105

Client Sample ID: DW-1

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	24.8		mg/L		99	80 - 120	2	20
Chloride	13		25.0	35.9		mg/L		92	80 - 120	0	20
Fluoride	3.5		25.0	28.6		mg/L		101	80 - 120	0	20

Lab Sample ID: MB 440-377954/4

Matrix: Water

Analysis Batch: 377954

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			12/23/16 12:13	1

Lab Sample ID: LCS 440-377954/2

Matrix: Water

Analysis Batch: 377954

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	4.67		mg/L		93	90 - 110

Lab Sample ID: 440-170952-D-2 MS

Matrix: Water

Analysis Batch: 377954

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	39		250	268		mg/L		92	80 - 120

Lab Sample ID: 440-170952-D-2 MSD

Matrix: Water

Analysis Batch: 377954

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	39		250	269		mg/L		92	80 - 120	1	20

Lab Sample ID: MB 440-377956/4

Matrix: Water

Analysis Batch: 377956

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			12/23/16 12:38	1

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-377956/2

Matrix: Water

Analysis Batch: 377956

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	5.06		mg/L		101	90 - 110

Lab Sample ID: 440-170960-D-5 MS

Matrix: Water

Analysis Batch: 377956

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	160		500	639		mg/L		97	80 - 120

Lab Sample ID: 440-170960-D-5 MSD

Matrix: Water

Analysis Batch: 377956

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	160		500	647		mg/L		98	80 - 120	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-379355/1-A

Matrix: Water

Analysis Batch: 380783

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 379355

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:20	1
Manganese	ND		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:20	1
Magnesium	ND		0.020	0.010	mg/L		01/01/17 09:48	01/09/17 13:20	1
Iron	0.0177	J	0.040	0.010	mg/L		01/01/17 09:48	01/09/17 13:20	1
Sodium	ND		0.50	0.25	mg/L		01/01/17 09:48	01/09/17 13:20	1
Calcium	ND		0.10	0.050	mg/L		01/01/17 09:48	01/09/17 13:20	1
Boron	ND		0.050	0.010	mg/L		01/01/17 09:48	01/09/17 13:20	1

Lab Sample ID: LCS 440-379355/2-A

Matrix: Water

Analysis Batch: 380783

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 379355

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	9.94		mg/L		99	80 - 120
Manganese	1.00	1.03		mg/L		103	80 - 120
Magnesium	1.00	1.06		mg/L		106	80 - 120
Iron	1.00	1.04		mg/L		104	80 - 120
Sodium	10.0	9.87		mg/L		99	80 - 120
Calcium	1.00	1.05		mg/L		105	80 - 120
Boron	1.00	0.957		mg/L		96	80 - 120

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: 440-170251-1 MS

Matrix: Water

Analysis Batch: 380783

Client Sample ID: Subdrain (N)

Prep Type: Total Recoverable

Prep Batch: 379355

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Potassium	7.6		10.0	19.1		mg/L		115	75 - 125
Manganese	3.1		1.00	4.18		mg/L		110	75 - 125
Magnesium	180		1.00	181	4	mg/L		525	75 - 125
Iron	13	B	1.00	14.5	4	mg/L		179	75 - 125
Sodium	250		10.0	269	4	mg/L		199	75 - 125
Calcium	260		1.00	272	4	mg/L		1456	75 - 125
Boron	0.51		1.00	1.54		mg/L		104	75 - 125

Lab Sample ID: 440-170251-1 MSD

Matrix: Water

Analysis Batch: 380783

Client Sample ID: Subdrain (N)

Prep Type: Total Recoverable

Prep Batch: 379355

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Potassium	7.6		10.0	18.7		mg/L		111	75 - 125	2	20
Manganese	3.1		1.00	3.99		mg/L		91	75 - 125	5	20
Magnesium	180		1.00	170	4	mg/L		-536	75 - 125	6	20
Iron	13	B	1.00	13.5	4	mg/L		84	75 - 125	7	20
Sodium	250		10.0	257	4	mg/L		81	75 - 125	4	20
Calcium	260		1.00	262	4	mg/L		495	75 - 125	4	20
Boron	0.51		1.00	1.55		mg/L		105	75 - 125	1	20

Method: 410.4 - COD

Lab Sample ID: MB 440-379704/3

Matrix: Water

Analysis Batch: 379704

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			01/04/17 09:31	1

Lab Sample ID: LCS 440-379704/4

Matrix: Water

Analysis Batch: 379704

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	200	200		mg/L		100	90 - 110

Lab Sample ID: 440-170251-11 MS

Matrix: Water

Analysis Batch: 379704

Client Sample ID: PZ-4

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	ND		200	203		mg/L		102	70 - 120

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: 410.4 - COD (Continued)

Lab Sample ID: 440-170251-11 MSD

Matrix: Water

Analysis Batch: 379704

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
Chemical Oxygen Demand	ND		200	204		mg/L		102	70 - 120	1	15

Lab Sample ID: MB 440-379832/3

Matrix: Water

Analysis Batch: 379832

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			01/04/17 15:34	1

Lab Sample ID: LCS 440-379832/4

Matrix: Water

Analysis Batch: 379832

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		100	90 - 110

Lab Sample ID: 440-170910-C-1 MS

Matrix: Water

Analysis Batch: 379832

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	202		mg/L		101	70 - 120

Lab Sample ID: 440-170910-C-1 MSD

Matrix: Water

Analysis Batch: 379832

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	200		mg/L		100	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-377319/3

Matrix: Water

Analysis Batch: 377319

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/21/16 05:21	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/21/16 05:21	1

Lab Sample ID: LCS 440-377319/2

Matrix: Water

Analysis Batch: 377319

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	85.8	86.7		mg/L		101	80 - 120

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 440-170251-1 DU

Matrix: Water

Analysis Batch: 377319

Client Sample ID: Subdrain (N)

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alkalinity as CaCO3	920		926		mg/L		1	20
Bicarbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: 440-170251-8 DU

Matrix: Water

Analysis Batch: 377319

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alkalinity as CaCO3	380		383		mg/L		0.3	20
Bicarbonate Alkalinity as CaCO3	380		383		mg/L		0.3	20

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

Lab Sample ID: MB 440-378207/1

Matrix: Water

Analysis Batch: 378207

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			12/25/16 06:59	1

Lab Sample ID: LCS 440-378207/2

Matrix: Water

Analysis Batch: 378207

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	972		mg/L		97	90 - 110

Lab Sample ID: 440-170251-2 DU

Matrix: Water

Analysis Batch: 378207

Client Sample ID: Combined Subdrains

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	3500		3470		mg/L		0.7	5

Lab Sample ID: MB 440-378295/1

Matrix: Water

Analysis Batch: 378295

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			12/27/16 08:22	1

Lab Sample ID: LCS 440-378295/2

Matrix: Water

Analysis Batch: 378295

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

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

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

Lab Sample ID: 440-170251-7 DU

Matrix: Water

Analysis Batch: 378295

Client Sample ID: MW-6

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2700		2830		mg/L		4	5

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-377746/1

Matrix: Water

Analysis Batch: 377746

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 15:56	1

Lab Sample ID: 440-170565-H-4 DU

Matrix: Water

Analysis Batch: 377746

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	190		183		mg/L		6	20

Lab Sample ID: MB 440-377750/1

Matrix: Water

Analysis Batch: 377750

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 16:00	1

Lab Sample ID: 440-170251-7 DU

Matrix: Water

Analysis Batch: 377750

Client Sample ID: MW-6

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	97		95.0		mg/L		2	20

Lab Sample ID: MB 440-381044/1

Matrix: Water

Analysis Batch: 381044

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			01/10/17 14:22	1

Lab Sample ID: 440-170251-1 DU

Matrix: Water

Analysis Batch: 381044

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	250		243		mg/L		1	20

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-378257/2-A

Matrix: Water

Analysis Batch: 378263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 378257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		12/27/16 06:00	12/27/16 06:30	1

Lab Sample ID: LCS 440-378257/1-A

Matrix: Water

Analysis Batch: 378263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 378257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.29		mg/L		92	85 - 115

Lab Sample ID: 440-170251-1 MS

Matrix: Water

Analysis Batch: 378263

Client Sample ID: Subdrain (N)

Prep Type: Total/NA

Prep Batch: 378257

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	3.9		5.00	8.40		mg/L		89	75 - 125

Lab Sample ID: 440-170251-1 MSD

Matrix: Water

Analysis Batch: 378263

Client Sample ID: Subdrain (N)

Prep Type: Total/NA

Prep Batch: 378257

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	3.9		5.00	8.40		mg/L		89	75 - 125	0	15

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-377512/3

Matrix: Water

Analysis Batch: 377512

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	0.020	mg/L			12/21/16 22:22	1

Lab Sample ID: LCS 440-377512/4

Matrix: Water

Analysis Batch: 377512

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	0.532		mg/L		106	80 - 120

Lab Sample ID: 440-170251-1 MS

Matrix: Water

Analysis Batch: 377512

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	ND		0.500	0.508		mg/L		102	70 - 130

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: 440-170251-1 MSD

Matrix: Water

Analysis Batch: 377512

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	ND		0.500	0.511		mg/L		102	70 - 130	1	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-380231/7

Matrix: Water

Analysis Batch: 380231

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			01/05/17 04:52	1

Lab Sample ID: LCS 440-380231/6

Matrix: Water

Analysis Batch: 380231

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	5.00	4.85		mg/L		97	90 - 110

Lab Sample ID: MRL 440-380231/5

Matrix: Water

Analysis Batch: 380231

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	0.0552	J	mg/L		55	50 - 150

Lab Sample ID: MRL 440-380231/8

Matrix: Water

Analysis Batch: 380231

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	0.0831	J	mg/L		83	50 - 150

Lab Sample ID: 440-171890-A-5 MS

Matrix: Water

Analysis Batch: 380231

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	0.71		5.00	5.84		mg/L		103	80 - 120

Lab Sample ID: 440-171890-A-5 MSD

Matrix: Water

Analysis Batch: 380231

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	0.71		5.00	5.61		mg/L		98	80 - 120	4	20

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: MB 440-380232/9

Matrix: Water

Analysis Batch: 380232

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			01/05/17 11:59	1

Lab Sample ID: LCS 440-380232/8

Matrix: Water

Analysis Batch: 380232

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	5.00	4.92		mg/L		98	90 - 110

Lab Sample ID: MRL 440-380232/39

Matrix: Water

Analysis Batch: 380232

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	0.0831	J	mg/L		83	50 - 150

Lab Sample ID: 440-170251-11 MS

Matrix: Water

Analysis Batch: 380232

Client Sample ID: PZ-4

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.2		5.00	6.27		mg/L		102	80 - 120

Lab Sample ID: 440-170251-11 MSD

Matrix: Water

Analysis Batch: 380232

Client Sample ID: PZ-4

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.2		5.00	6.30		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 440-380347/7

Matrix: Water

Analysis Batch: 380347

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			01/06/17 06:17	1

Lab Sample ID: LCS 440-380347/6

Matrix: Water

Analysis Batch: 380347

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	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: MRL 440-380347/5

Matrix: Water

Analysis Batch: 380347

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	0.101		mg/L		101	50 - 150

TestAmerica Irvine

QC Sample Results

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Lab Sample ID: 440-171441-A-1 MS

Matrix: Water

Analysis Batch: 380347

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.7		5.00	6.22		mg/L		90	80 - 120

Lab Sample ID: 440-171441-A-1 MSD

Matrix: Water

Analysis Batch: 380347

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.7		5.00	7.14		mg/L		109	80 - 120	14	20

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

GC/MS VOA

Analysis Batch: 377848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	8260B	
440-170251-2	Combined Subdrains	Total/NA	Water	8260B	
440-170251-3	Extraction Trench	Total/NA	Water	8260B	
440-170251-4	DW-1	Total/NA	Water	8260B	
440-170251-5	DW-2	Total/NA	Water	8260B	
440-170251-6	PZ-2	Total/NA	Water	8260B	
440-170251-7	MW-6	Total/NA	Water	8260B	
440-170251-8	MW-14	Total/NA	Water	8260B	
440-170251-9	CM-9R3	Total/NA	Water	8260B	
440-170251-10	CM-11R	Total/NA	Water	8260B	
440-170251-11	PZ-4	Total/NA	Water	8260B	
440-170251-12	CM-10R	Total/NA	Water	8260B	
440-170251-13	QCAB	Total/NA	Water	8260B	
440-170251-14	QCTB	Total/NA	Water	8260B	
MB 440-377848/8	Method Blank	Total/NA	Water	8260B	
LCS 440-377848/9	Lab Control Sample	Total/NA	Water	8260B	
440-168970-AU-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-168970-AU-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 377944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	3520C	
440-170251-2	Combined Subdrains	Total/NA	Water	3520C	
440-170251-3	Extraction Trench	Total/NA	Water	3520C	
440-170251-4	DW-1	Total/NA	Water	3520C	
440-170251-5	DW-2	Total/NA	Water	3520C	
440-170251-6	PZ-2	Total/NA	Water	3520C	
440-170251-7	MW-6	Total/NA	Water	3520C	
440-170251-8	MW-14	Total/NA	Water	3520C	
440-170251-9	CM-9R3	Total/NA	Water	3520C	
MB 440-377944/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-377944/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-377944/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 378155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	8270C	377944
440-170251-2	Combined Subdrains	Total/NA	Water	8270C	377944
440-170251-3	Extraction Trench	Total/NA	Water	8270C	377944
440-170251-4	DW-1	Total/NA	Water	8270C	377944
440-170251-5	DW-2	Total/NA	Water	8270C	377944
440-170251-6	PZ-2	Total/NA	Water	8270C	377944
440-170251-7	MW-6	Total/NA	Water	8270C	377944
440-170251-8	MW-14	Total/NA	Water	8270C	377944
440-170251-9	CM-9R3	Total/NA	Water	8270C	377944
MB 440-377944/1-A	Method Blank	Total/NA	Water	8270C	377944
LCS 440-377944/2-A	Lab Control Sample	Total/NA	Water	8270C	377944
LCSD 440-377944/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	377944

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

GC/MS Semi VOA (Continued)

Prep Batch: 378304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-10	CM-11R	Total/NA	Water	3520C	
440-170251-11	PZ-4	Total/NA	Water	3520C	
440-170251-12	CM-10R	Total/NA	Water	3520C	
MB 440-378304/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-378304/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-378304/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 378647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-378304/1-A	Method Blank	Total/NA	Water	8270C	378304
LCS 440-378304/2-A	Lab Control Sample	Total/NA	Water	8270C	378304
LCSD 440-378304/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	378304

Analysis Batch: 378649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-10	CM-11R	Total/NA	Water	8270C	378304
440-170251-11	PZ-4	Total/NA	Water	8270C	378304
440-170251-12	CM-10R	Total/NA	Water	8270C	378304

HPLC/IC

Analysis Batch: 377104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	300.0	
440-170251-2	Combined Subdrains	Total/NA	Water	300.0	
440-170251-3	Extraction Trench	Total/NA	Water	300.0	
440-170251-4	DW-1	Total/NA	Water	300.0	
440-170251-5	DW-2	Total/NA	Water	300.0	
440-170251-6	PZ-2	Total/NA	Water	300.0	
440-170251-7	MW-6	Total/NA	Water	300.0	
440-170251-8	MW-14	Total/NA	Water	300.0	
440-170251-9	CM-9R3	Total/NA	Water	300.0	
440-170251-10	CM-11R	Total/NA	Water	300.0	
440-170251-11	PZ-4	Total/NA	Water	300.0	
440-170251-12	CM-10R	Total/NA	Water	300.0	
MB 440-377104/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377104/2	Lab Control Sample	Total/NA	Water	300.0	
440-170251-4 MS	DW-1	Total/NA	Water	300.0	
440-170251-4 MSD	DW-1	Total/NA	Water	300.0	

Analysis Batch: 377105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	300.0	
440-170251-1	Subdrain (N)	Total/NA	Water	300.0	
440-170251-2	Combined Subdrains	Total/NA	Water	300.0	
440-170251-2	Combined Subdrains	Total/NA	Water	300.0	
440-170251-3	Extraction Trench	Total/NA	Water	300.0	
440-170251-3	Extraction Trench	Total/NA	Water	300.0	
440-170251-4	DW-1	Total/NA	Water	300.0	
440-170251-4	DW-1	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

HPLC/IC (Continued)

Analysis Batch: 377105 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-5	DW-2	Total/NA	Water	300.0	
440-170251-5	DW-2	Total/NA	Water	300.0	
440-170251-6	PZ-2	Total/NA	Water	300.0	
440-170251-6	PZ-2	Total/NA	Water	300.0	
440-170251-7	MW-6	Total/NA	Water	300.0	
440-170251-7	MW-6	Total/NA	Water	300.0	
440-170251-8	MW-14	Total/NA	Water	300.0	
440-170251-8	MW-14	Total/NA	Water	300.0	
440-170251-9	CM-9R3	Total/NA	Water	300.0	
440-170251-9	CM-9R3	Total/NA	Water	300.0	
440-170251-10	CM-11R	Total/NA	Water	300.0	
440-170251-10	CM-11R	Total/NA	Water	300.0	
440-170251-11	PZ-4	Total/NA	Water	300.0	
440-170251-11	PZ-4	Total/NA	Water	300.0	
440-170251-12	CM-10R	Total/NA	Water	300.0	
440-170251-12	CM-10R	Total/NA	Water	300.0	
MB 440-377105/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377105/2	Lab Control Sample	Total/NA	Water	300.0	
440-170251-4 MS	DW-1	Total/NA	Water	300.0	
440-170251-4 MSD	DW-1	Total/NA	Water	300.0	

Analysis Batch: 377954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-12	CM-10R	Total/NA	Water	300.0	
MB 440-377954/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377954/2	Lab Control Sample	Total/NA	Water	300.0	
440-170952-D-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-170952-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 377956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-5	DW-2	Total/NA	Water	300.0	
440-170251-6	PZ-2	Total/NA	Water	300.0	
440-170251-7	MW-6	Total/NA	Water	300.0	
440-170251-8	MW-14	Total/NA	Water	300.0	
440-170251-9	CM-9R3	Total/NA	Water	300.0	
440-170251-10	CM-11R	Total/NA	Water	300.0	
440-170251-11	PZ-4	Total/NA	Water	300.0	
MB 440-377956/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377956/2	Lab Control Sample	Total/NA	Water	300.0	
440-170960-D-5 MS	Matrix Spike	Total/NA	Water	300.0	
440-170960-D-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 379355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total Recoverable	Water	3005A	
440-170251-2	Combined Subdrains	Total Recoverable	Water	3005A	
440-170251-3	Extraction Trench	Total Recoverable	Water	3005A	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Metals (Continued)

Prep Batch: 379355 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-4	DW-1	Total Recoverable	Water	3005A	
440-170251-5	DW-2	Total Recoverable	Water	3005A	
440-170251-6	PZ-2	Total Recoverable	Water	3005A	
440-170251-7	MW-6	Total Recoverable	Water	3005A	
440-170251-8	MW-14	Total Recoverable	Water	3005A	
440-170251-9	CM-9R3	Total Recoverable	Water	3005A	
440-170251-10	CM-11R	Total Recoverable	Water	3005A	
440-170251-11	PZ-4	Total Recoverable	Water	3005A	
440-170251-12	CM-10R	Total Recoverable	Water	3005A	
MB 440-379355/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-379355/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-170251-1 MS	Subdrain (N)	Total Recoverable	Water	3005A	
440-170251-1 MSD	Subdrain (N)	Total Recoverable	Water	3005A	

Analysis Batch: 380783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total Recoverable	Water	6010B	379355
440-170251-2	Combined Subdrains	Total Recoverable	Water	6010B	379355
440-170251-3	Extraction Trench	Total Recoverable	Water	6010B	379355
440-170251-4	DW-1	Total Recoverable	Water	6010B	379355
440-170251-5	DW-2	Total Recoverable	Water	6010B	379355
440-170251-6	PZ-2	Total Recoverable	Water	6010B	379355
440-170251-7	MW-6	Total Recoverable	Water	6010B	379355
440-170251-8	MW-14	Total Recoverable	Water	6010B	379355
440-170251-9	CM-9R3	Total Recoverable	Water	6010B	379355
440-170251-10	CM-11R	Total Recoverable	Water	6010B	379355
440-170251-11	PZ-4	Total Recoverable	Water	6010B	379355
440-170251-12	CM-10R	Total Recoverable	Water	6010B	379355
MB 440-379355/1-A	Method Blank	Total Recoverable	Water	6010B	379355
LCS 440-379355/2-A	Lab Control Sample	Total Recoverable	Water	6010B	379355
440-170251-1 MS	Subdrain (N)	Total Recoverable	Water	6010B	379355
440-170251-1 MSD	Subdrain (N)	Total Recoverable	Water	6010B	379355

Analysis Batch: 380859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-4	DW-1	Total Recoverable	Water	6010B	379355
440-170251-6	PZ-2	Total Recoverable	Water	6010B	379355

General Chemistry

Analysis Batch: 377319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 2320B	
440-170251-2	Combined Subdrains	Total/NA	Water	SM 2320B	
440-170251-3	Extraction Trench	Total/NA	Water	SM 2320B	
440-170251-4	DW-1	Total/NA	Water	SM 2320B	
440-170251-5	DW-2	Total/NA	Water	SM 2320B	
440-170251-6	PZ-2	Total/NA	Water	SM 2320B	
440-170251-7	MW-6	Total/NA	Water	SM 2320B	
440-170251-8	MW-14	Total/NA	Water	SM 2320B	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

General Chemistry (Continued)

Analysis Batch: 377319 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-9	CM-9R3	Total/NA	Water	SM 2320B	
440-170251-10	CM-11R	Total/NA	Water	SM 2320B	
440-170251-11	PZ-4	Total/NA	Water	SM 2320B	
440-170251-12	CM-10R	Total/NA	Water	SM 2320B	
MB 440-377319/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-377319/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-170251-1 DU	Subdrain (N)	Total/NA	Water	SM 2320B	
440-170251-8 DU	MW-14	Total/NA	Water	SM 2320B	

Analysis Batch: 377512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	
440-170251-2	Combined Subdrains	Total/NA	Water	SM 4500 S2 D	
440-170251-3	Extraction Trench	Total/NA	Water	SM 4500 S2 D	
440-170251-4	DW-1	Total/NA	Water	SM 4500 S2 D	
440-170251-5	DW-2	Total/NA	Water	SM 4500 S2 D	
440-170251-6	PZ-2	Total/NA	Water	SM 4500 S2 D	
440-170251-7	MW-6	Total/NA	Water	SM 4500 S2 D	
440-170251-8	MW-14	Total/NA	Water	SM 4500 S2 D	
440-170251-9	CM-9R3	Total/NA	Water	SM 4500 S2 D	
440-170251-10	CM-11R	Total/NA	Water	SM 4500 S2 D	
440-170251-11	PZ-4	Total/NA	Water	SM 4500 S2 D	
440-170251-12	CM-10R	Total/NA	Water	SM 4500 S2 D	
MB 440-377512/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-377512/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-170251-1 MS	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	
440-170251-1 MSD	Subdrain (N)	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 377746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-2	Combined Subdrains	Total/NA	Water	SM 4500 CO2 C	
440-170251-3	Extraction Trench	Total/NA	Water	SM 4500 CO2 C	
440-170251-4	DW-1	Total/NA	Water	SM 4500 CO2 C	
440-170251-5	DW-2	Total/NA	Water	SM 4500 CO2 C	
MB 440-377746/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-170565-H-4 DU	Duplicate	Total/NA	Water	SM 4500 CO2 C	

Analysis Batch: 377750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-6	PZ-2	Total/NA	Water	SM 4500 CO2 C	
440-170251-7	MW-6	Total/NA	Water	SM 4500 CO2 C	
440-170251-8	MW-14	Total/NA	Water	SM 4500 CO2 C	
440-170251-9	CM-9R3	Total/NA	Water	SM 4500 CO2 C	
440-170251-10	CM-11R	Total/NA	Water	SM 4500 CO2 C	
440-170251-11	PZ-4	Total/NA	Water	SM 4500 CO2 C	
440-170251-12	CM-10R	Total/NA	Water	SM 4500 CO2 C	
MB 440-377750/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-170251-7 DU	MW-6	Total/NA	Water	SM 4500 CO2 C	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

General Chemistry (Continued)

Analysis Batch: 378207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 2540C	
440-170251-2	Combined Subdrains	Total/NA	Water	SM 2540C	
440-170251-3	Extraction Trench	Total/NA	Water	SM 2540C	
440-170251-4	DW-1	Total/NA	Water	SM 2540C	
440-170251-5	DW-2	Total/NA	Water	SM 2540C	
440-170251-6	PZ-2	Total/NA	Water	SM 2540C	
MB 440-378207/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-378207/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-170251-2 DU	Combined Subdrains	Total/NA	Water	SM 2540C	

Prep Batch: 378257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 4500 NH3 B	
440-170251-2	Combined Subdrains	Total/NA	Water	SM 4500 NH3 B	
440-170251-3	Extraction Trench	Total/NA	Water	SM 4500 NH3 B	
440-170251-4	DW-1	Total/NA	Water	SM 4500 NH3 B	
440-170251-5	DW-2	Total/NA	Water	SM 4500 NH3 B	
440-170251-6	PZ-2	Total/NA	Water	SM 4500 NH3 B	
440-170251-7	MW-6	Total/NA	Water	SM 4500 NH3 B	
440-170251-8	MW-14	Total/NA	Water	SM 4500 NH3 B	
440-170251-9	CM-9R3	Total/NA	Water	SM 4500 NH3 B	
440-170251-10	CM-11R	Total/NA	Water	SM 4500 NH3 B	
440-170251-11	PZ-4	Total/NA	Water	SM 4500 NH3 B	
440-170251-12	CM-10R	Total/NA	Water	SM 4500 NH3 B	
MB 440-378257/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-378257/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-170251-1 MS	Subdrain (N)	Total/NA	Water	SM 4500 NH3 B	
440-170251-1 MSD	Subdrain (N)	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 378263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-2	Combined Subdrains	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-3	Extraction Trench	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-4	DW-1	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-5	DW-2	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-6	PZ-2	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-7	MW-6	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-8	MW-14	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-9	CM-9R3	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-10	CM-11R	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-11	PZ-4	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-12	CM-10R	Total/NA	Water	SM 4500 NH3 D	378257
MB 440-378257/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	378257
LCS 440-378257/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-1 MS	Subdrain (N)	Total/NA	Water	SM 4500 NH3 D	378257
440-170251-1 MSD	Subdrain (N)	Total/NA	Water	SM 4500 NH3 D	378257

Analysis Batch: 378295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-7	MW-6	Total/NA	Water	SM 2540C	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

General Chemistry (Continued)

Analysis Batch: 378295 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-8	MW-14	Total/NA	Water	SM 2540C	
440-170251-9	CM-9R3	Total/NA	Water	SM 2540C	
440-170251-10	CM-11R	Total/NA	Water	SM 2540C	
440-170251-11	PZ-4	Total/NA	Water	SM 2540C	
440-170251-12	CM-10R	Total/NA	Water	SM 2540C	
MB 440-378295/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-378295/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-170251-7 DU	MW-6	Total/NA	Water	SM 2540C	

Analysis Batch: 379704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	410.4	
440-170251-2	Combined Subdrains	Total/NA	Water	410.4	
440-170251-3	Extraction Trench	Total/NA	Water	410.4	
440-170251-5	DW-2	Total/NA	Water	410.4	
440-170251-6	PZ-2	Total/NA	Water	410.4	
440-170251-7	MW-6	Total/NA	Water	410.4	
440-170251-8	MW-14	Total/NA	Water	410.4	
440-170251-9	CM-9R3	Total/NA	Water	410.4	
440-170251-10	CM-11R	Total/NA	Water	410.4	
440-170251-11	PZ-4	Total/NA	Water	410.4	
440-170251-12	CM-10R	Total/NA	Water	410.4	
MB 440-379704/3	Method Blank	Total/NA	Water	410.4	
LCS 440-379704/4	Lab Control Sample	Total/NA	Water	410.4	
440-170251-11 MS	PZ-4	Total/NA	Water	410.4	
440-170251-11 MSD	PZ-4	Total/NA	Water	410.4	

Analysis Batch: 379832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-4	DW-1	Total/NA	Water	410.4	
MB 440-379832/3	Method Blank	Total/NA	Water	410.4	
LCS 440-379832/4	Lab Control Sample	Total/NA	Water	410.4	
440-170910-C-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-170910-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 380231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 5310C	
440-170251-5	DW-2	Total/NA	Water	SM 5310C	
440-170251-6	PZ-2	Total/NA	Water	SM 5310C	
440-170251-7	MW-6	Total/NA	Water	SM 5310C	
440-170251-8	MW-14	Total/NA	Water	SM 5310C	
440-170251-9	CM-9R3	Total/NA	Water	SM 5310C	
440-170251-10	CM-11R	Total/NA	Water	SM 5310C	
MB 440-380231/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-380231/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380231/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380231/8	Lab Control Sample	Total/NA	Water	SM 5310C	
440-171890-A-5 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-171890-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

TestAmerica Irvine

QC Association Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

General Chemistry (Continued)

Analysis Batch: 380232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-3	Extraction Trench	Total/NA	Water	SM 5310C	
440-170251-11	PZ-4	Total/NA	Water	SM 5310C	
440-170251-12	CM-10R	Total/NA	Water	SM 5310C	
MB 440-380232/9	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-380232/8	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380232/39	Lab Control Sample	Total/NA	Water	SM 5310C	
440-170251-11 MS	PZ-4	Total/NA	Water	SM 5310C	
440-170251-11 MSD	PZ-4	Total/NA	Water	SM 5310C	

Analysis Batch: 380347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-2	Combined Subdrains	Total/NA	Water	SM 5310C	
440-170251-4	DW-1	Total/NA	Water	SM 5310C	
MB 440-380347/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-380347/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380347/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-171441-A-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-171441-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 381044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170251-1	Subdrain (N)	Total/NA	Water	SM 4500 CO2 C	
MB 440-381044/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-170251-1 DU	Subdrain (N)	Total/NA	Water	SM 4500 CO2 C	

Definitions/Glossary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
ID	Analyte identified by RT & presence of single mass ion

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.
N	Presumptive evidence of material.

GC/MS Semi VOA

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

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

General Chemistry

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

Client: Geo-Logic Associates
Project/Site: Sunshine Landfill

TestAmerica Job ID: 440-170251-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:[illegible]

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

Company Name: Republic		Client Contact: Republic		Project Manager: Kyle Velazquez		Site Contact: MCH		Date: 12-20-16		COC No: 2 of 2	
Address: 1415 W. Bernerda Ct 3rd Fl		Tel/Fax: 858-451-1126		Lab Contact: Rossini		Carrier: Test America		Sampler: BS, MS, AS		COCs	
City/State/Zip: San Diego, CA 92127		Phone: 858-451-1136		Analysis Turnaround Time		For Lab Use Only:		Walk-in Client:		Lab Sampling:	
Fax: 858-451-1087		Project Name: Sunshine Canyon		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS		Job / SDG No.:		Job / SDG No.:			
Site: P.O.# P04154647				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.	Sample Specific Notes:				
QCAB	12-20-16	12:00	G	Lab	4	MM					
QCTB	12-20-16	12:00	G	Lab	2	MM					
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
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 checked="" type="checkbox"/> Unknown							<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for Months				
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No							Cooler Temp. (°C): Obs'd: Corr'd: Therm ID No.:				
Relinquished by: Julie Campbell							Received by: [Signature]				
Relinquished by: [Signature]							Received by: [Signature]				
Relinquished by: [Signature]							Received by: [Signature]				
Date: 12/20/16							Date/Time: 12/20/16 19:00				
Date: 12/20/16							Date/Time: 12/20/16 19:00				
Date: 12/20/16							Date/Time: 12/20/16 19:00				

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-170251-1

Login Number: 170251

List Source: 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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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.	False	Refer to Job Narrative for details.
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-170565-1

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:

1/9/2017 5:09:17 PM

Rossina Tomova, Project Manager I

(949)261-1022

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LINKS

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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

TestAmerica Job ID: 440-170565-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-170565-1	MW-2A	Water	12/21/16 10:30	12/21/16 18:50
440-170565-2	MW-2B	Water	12/21/16 08:55	12/21/16 18:50
440-170565-3	DW-4	Water	12/21/16 08:10	12/21/16 18:50
440-170565-4	MW-5	Water	12/21/16 12:15	12/21/16 18:50
440-170565-5	MW-9	Water	12/21/16 10:30	12/21/16 18:50
440-170565-6	DW-3	Water	12/21/16 08:25	12/21/16 18:50
440-170565-7	Duplicate	Water	12/21/16 00:01	12/21/16 18:50
440-170565-8	QCAB	Water	12/21/16 00:01	12/21/16 18:50
440-170565-9	QCTB	Water	12/21/16 00:01	12/21/16 18:50

Case Narrative

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

TestAmerica Job ID: 440-170565-1

Job ID: 440-170565-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-170565-1

Comments

No additional comments.

Receipt

The samples were received on 12/21/2016 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.1° C, 2.3° C and 2.4° C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: Duplicate (440-170565-7), QCAB (440-170565-8) and QCTB (440-170565-9). The laboratory was instructed to use a sample collection time of 00:01.

GC/MS VOA

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

GC/MS Semi VOA

Method(s) 8270C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-378304 and analytical batch 440-378647. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8270C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-379293 and analytical batch 440-379545. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8270C: The following sample was not reported due to failure of quality control parameters in the initial analysis. The sample cannot be reanalyzed within holding time. The test was canceled; client will re-sample: DW-4 (440-170565-3).

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

HPLC/IC

Method(s) 300.0: Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-377297 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The following sample was diluted for Bromide due to the nature of the sample matrix: MW-2A (440-170565-1) and MW-2B (440-170565-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted for Bromide and Fluoride due to the nature of the sample matrix: DW-4 (440-170565-3). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted for Nitrate as N due to the nature of the sample matrix: MW-2A (440-170565-1), MW-2B (440-170565-2), DW-4 (440-170565-3), MW-5 (440-170565-4) and MW-9 (440-170565-5). 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

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

Case Narrative

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

TestAmerica Job ID: 440-170565-1

Job ID: 440-170565-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) 3520C: The following sample was prepared outside of preparation holding time: DW-4 (440-170565-3). Originally sample was extracted within holding time, however, surrogate recovery was low.

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: 440-170565-1

Client Sample ID: MW-2A

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/28/16 10:36	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 10:36	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 10:36	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 10:36	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 10:36	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 10:36	1
Acetone	ND		20	10	ug/L			12/28/16 10:36	1
Acetonitrile	ND		20	10	ug/L			12/28/16 10:36	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 10:36	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 10:36	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 10:36	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 10:36	1
Chloroform	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 10:36	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 10:36	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 10:36	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 10:36	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 10:36	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 10:36	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 10:36	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 10:36	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 10:36	1
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 10:36	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-2A

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/28/16 10:36	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
t-Butanol	ND		10	5.0	ug/L			12/28/16 10:36	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/28/16 10:36	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 10:36	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 10:36	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 10:36	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 10:36	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 10:36	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 10:36	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 10:36	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 10:36	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 10:36	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.9	T J	ug/L		15.31			12/28/16 10:36	1
Unknown	8.1	T J	ug/L		17.37			12/28/16 10:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		12/28/16 10:36	1
4-Bromofluorobenzene (Surr)	102		80 - 120		12/28/16 10:36	1
Dibromofluoromethane (Surr)	100		76 - 132		12/28/16 10:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.95	0.24	ug/L		12/27/16 08:45	12/29/16 13:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	54		30 - 120	12/27/16 08:45	12/29/16 13:40	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			12/21/16 20:40	2
Nitrate as N	ND		0.22	0.11	mg/L			12/21/16 20:40	2
Chloride	15		1.0	0.50	mg/L			12/21/16 20:40	2
Fluoride	1.8		1.0	0.50	mg/L			12/21/16 20:40	2
Sulfate	1600		50	25	mg/L			12/21/16 20:50	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.60		0.050	0.010	mg/L		12/29/16 08:09	12/30/16 10:37	1
Calcium	230		0.10	0.050	mg/L		12/29/16 08:09	12/30/16 10:37	1
Iron	23		0.040	0.010	mg/L		12/29/16 08:09	12/30/16 10:37	1
Magnesium	120		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:37	1
Manganese	1.2		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:37	1
Potassium	5.9		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:37	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-2A

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	420		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	16	J	20	10	mg/L			01/04/17 09:09	1
Total Dissolved Solids	2500		20	10	mg/L			12/28/16 08:52	1
Ammonia (as N)	3.2		0.50	0.10	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	3.8		0.10	0.050	mg/L			01/05/17 14:57	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		4.0	4.0	mg/L			12/27/16 08:10	1
Bicarbonate Alkalinity as CaCO3	360		4.0	4.0	mg/L			12/27/16 08:10	1
Carbon Dioxide, Free	72		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: MW-2B

Date Collected: 12/21/16 08:55

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-2

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			12/28/16 11:55	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 11:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 11:55	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 11:55	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 11:55	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 11:55	1
Acetone	ND		20	10	ug/L			12/28/16 11:55	1
Acetonitrile	ND		20	10	ug/L			12/28/16 11:55	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 11:55	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 11:55	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 11:55	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 11:55	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-2B

Date Collected: 12/21/16 08:55

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 11:55	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 11:55	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 11:55	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 11:55	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 11:55	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 11:55	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 11:55	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 11:55	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 11:55	1
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Propionitrile	ND		20	10	ug/L			12/28/16 11:55	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
t-Butanol	ND		10	5.0	ug/L			12/28/16 11:55	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/28/16 11:55	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 11:55	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 11:55	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 11:55	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 11:55	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 11:55	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 11:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 11:55	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 11:55	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 11:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.7	T J	ug/L		17.23			12/28/16 11:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	106		80 - 128		12/28/16 11:55	1
4-Bromofluorobenzene (Surr)	101		80 - 120		12/28/16 11:55	1
Dibromofluoromethane (Surr)	102		76 - 132		12/28/16 11:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.96	0.24	ug/L		12/27/16 08:45	12/29/16 14:02	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-2B

Date Collected: 12/21/16 08:55

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	63		30 - 120	12/27/16 08:45	12/29/16 14:02	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			12/21/16 21:00	2
Nitrate as N	ND		0.22	0.11	mg/L			12/21/16 21:00	2
Chloride	12		1.0	0.50	mg/L			12/21/16 21:00	2
Fluoride	1.6		1.0	0.50	mg/L			12/21/16 21:00	2
Sulfate	1600		50	25	mg/L			12/21/16 21:11	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.58		0.050	0.010	mg/L		12/29/16 08:09	12/30/16 10:25	1
Calcium	190		0.10	0.050	mg/L		12/29/16 08:09	12/30/16 10:25	1
Iron	3.0		0.040	0.010	mg/L		12/29/16 08:09	12/30/16 10:25	1
Magnesium	110		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:25	1
Manganese	0.13		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:25	1
Potassium	4.6		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:25	1
Sodium	450		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 15:35	1
Total Dissolved Solids	2600		20	10	mg/L			12/28/16 08:52	1
Ammonia (as N)	3.5		0.50	0.10	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	0.022	J	0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	1.9		0.10	0.050	mg/L			01/05/17 15:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/27/16 08:19	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/27/16 08:19	1
Carbon Dioxide, Free	35		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: DW-4

Date Collected: 12/21/16 08:10

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/28/16 12:21	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 12:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 12:21	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 12:21	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: DW-4

Date Collected: 12/21/16 08:10

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 12:21	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 12:21	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 12:21	1
Acetone	ND		20	10	ug/L			12/28/16 12:21	1
Acetonitrile	ND		20	10	ug/L			12/28/16 12:21	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 12:21	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 12:21	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 12:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 12:21	1
Chloroform	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 12:21	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 12:21	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 12:21	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 12:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 12:21	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 12:21	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 12:21	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 12:21	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 12:21	1
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Propionitrile	ND		20	10	ug/L			12/28/16 12:21	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
t-Butanol	ND		10	5.0	ug/L			12/28/16 12:21	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/28/16 12:21	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 12:21	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 12:21	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 12:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 12:21	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: DW-4

Date Collected: 12/21/16 08:10

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 12:21	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 12:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 12:21	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 12:21	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 12:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.3	T J	ug/L		3.12			12/28/16 12:21	1
Unknown	3.4	T J	ug/L		15.14			12/28/16 12:21	1
Unknown	12	T J	ug/L		17.01			12/28/16 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		12/28/16 12:21	1
4-Bromofluorobenzene (Surr)	101		80 - 120		12/28/16 12:21	1
Dibromofluoromethane (Surr)	104		76 - 132		12/28/16 12:21	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			12/21/16 21:21	2
Nitrate as N	ND		0.22	0.11	mg/L			12/21/16 21:21	2
Chloride	11		1.0	0.50	mg/L			12/21/16 21:21	2
Fluoride	ND		1.0	0.50	mg/L			12/21/16 21:21	2
Sulfate	1800		50	25	mg/L			12/21/16 21:31	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.59		0.050	0.010	mg/L		12/29/16 08:09	12/30/16 10:15	1
Calcium	200		0.10	0.050	mg/L		12/29/16 08:09	12/30/16 10:15	1
Iron	2.5		0.040	0.010	mg/L		12/29/16 08:09	12/30/16 10:15	1
Magnesium	130		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:15	1
Manganese	0.14		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:15	1
Potassium	4.7		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:15	1
Sodium	480		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 15:35	1
Total Dissolved Solids	2800		20	10	mg/L			12/28/16 08:52	1
Ammonia (as N)	4.5		0.50	0.10	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	1.9		0.10	0.050	mg/L			01/05/17 15:20	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/22/16 14:55	1
Bicarbonate Alkalinity as CaCO3	350		4.0	4.0	mg/L			12/22/16 14:55	1
Carbon Dioxide, Free	32		2.0	2.0	mg/L			12/22/16 15:56	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-5

Date Collected: 12/21/16 12:15

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-4

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			12/28/16 12:47	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 12:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 12:47	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 12:47	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 12:47	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 12:47	1
Acetone	ND		20	10	ug/L			12/28/16 12:47	1
Acetonitrile	ND		20	10	ug/L			12/28/16 12:47	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 12:47	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 12:47	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 12:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 12:47	1
Chloroform	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 12:47	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 12:47	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 12:47	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 12:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 12:47	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 12:47	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 12:47	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 12:47	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 12:47	1
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 12:47	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-5

Date Collected: 12/21/16 12:15

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/28/16 12:47	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
t-Butanol	ND		10	5.0	ug/L			12/28/16 12:47	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/28/16 12:47	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 12:47	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 12:47	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 12:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 12:47	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 12:47	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 12:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 12:47	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 12:47	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 12:47	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.8	T J	ug/L		5.88			12/28/16 12:47	1
Unknown	25	T J	ug/L		17.02			12/28/16 12:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		80 - 128					12/28/16 12:47	1
4-Bromofluorobenzene (Surr)	103		80 - 120					12/28/16 12:47	1
Dibromofluoromethane (Surr)	101		76 - 132					12/28/16 12:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	11		1.0	0.26	ug/L		12/27/16 08:45	12/29/16 14:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	56		30 - 120				12/27/16 08:45	12/29/16 14:47	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.4		1.0	0.50	mg/L			12/21/16 21:42	2
Nitrate as N	ND		0.22	0.11	mg/L			12/21/16 21:42	2
Chloride	130		50	25	mg/L			12/21/16 21:52	100
Fluoride	3.2		1.0	0.50	mg/L			12/21/16 21:42	2
Sulfate	1500		50	25	mg/L			12/21/16 21:52	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.050	0.010	mg/L		12/29/16 08:04	12/30/16 11:13	1
Calcium	430		0.10	0.050	mg/L		12/29/16 08:04	12/30/16 11:13	1
Iron	19		0.040	0.010	mg/L		12/29/16 08:04	12/30/16 11:13	1
Magnesium	190		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:13	1
Manganese	4.8		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:13	1
Potassium	30		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:13	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-5

Date Collected: 12/21/16 12:15

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	270		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	66		20	10	mg/L			01/04/17 15:35	1
Total Dissolved Solids	3100		20	10	mg/L			12/28/16 08:52	1
Ammonia (as N)	6.6		2.5	0.50	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	26		1.0	0.50	mg/L			01/06/17 06:29	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	640		4.0	4.0	mg/L			12/22/16 15:07	1
Bicarbonate Alkalinity as CaCO3	640		4.0	4.0	mg/L			12/22/16 15:07	1
Carbon Dioxide, Free	190		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: MW-9

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/28/16 22:00	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 22:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 22:00	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 22:00	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 22:00	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 22:00	1
Acetone	ND		20	10	ug/L			12/28/16 22:00	1
Acetonitrile	ND		20	10	ug/L			12/28/16 22:00	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 22:00	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 22:00	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 22:00	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 22:00	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-9

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
cis-1,2-Dichloroethene	0.54		0.50	0.25	ug/L			12/28/16 22:00	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 22:00	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 22:00	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 22:00	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 22:00	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 22:00	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 22:00	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 22:00	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 22:00	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 22:00	1
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Propionitrile	ND		20	10	ug/L			12/28/16 22:00	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
t-Butanol	33		10	5.0	ug/L			12/28/16 22:00	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Tetrahydrofuran	6.2 J		10	5.0	ug/L			12/28/16 22:00	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 22:00	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 22:00	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 22:00	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 22:00	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 22:00	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 22:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 22:00	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 22:00	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 22:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.1	T J	ug/L		5.87			12/28/16 22:00	1
Unknown	11	T J	ug/L		17.75			12/28/16 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		12/28/16 22:00	1
4-Bromofluorobenzene (Surr)	99		80 - 120		12/28/16 22:00	1
Dibromofluoromethane (Surr)	100		76 - 132		12/28/16 22:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	23		1.0	0.26	ug/L		12/27/16 08:45	12/29/16 15:08	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-9

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120	12/27/16 08:45	12/29/16 15:08	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	4.8		2.5	1.3	mg/L			12/21/16 22:02	5
Nitrate as N	ND		0.55	0.28	mg/L			12/21/16 22:02	5
Chloride	260		100	50	mg/L			12/21/16 22:13	200
Fluoride	2.9		2.5	1.3	mg/L			12/21/16 22:02	5
Sulfate	1600		100	50	mg/L			12/21/16 22:13	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.050	0.010	mg/L		12/29/16 08:04	12/30/16 11:22	1
Calcium	440		0.10	0.050	mg/L		12/29/16 08:04	12/30/16 11:22	1
Iron	51		0.040	0.010	mg/L		12/29/16 08:04	12/30/16 11:22	1
Magnesium	220		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:22	1
Manganese	5.6		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:22	1
Potassium	26		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:22	1
Sodium	420		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	160		20	10	mg/L			01/04/17 09:10	1
Total Dissolved Solids	3600		50	25	mg/L			12/28/16 08:52	1
Ammonia (as N)	4.7		2.5	0.50	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	53		1.0	0.50	mg/L			01/06/17 06:43	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	740		4.0	4.0	mg/L			12/22/16 15:20	1
Bicarbonate Alkalinity as CaCO3	740		4.0	4.0	mg/L			12/22/16 15:20	1
Carbon Dioxide, Free	270		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: DW-3

Date Collected: 12/21/16 08:25

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-6

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			12/29/16 00:11	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 00:11	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 00:11	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 00:11	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: DW-3

Date Collected: 12/21/16 08:25

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 00:11	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 00:11	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 00:11	1
Acetone	ND		20	10	ug/L			12/29/16 00:11	1
Acetonitrile	ND		20	10	ug/L			12/29/16 00:11	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 00:11	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 00:11	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 00:11	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 00:11	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 00:11	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 00:11	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 00:11	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 00:11	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 00:11	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 00:11	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 00:11	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 00:11	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 00:11	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Propionitrile	ND		20	10	ug/L			12/29/16 00:11	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 00:11	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 00:11	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 00:11	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 00:11	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 00:11	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 00:11	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: DW-3

Date Collected: 12/21/16 08:25

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 00:11	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 00:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 00:11	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 00:11	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 00:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.1	T J	ug/L		5.87			12/29/16 00:11	1
Unknown	19	T J	ug/L		17.54			12/29/16 00:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		12/29/16 00:11	1
4-Bromofluorobenzene (Surr)	101		80 - 120		12/29/16 00:11	1
Dibromofluoromethane (Surr)	101		76 - 132		12/29/16 00:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.96	0.24	ug/L		12/27/16 08:45	12/29/16 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	63		30 - 120	12/27/16 08:45	12/29/16 15:30	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			12/21/16 23:17	1
Nitrate as N	ND		0.11	0.055	mg/L			12/21/16 23:17	1
Chloride	14		0.50	0.25	mg/L			12/21/16 23:17	1
Fluoride	0.73		0.50	0.25	mg/L			12/21/16 23:17	1
Sulfate	1200		25	13	mg/L			12/21/16 23:27	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.066		0.050	0.010	mg/L		12/29/16 08:04	12/30/16 11:24	1
Calcium	320		0.10	0.050	mg/L		12/29/16 08:04	12/30/16 11:24	1
Iron	0.81		0.040	0.010	mg/L		12/29/16 08:04	12/30/16 11:24	1
Magnesium	110		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:24	1
Manganese	0.088		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:24	1
Potassium	9.7		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:24	1
Sodium	71		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	17	J	20	10	mg/L			01/04/17 09:10	1
Total Dissolved Solids	1900		10	5.0	mg/L			12/28/16 08:52	1
Ammonia (as N)	0.76		0.50	0.10	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	0.67		0.10	0.050	mg/L			01/05/17 16:05	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	170		4.0	4.0	mg/L			12/22/16 15:31	1
Bicarbonate Alkalinity as CaCO3	170		4.0	4.0	mg/L			12/22/16 15:31	1
Carbon Dioxide, Free	16		2.0	2.0	mg/L			12/22/16 15:56	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: Duplicate

Lab Sample ID: 440-170565-7

Date Collected: 12/21/16 00:01

Matrix: Water

Date Received: 12/21/16 18:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 00:37	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 00:37	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 00:37	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 00:37	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 00:37	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 00:37	1
Acetone	ND		20	10	ug/L			12/29/16 00:37	1
Acetonitrile	ND		20	10	ug/L			12/29/16 00:37	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 00:37	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 00:37	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 00:37	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 00:37	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 00:37	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 00:37	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 00:37	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 00:37	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 00:37	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 00:37	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 00:37	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 00:37	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 00:37	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 00:37	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: Duplicate

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/29/16 00:37	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 00:37	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 00:37	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 00:37	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 00:37	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 00:37	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 00:37	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 00:37	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 00:37	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 00:37	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 00:37	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 00:37	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	16	T J	ug/L		17.57			12/29/16 00:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		12/29/16 00:37	1
4-Bromofluorobenzene (Surr)	101		80 - 120		12/29/16 00:37	1
Dibromofluoromethane (Surr)	101		76 - 132		12/29/16 00:37	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		12/27/16 08:45	12/29/16 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	59		30 - 120	12/27/16 08:45	12/29/16 15:52	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			12/21/16 23:38	1
Nitrate as N	ND		0.11	0.055	mg/L			12/21/16 23:38	1
Chloride	14		0.50	0.25	mg/L			12/21/16 23:38	1
Fluoride	0.72		0.50	0.25	mg/L			12/21/16 23:38	1
Sulfate	1200		25	13	mg/L			12/21/16 23:48	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.065		0.050	0.010	mg/L		12/29/16 08:04	12/30/16 11:27	1
Calcium	310		0.10	0.050	mg/L		12/29/16 08:04	12/30/16 11:27	1
Iron	0.91		0.040	0.010	mg/L		12/29/16 08:04	12/30/16 11:27	1
Magnesium	110		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:27	1
Manganese	0.089		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:27	1
Potassium	9.3		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:27	1
Sodium	69		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:27	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	10	mg/L			01/04/17 09:10	1
Total Dissolved Solids	1900		10	5.0	mg/L			12/28/16 08:52	1
Ammonia (as N)	0.76		0.50	0.10	mg/L		12/28/16 03:00	12/28/16 05:00	1
Total Sulfide	ND		0.050	0.020	mg/L			12/21/16 22:27	1
Total Organic Carbon	0.52		0.10	0.050	mg/L			01/05/17 16:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	170		4.0	4.0	mg/L			12/22/16 15:39	1
Bicarbonate Alkalinity as CaCO3	170		4.0	4.0	mg/L			12/22/16 15:39	1
Carbon Dioxide, Free	18		2.0	2.0	mg/L			12/22/16 15:56	1

Client Sample ID: QCAB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-8

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			12/29/16 01:04	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 01:04	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 01:04	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 01:04	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 01:04	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 01:04	1
Acetone	ND		20	10	ug/L			12/29/16 01:04	1
Acetonitrile	ND		20	10	ug/L			12/29/16 01:04	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 01:04	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 01:04	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 01:04	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 01:04	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: QCAB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 01:04	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 01:04	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 01:04	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 01:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 01:04	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 01:04	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 01:04	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 01:04	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 01:04	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Propionitrile	ND		20	10	ug/L			12/29/16 01:04	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 01:04	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 01:04	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 01:04	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 01:04	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 01:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 01:04	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 01:04	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 01:04	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 01:04	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 01:04	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 01:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.4	T J	ug/L		5.87			12/29/16 01:04	1
Unknown	15	T J	ug/L		16.88			12/29/16 01:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		12/29/16 01:04	1
4-Bromofluorobenzene (Surr)	99		80 - 120		12/29/16 01:04	1
Dibromofluoromethane (Surr)	102		76 - 132		12/29/16 01:04	1

Client Sample ID: QCTB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-9

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			12/29/16 01:30	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: QCTB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 01:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 01:30	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 01:30	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 01:30	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 01:30	1
Acetone	ND		20	10	ug/L			12/29/16 01:30	1
Acetonitrile	ND		20	10	ug/L			12/29/16 01:30	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 01:30	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 01:30	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 01:30	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 01:30	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 01:30	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 01:30	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 01:30	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 01:30	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 01:30	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 01:30	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 01:30	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 01:30	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 01:30	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Propionitrile	ND		20	10	ug/L			12/29/16 01:30	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 01:30	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 01:30	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: QCTB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 01:30	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 01:30	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 01:30	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 01:30	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 01:30	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 01:30	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 01:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 01:30	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 01:30	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 01:30	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	25	T J	ug/L		16.33			12/29/16 01:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		80 - 128		12/29/16 01:30	1
4-Bromofluorobenzene (Surr)	104		80 - 120		12/29/16 01:30	1
Dibromofluoromethane (Surr)	103		76 - 132		12/29/16 01:30	1

TestAmerica Irvine

Method Summary

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

TestAmerica Job ID: 440-170565-1

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 CO2 C	Free Carbon Dioxide	SM	TAL IRV
SM 4500 NH3 D	Ammonia	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5310C	TOC	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 = 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: 440-170565-1

Client Sample ID: MW-2A

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-1

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	378516	12/28/16 10:36	WC	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 13:40	HN	TAL IRV
Total/NA	Analysis	300.0		2			377296	12/21/16 20:40	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377297	12/21/16 20:40	NTN	TAL IRV
Total/NA	Analysis	300.0		100			377297	12/21/16 20:50	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378816	12/29/16 08:09	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379159	12/30/16 10:37	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379698	01/04/17 09:09	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			378308	12/27/16 08:10	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 14:57	YZ	TAL IRV

Client Sample ID: MW-2B

Date Collected: 12/21/16 08:55

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-2

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	378516	12/28/16 11:55	WC	TAL IRV
Total/NA	Prep	3520C			1040 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 14:02	HN	TAL IRV
Total/NA	Analysis	300.0		2			377296	12/21/16 21:00	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377297	12/21/16 21:00	NTN	TAL IRV
Total/NA	Analysis	300.0		100			377297	12/21/16 21:11	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378816	12/29/16 08:09	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379159	12/30/16 10:25	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379832	01/04/17 15:35	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			378308	12/27/16 08:19	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 15:08	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: DW-4

Date Collected: 12/21/16 08:10

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-3

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	378516	12/28/16 12:21	WC	TAL IRV
Total/NA	Analysis	300.0		2			377296	12/21/16 21:21	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377297	12/21/16 21:21	NTN	TAL IRV
Total/NA	Analysis	300.0		100			377297	12/21/16 21:31	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378816	12/29/16 08:09	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379159	12/30/16 10:15	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379832	01/04/17 15:35	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377837	12/22/16 14:55	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 15:20	YZ	TAL IRV

Client Sample ID: MW-5

Date Collected: 12/21/16 12:15

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-4

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	378516	12/28/16 12:47	WC	TAL IRV
Total/NA	Prep	3520C			980 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 14:47	HN	TAL IRV
Total/NA	Analysis	300.0		2			377296	12/21/16 21:42	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377297	12/21/16 21:42	NTN	TAL IRV
Total/NA	Analysis	300.0		100			377297	12/21/16 21:52	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378813	12/29/16 08:04	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379188	12/30/16 11:13	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379832	01/04/17 15:35	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377837	12/22/16 15:07	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380347	01/06/17 06:29	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: MW-9

Date Collected: 12/21/16 10:30

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-5

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	378704	12/28/16 22:00	AA	TAL IRV
Total/NA	Prep	3520C			955 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 15:08	HN	TAL IRV
Total/NA	Analysis	300.0		5			377296	12/21/16 22:02	NTN	TAL IRV
Total/NA	Analysis	300.0		5			377297	12/21/16 22:02	NTN	TAL IRV
Total/NA	Analysis	300.0		200			377297	12/21/16 22:13	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378813	12/29/16 08:04	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379188	12/30/16 11:22	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379698	01/04/17 09:10	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377837	12/22/16 15:20	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			10 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380347	01/06/17 06:43	YZ	TAL IRV

Client Sample ID: DW-3

Date Collected: 12/21/16 08:25

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-6

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	378704	12/29/16 00:11	AA	TAL IRV
Total/NA	Prep	3520C			1045 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 15:30	HN	TAL IRV
Total/NA	Analysis	300.0		1			377296	12/21/16 23:17	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377297	12/21/16 23:17	NTN	TAL IRV
Total/NA	Analysis	300.0		50			377297	12/21/16 23:27	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378813	12/29/16 08:04	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379188	12/30/16 11:24	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379698	01/04/17 09:10	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377837	12/22/16 15:31	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 16:05	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-170565-1

Client Sample ID: Duplicate

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-7

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	378704	12/29/16 00:37	AA	TAL IRV
Total/NA	Prep	3520C			1035 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 15:52	HN	TAL IRV
Total/NA	Analysis	300.0		1			377296	12/21/16 23:38	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377297	12/21/16 23:38	NTN	TAL IRV
Total/NA	Analysis	300.0		50			377297	12/21/16 23:48	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	378813	12/29/16 08:04	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			379188	12/30/16 11:27	K1E	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	379698	01/04/17 09:10	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377837	12/22/16 15:39	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	378530	12/28/16 08:52	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377746	12/22/16 15:56	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	378501	12/28/16 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			378507	12/28/16 05:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	377513	12/21/16 22:27	EN	TAL IRV
Total/NA	Analysis	SM 5310C		1	100 mL	100 mL	380232	01/05/17 16:16	YZ	TAL IRV

Client Sample ID: QCAB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-8

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	378704	12/29/16 01:04	AA	TAL IRV

Client Sample ID: QCTB

Date Collected: 12/21/16 00:01

Date Received: 12/21/16 18:50

Lab Sample ID: 440-170565-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	378704	12/29/16 01:30	AA	TAL IRV

Laboratory References:

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

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: MB 440-378516/4

Matrix: Water

Analysis Batch: 378516

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/28/16 08:34	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 08:34	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 08:34	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 08:34	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 08:34	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 08:34	1
Acetone	ND		20	10	ug/L			12/28/16 08:34	1
Acetonitrile	ND		20	10	ug/L			12/28/16 08:34	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 08:34	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 08:34	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 08:34	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 08:34	1
Chloroform	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 08:34	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 08:34	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 08:34	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 08:34	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 08:34	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 08:34	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 08:34	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 08:34	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 08:34	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: MB 440-378516/4

Matrix: Water

Analysis Batch: 378516

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Propionitrile	ND		20	10	ug/L			12/28/16 08:34	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
t-Butanol	ND		10	5.0	ug/L			12/28/16 08:34	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/28/16 08:34	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 08:34	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 08:34	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 08:34	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 08:34	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 08:34	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 08:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 08:34	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 08:34	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 08:34	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/28/16 08:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		12/28/16 08:34	1
4-Bromofluorobenzene (Surr)	99		80 - 120		12/28/16 08:34	1
Dibromofluoromethane (Surr)	103		76 - 132		12/28/16 08:34	1

Lab Sample ID: LCS 440-378516/5

Matrix: Water

Analysis Batch: 378516

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	25.0		ug/L		100	63 - 130
1,1,1,2-Tetrachloroethane	25.0	25.8		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	24.7		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.6		ug/L		103	63 - 130
1,1,2-Trichloroethane	25.0	25.5		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	25.2		ug/L		101	64 - 130
1,1-Dichloroethene	25.0	23.6		ug/L		94	70 - 130
1,1-Dichloropropene	25.0	25.1		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	25.0	26.4		ug/L		106	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	26.2		ug/L		105	52 - 140
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	25.3		ug/L		101	57 - 138
1,2-Dichloropropane	25.0	26.3		ug/L		105	67 - 130
1,3-Dichlorobenzene	25.0	25.2		ug/L		101	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: LCS 440-378516/5

Matrix: Water

Analysis Batch: 378516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	25.7		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	23.7		ug/L		95	68 - 141
2-Hexanone	25.0	26.4		ug/L		106	10 - 150
Acetone	25.0	25.6		ug/L		102	10 - 150
Benzene	25.0	24.2		ug/L		97	68 - 130
Bromoform	25.0	26.7		ug/L		107	60 - 148
Bromomethane	25.0	25.5		ug/L		102	64 - 139
Carbon disulfide	25.0	24.2		ug/L		97	52 - 136
Carbon tetrachloride	25.0	25.4		ug/L		102	60 - 150
Chlorobenzene	25.0	24.8		ug/L		99	70 - 130
Bromochloromethane	25.0	26.2		ug/L		105	70 - 130
Chloroethane	25.0	25.4		ug/L		102	64 - 135
Chloroform	25.0	25.2		ug/L		101	70 - 130
Chloromethane	25.0	24.5		ug/L		98	47 - 140
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 133
cis-1,3-Dichloropropene	25.0	26.7		ug/L		107	70 - 133
Dibromochloromethane	25.0	26.0		ug/L		104	69 - 145
Dibromomethane	25.0	25.5		ug/L		102	70 - 130
Bromodichloromethane	25.0	26.0		ug/L		104	70 - 132
Dichlorodifluoromethane	25.0	23.1		ug/L		93	29 - 150
Ethylbenzene	25.0	25.0		ug/L		100	70 - 130
m,p-Xylene	25.0	25.8		ug/L		103	70 - 130
Methylene Chloride	25.0	24.9		ug/L		100	52 - 130
Methyl tert-butyl ether	25.0	25.6		ug/L		102	63 - 131
Naphthalene	25.0	26.0		ug/L		104	60 - 140
o-Xylene	25.0	26.4		ug/L		105	70 - 130
Styrene	25.0	25.7		ug/L		103	70 - 134
t-Butanol	250	259		ug/L		104	70 - 130
Tetrachloroethene	25.0	26.1		ug/L		104	70 - 130
Toluene	25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	25.0	24.4		ug/L		98	70 - 130
trans-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 132
Trichloroethene	25.0	25.8		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	26.2		ug/L		105	60 - 150
Vinyl acetate	25.0	25.9		ug/L		104	48 - 140
Vinyl chloride	25.0	24.4		ug/L		98	59 - 133
1,2-Dibromoethane (EDB)	25.0	27.0		ug/L		108	70 - 130
2-Butanone (MEK)	25.0	25.0		ug/L		100	44 - 150
4-Methyl-2-pentanone (MIBK)	25.0	26.9		ug/L		108	59 - 149
Acrylonitrile	250	262		ug/L		105	48 - 140
Acrolein	25.0	23.0		ug/L		92	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: LCSD 440-378516/6

Matrix: Water

Analysis Batch: 378516

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	25.0	23.9		ug/L		95	63 - 130	5	20
1,1,1,2-Tetrachloroethane	25.0	26.7		ug/L		107	60 - 141	3	20
1,1,1-Trichloroethane	25.0	26.6		ug/L		106	70 - 130	7	20
1,1,2,2-Tetrachloroethane	25.0	25.4		ug/L		101	63 - 130	1	25
1,1,2-Trichloroethane	25.0	26.0		ug/L		104	70 - 130	2	20
1,1-Dichloroethane	25.0	27.2		ug/L		109	64 - 130	8	20
1,1-Dichloroethene	25.0	26.3		ug/L		105	70 - 130	11	20
1,1-Dichloropropene	25.0	27.3		ug/L		109	70 - 130	9	20
1,2,4-Trichlorobenzene	25.0	27.6		ug/L		110	60 - 140	4	20
1,2-Dibromo-3-Chloropropane	25.0	24.6		ug/L		98	52 - 140	6	30
1,2-Dichlorobenzene	25.0	26.5		ug/L		106	70 - 130	3	20
1,2-Dichloroethane	25.0	26.1		ug/L		105	57 - 138	3	20
1,2-Dichloropropane	25.0	27.6		ug/L		110	67 - 130	5	20
1,3-Dichlorobenzene	25.0	26.6		ug/L		106	70 - 130	5	20
1,3-Dichloropropane	25.0	26.2		ug/L		105	70 - 130	2	20
1,4-Dichlorobenzene	25.0	26.4		ug/L		106	70 - 130	3	20
2,2-Dichloropropane	25.0	27.5		ug/L		110	68 - 141	15	25
2-Hexanone	25.0	25.0		ug/L		100	10 - 150	6	30
Acetone	25.0	24.5		ug/L		98	10 - 150	4	30
Benzene	25.0	26.0		ug/L		104	68 - 130	7	20
Bromoform	25.0	26.7		ug/L		107	60 - 148	0	25
Bromomethane	25.0	27.5		ug/L		110	64 - 139	8	20
Carbon disulfide	25.0	26.2		ug/L		105	52 - 136	8	20
Carbon tetrachloride	25.0	27.5		ug/L		110	60 - 150	8	25
Chlorobenzene	25.0	25.7		ug/L		103	70 - 130	3	20
Bromochloromethane	25.0	27.6		ug/L		110	70 - 130	5	20
Chloroethane	25.0	27.1		ug/L		108	64 - 135	7	20
Chloroform	25.0	27.3		ug/L		109	70 - 130	8	20
Chloromethane	25.0	26.7		ug/L		107	47 - 140	9	25
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	70 - 133	9	20
cis-1,3-Dichloropropene	25.0	27.5		ug/L		110	70 - 133	3	25
Dibromochloromethane	25.0	26.2		ug/L		105	69 - 145	1	20
Dibromomethane	25.0	26.3		ug/L		105	70 - 130	3	20
Bromodichloromethane	25.0	27.5		ug/L		110	70 - 132	5	20
Dichlorodifluoromethane	25.0	23.6		ug/L		95	29 - 150	2	30
Ethylbenzene	25.0	25.8		ug/L		103	70 - 130	3	20
m,p-Xylene	25.0	27.0		ug/L		108	70 - 130	5	20
Methylene Chloride	25.0	27.2		ug/L		109	52 - 130	9	20
Methyl tert-butyl ether	25.0	26.8		ug/L		107	63 - 131	5	25
Naphthalene	25.0	26.4		ug/L		105	60 - 140	2	25
o-Xylene	25.0	27.6		ug/L		110	70 - 130	4	20
Styrene	25.0	26.4		ug/L		106	70 - 134	3	20
t-Butanol	250	273		ug/L		109	70 - 130	5	20
Tetrachloroethene	25.0	27.2		ug/L		109	70 - 130	4	20
Toluene	25.0	26.6		ug/L		106	70 - 130	7	20
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	70 - 130	10	20
trans-1,3-Dichloropropene	25.0	25.5		ug/L		102	70 - 132	0	20
Trichloroethene	25.0	28.0		ug/L		112	70 - 130	8	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: LCSD 440-378516/6

Matrix: Water

Analysis Batch: 378516

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
Trichlorofluoromethane	25.0	28.3		ug/L		113	60 - 150	8	20
Vinyl acetate	25.0	27.3		ug/L		109	48 - 140	5	20
Vinyl chloride	25.0	26.9		ug/L		108	59 - 133	10	30
1,2-Dibromoethane (EDB)	25.0	27.3		ug/L		109	70 - 130	1	20
2-Butanone (MEK)	25.0	25.4		ug/L		102	44 - 150	1	35
4-Methyl-2-pentanone (MIBK)	25.0	25.7		ug/L		103	59 - 149	5	30
Acrylonitrile	250	263		ug/L		105	48 - 140	0	30
Acrolein	25.0	24.9		ug/L		99	10 - 145	8	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	104		80 - 128
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	106		76 - 132

Lab Sample ID: 440-170565-1 MS

Matrix: Water

Analysis Batch: 378516

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
1,2,3-Trichloropropane	ND		25.0	25.8		ug/L		103	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.8		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.0		ug/L		100	70 - 130
1,1-Dichloroethane	ND		25.0	24.9		ug/L		99	65 - 130
1,1-Dichloroethene	ND		25.0	23.9		ug/L		96	70 - 130
1,1-Dichloropropene	ND		25.0	25.5		ug/L		102	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.0		ug/L		104	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	27.1		ug/L		108	48 - 140
1,2-Dichlorobenzene	ND		25.0	24.9		ug/L		100	70 - 130
1,2-Dichloroethane	ND		25.0	24.8		ug/L		99	56 - 146
1,2-Dichloropropane	ND		25.0	25.8		ug/L		103	69 - 130
1,3-Dichlorobenzene	ND		25.0	25.2		ug/L		101	70 - 130
1,3-Dichloropropane	ND		25.0	25.5		ug/L		102	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.8		ug/L		99	70 - 130
2,2-Dichloropropane	ND		25.0	25.7		ug/L		103	69 - 138
2-Hexanone	ND		25.0	27.1		ug/L		108	10 - 150
Acetone	ND		25.0	27.8		ug/L		111	10 - 150
Benzene	ND		25.0	23.8		ug/L		95	66 - 130
Bromoform	ND		25.0	26.2		ug/L		105	59 - 150
Bromomethane	ND		25.0	25.5		ug/L		102	62 - 131
Carbon disulfide	ND		25.0	24.2		ug/L		97	49 - 140
Carbon tetrachloride	ND		25.0	25.0		ug/L		100	60 - 150
Chlorobenzene	ND		25.0	24.1		ug/L		96	70 - 130
Bromochloromethane	ND		25.0	25.8		ug/L		103	70 - 130
Chloroethane	ND		25.0	25.2		ug/L		101	68 - 130
Chloroform	ND		25.0	24.7		ug/L		99	70 - 130
Chloromethane	ND		25.0	26.0		ug/L		104	39 - 144

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-1 MS

Matrix: Water

Analysis Batch: 378516

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
cis-1,2-Dichloroethene	ND		25.0	24.2		ug/L		97	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 133
Dibromochloromethane	ND		25.0	24.8		ug/L		99	70 - 148
Dibromomethane	ND		25.0	25.5		ug/L		102	70 - 130
Bromodichloromethane	ND		25.0	25.1		ug/L		100	70 - 138
Dichlorodifluoromethane	ND		25.0	22.9		ug/L		91	25 - 142
Ethylbenzene	ND		25.0	24.4		ug/L		98	70 - 130
m,p-Xylene	ND		25.0	25.0		ug/L		100	70 - 133
Methylene Chloride	ND		25.0	25.2		ug/L		101	52 - 130
Methyl tert-butyl ether	ND		25.0	25.7		ug/L		103	70 - 130
Naphthalene	ND		25.0	26.4		ug/L		106	60 - 140
o-Xylene	ND		25.0	24.9		ug/L		100	70 - 133
Styrene	ND		25.0	23.7		ug/L		95	29 - 150
t-Butanol	ND		250	248		ug/L		99	70 - 130
Tetrachloroethene	ND		25.0	25.0		ug/L		100	70 - 137
Toluene	ND		25.0	24.7		ug/L		99	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.8		ug/L		99	70 - 130
trans-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	70 - 138
Trichloroethene	ND		25.0	25.5		ug/L		102	70 - 130
Trichlorofluoromethane	ND		25.0	26.3		ug/L		105	60 - 150
Vinyl acetate	ND		25.0	26.8		ug/L		107	23 - 150
Vinyl chloride	ND		25.0	26.3		ug/L		105	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	26.8		ug/L		107	70 - 131
2-Butanone (MEK)	ND		25.0	26.6		ug/L		106	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.0		ug/L		112	52 - 150
Acrylonitrile	ND		250	277		ug/L		111	38 - 144
Acrolein	ND		25.0	25.8		ug/L		103	10 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

Lab Sample ID: 440-170565-1 MSD

Matrix: Water

Analysis Batch: 378516

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
1,2,3-Trichloropropane	ND		25.0	26.1		ug/L		105	60 - 130	1	30
1,1,1,2-Tetrachloroethane	ND		25.0	25.9		ug/L		104	60 - 149	4	20
1,1,1-Trichloroethane	ND		25.0	25.1		ug/L		100	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.4		ug/L		106	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	25.8		ug/L		103	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	25.7		ug/L		103	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	23.9		ug/L		96	70 - 130	0	20
1,1-Dichloropropene	ND		25.0	25.7		ug/L		103	64 - 130	1	20
1,2,4-Trichlorobenzene	ND		25.0	27.4		ug/L		109	60 - 140	5	20
1,2-Dibromo-3-Chloropropane	ND		25.0	25.5		ug/L		102	48 - 140	6	30

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-1 MSD

Matrix: Water

Analysis Batch: 378516

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
1,2-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	5	20
1,2-Dichloroethane	ND		25.0	25.9		ug/L		104	56 - 146	4	20
1,2-Dichloropropane	ND		25.0	26.5		ug/L		106	69 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	25.4		ug/L		102	70 - 130	1	25
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	6	20
2,2-Dichloropropane	ND		25.0	25.7		ug/L		103	69 - 138	0	25
2-Hexanone	ND		25.0	25.3		ug/L		101	10 - 150	7	35
Acetone	ND		25.0	26.1		ug/L		105	10 - 150	6	35
Benzene	ND		25.0	24.9		ug/L		100	66 - 130	5	20
Bromoform	ND		25.0	26.2		ug/L		105	59 - 150	0	25
Bromomethane	ND		25.0	26.6		ug/L		107	62 - 131	4	25
Carbon disulfide	ND		25.0	24.4		ug/L		98	49 - 140	1	20
Carbon tetrachloride	ND		25.0	25.9		ug/L		104	60 - 150	4	25
Chlorobenzene	ND		25.0	24.7		ug/L		99	70 - 130	3	20
Bromochloromethane	ND		25.0	26.5		ug/L		106	70 - 130	3	25
Chloroethane	ND		25.0	25.7		ug/L		103	68 - 130	2	25
Chloroform	ND		25.0	25.5		ug/L		102	70 - 130	3	20
Chloromethane	ND		25.0	25.5		ug/L		102	39 - 144	2	25
cis-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	70 - 130	3	20
cis-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 133	3	20
Dibromochloromethane	ND		25.0	25.7		ug/L		103	70 - 148	4	25
Dibromomethane	ND		25.0	25.5		ug/L		102	70 - 130	0	25
Bromodichloromethane	ND		25.0	26.0		ug/L		104	70 - 138	3	20
Dichlorodifluoromethane	ND		25.0	23.0		ug/L		92	25 - 142	1	30
Ethylbenzene	ND		25.0	25.0		ug/L		100	70 - 130	2	20
m,p-Xylene	ND		25.0	25.8		ug/L		103	70 - 133	3	25
Methylene Chloride	ND		25.0	25.9		ug/L		103	52 - 130	3	20
Methyl tert-butyl ether	ND		25.0	26.2		ug/L		105	70 - 130	2	25
Naphthalene	ND		25.0	27.0		ug/L		108	60 - 140	2	30
o-Xylene	ND		25.0	26.2		ug/L		105	70 - 133	5	20
Styrene	ND		25.0	25.3		ug/L		101	29 - 150	6	35
t-Butanol	ND		250	264		ug/L		106	70 - 130	6	25
Tetrachloroethene	ND		25.0	25.4		ug/L		102	70 - 137	1	20
Toluene	ND		25.0	24.9		ug/L		100	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 138	2	25
Trichloroethene	ND		25.0	26.1		ug/L		105	70 - 130	2	20
Trichlorofluoromethane	ND		25.0	26.2		ug/L		105	60 - 150	0	25
Vinyl acetate	ND		25.0	26.2		ug/L		105	23 - 150	2	30
Vinyl chloride	ND		25.0	25.9		ug/L		104	50 - 137	1	30
1,2-Dibromoethane (EDB)	ND		25.0	27.2		ug/L		109	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	24.4		ug/L		97	48 - 140	9	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	26.8		ug/L		107	52 - 150	4	35
Acrylonitrile	ND		250	266		ug/L		107	38 - 144	4	40
Acrolein	ND		25.0	25.0		ug/L		100	10 - 147	3	40

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-1 MSD

Matrix: Water

Analysis Batch: 378516

Client Sample ID: MW-2A

Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 128
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	101		76 - 132

Lab Sample ID: MB 440-378704/4

Matrix: Water

Analysis Batch: 378704

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/28/16 20:41	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/28/16 20:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/28/16 20:41	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/28/16 20:41	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/28/16 20:41	1
2-Hexanone	ND		5.0	2.5	ug/L			12/28/16 20:41	1
Acetone	ND		20	10	ug/L			12/28/16 20:41	1
Acetonitrile	ND		20	10	ug/L			12/28/16 20:41	1
Benzene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Allyl chloride	ND		1.0	0.50	ug/L			12/28/16 20:41	1
Bromoform	ND		1.0	0.40	ug/L			12/28/16 20:41	1
Bromomethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/28/16 20:41	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Chloroethane	ND		1.0	0.40	ug/L			12/28/16 20:41	1
Chloroform	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Chloromethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Dibromomethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/28/16 20:41	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 20:41	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: MB 440-378704/4

Matrix: Water

Analysis Batch: 378704

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Iodomethane	ND		2.0	1.0	ug/L			12/28/16 20:41	1
Isobutyl alcohol	ND		25	13	ug/L			12/28/16 20:41	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/28/16 20:41	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/28/16 20:41	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/28/16 20:41	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/28/16 20:41	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Naphthalene	ND		1.0	0.40	ug/L			12/28/16 20:41	1
o-Xylene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Propionitrile	ND		20	10	ug/L			12/28/16 20:41	1
Styrene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
t-Butanol	ND		10	5.0	ug/L			12/28/16 20:41	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/28/16 20:41	1
Toluene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/28/16 20:41	1
Trichloroethene	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/28/16 20:41	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/28/16 20:41	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/28/16 20:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/28/16 20:41	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/28/16 20:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/28/16 20:41	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/28/16 20:41	1
Acrolein	ND		5.0	2.5	ug/L			12/28/16 20:41	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/28/16 20:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		80 - 128		12/28/16 20:41	1
4-Bromofluorobenzene (Surr)	101		80 - 120		12/28/16 20:41	1
Dibromofluoromethane (Surr)	100		76 - 132		12/28/16 20:41	1

Lab Sample ID: LCS 440-378704/5

Matrix: Water

Analysis Batch: 378704

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	25.8		ug/L		103	60 - 141
1,1,1-Trichloroethane	25.0	25.4		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.0		ug/L		100	63 - 130
1,1,2-Trichloroethane	25.0	25.1		ug/L		101	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: LCS 440-378704/5

Matrix: Water

Analysis Batch: 378704

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	25.9		ug/L		104	64 - 130
1,1-Dichloroethene	25.0	24.8		ug/L		99	70 - 130
1,1-Dichloropropene	25.0	26.2		ug/L		105	70 - 130
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	60 - 140
1,2-Dibromo-3-Chloropropane	25.0	23.1		ug/L		92	52 - 140
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	25.5		ug/L		102	57 - 138
1,2-Dichloropropane	25.0	27.0		ug/L		108	67 - 130
1,3-Dichlorobenzene	25.0	25.3		ug/L		101	70 - 130
1,3-Dichloropropane	25.0	25.2		ug/L		101	70 - 130
1,4-Dichlorobenzene	25.0	25.6		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	25.6		ug/L		102	68 - 141
2-Hexanone	25.0	24.4		ug/L		98	10 - 150
Acetone	25.0	24.6		ug/L		98	10 - 150
Benzene	25.0	25.0		ug/L		100	68 - 130
Bromoform	25.0	25.5		ug/L		102	60 - 148
Bromomethane	25.0	26.4		ug/L		106	64 - 139
Carbon disulfide	25.0	24.6		ug/L		98	52 - 136
Carbon tetrachloride	25.0	25.9		ug/L		104	60 - 150
Chlorobenzene	25.0	25.1		ug/L		100	70 - 130
Bromochloromethane	25.0	26.5		ug/L		106	70 - 130
Chloroethane	25.0	26.3		ug/L		105	64 - 135
Chloroform	25.0	25.8		ug/L		103	70 - 130
Chloromethane	25.0	26.8		ug/L		107	47 - 140
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	70 - 133
cis-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 133
Dibromochloromethane	25.0	25.8		ug/L		103	69 - 145
Dibromomethane	25.0	25.3		ug/L		101	70 - 130
Bromodichloromethane	25.0	26.0		ug/L		104	70 - 132
Dichlorodifluoromethane	25.0	24.9		ug/L		99	29 - 150
Ethylbenzene	25.0	25.0		ug/L		100	70 - 130
m,p-Xylene	25.0	26.4		ug/L		105	70 - 130
Methylene Chloride	25.0	25.9		ug/L		104	52 - 130
Methyl tert-butyl ether	25.0	26.0		ug/L		104	63 - 131
Naphthalene	25.0	25.1		ug/L		101	60 - 140
o-Xylene	25.0	26.8		ug/L		107	70 - 130
Styrene	25.0	25.8		ug/L		103	70 - 134
t-Butanol	25.0	25.9		ug/L		104	70 - 130
Tetrachloroethene	25.0	25.5		ug/L		102	70 - 130
Toluene	25.0	25.6		ug/L		102	70 - 130
trans-1,2-Dichloroethene	25.0	25.5		ug/L		102	70 - 130
trans-1,3-Dichloropropene	25.0	25.2		ug/L		101	70 - 132
Trichloroethene	25.0	26.9		ug/L		108	70 - 130
Trichlorofluoromethane	25.0	26.7		ug/L		107	60 - 150
Vinyl acetate	25.0	23.9		ug/L		96	48 - 140
Vinyl chloride	25.0	26.9		ug/L		108	59 - 133
1,2-Dibromoethane (EDB)	25.0	26.3		ug/L		105	70 - 130
2-Butanone (MEK)	25.0	24.0		ug/L		96	44 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: LCS 440-378704/5

Matrix: Water

Analysis Batch: 378704

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		99	59 - 149
Acrylonitrile	250	257		ug/L		103	48 - 140
Acrolein	25.0	21.2		ug/L		85	10 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	106		80 - 128
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Lab Sample ID: LCSD 440-378704/6

Matrix: Water

Analysis Batch: 378704

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	25.0	24.6		ug/L		98	63 - 130	3	20
1,1,1,2-Tetrachloroethane	25.0	25.9		ug/L		104	60 - 141	0	20
1,1,1-Trichloroethane	25.0	24.5		ug/L		98	70 - 130	4	20
1,1,2,2-Tetrachloroethane	25.0	25.6		ug/L		102	63 - 130	2	25
1,1,2-Trichloroethane	25.0	24.9		ug/L		100	70 - 130	1	20
1,1-Dichloroethane	25.0	25.9		ug/L		103	64 - 130	0	20
1,1-Dichloroethene	25.0	24.0		ug/L		96	70 - 130	3	20
1,1-Dichloropropene	25.0	25.3		ug/L		101	70 - 130	3	20
1,2,4-Trichlorobenzene	25.0	26.3		ug/L		105	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	25.0	24.1		ug/L		96	52 - 140	4	30
1,2-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130	3	20
1,2-Dichloroethane	25.0	24.9		ug/L		100	57 - 138	2	20
1,2-Dichloropropane	25.0	26.3		ug/L		105	67 - 130	3	20
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130	2	20
1,3-Dichloropropane	25.0	25.1		ug/L		100	70 - 130	1	20
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
2,2-Dichloropropane	25.0	24.8		ug/L		99	68 - 141	3	25
2-Hexanone	25.0	23.8		ug/L		95	10 - 150	2	30
Acetone	25.0	23.6		ug/L		94	10 - 150	4	30
Benzene	25.0	24.5		ug/L		98	68 - 130	2	20
Bromoform	25.0	25.5		ug/L		102	60 - 148	0	25
Bromomethane	25.0	26.2		ug/L		105	64 - 139	1	20
Carbon disulfide	25.0	24.1		ug/L		96	52 - 136	2	20
Carbon tetrachloride	25.0	25.5		ug/L		102	60 - 150	2	25
Chlorobenzene	25.0	24.7		ug/L		99	70 - 130	1	20
Bromochloromethane	25.0	26.0		ug/L		104	70 - 130	2	20
Chloroethane	25.0	25.4		ug/L		101	64 - 135	4	20
Chloroform	25.0	25.4		ug/L		101	70 - 130	2	20
Chloromethane	25.0	26.3		ug/L		105	47 - 140	2	25
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	70 - 133	2	20
cis-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 133	0	25
Dibromochloromethane	25.0	25.5		ug/L		102	69 - 145	1	20
Dibromomethane	25.0	24.5		ug/L		98	70 - 130	3	20
Bromodichloromethane	25.0	25.6		ug/L		103	70 - 132	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: LCSD 440-378704/6

Matrix: Water

Analysis Batch: 378704

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	25.0	23.6		ug/L		94	29 - 150	5	30
Ethylbenzene	25.0	24.9		ug/L		99	70 - 130	1	20
m,p-Xylene	25.0	25.5		ug/L		102	70 - 130	3	20
Methylene Chloride	25.0	25.3		ug/L		101	52 - 130	2	20
Methyl tert-butyl ether	25.0	25.5		ug/L		102	63 - 131	2	25
Naphthalene	25.0	25.2		ug/L		101	60 - 140	0	25
o-Xylene	25.0	26.6		ug/L		106	70 - 130	1	20
Styrene	25.0	25.0		ug/L		100	70 - 134	3	20
t-Butanol	250	260		ug/L		104	70 - 130	1	20
Tetrachloroethene	25.0	25.2		ug/L		101	70 - 130	1	20
Toluene	25.0	24.8		ug/L		99	70 - 130	3	20
trans-1,2-Dichloroethene	25.0	24.9		ug/L		100	70 - 130	2	20
trans-1,3-Dichloropropene	25.0	25.0		ug/L		100	70 - 132	1	20
Trichloroethene	25.0	25.9		ug/L		104	70 - 130	4	20
Trichlorofluoromethane	25.0	26.1		ug/L		104	60 - 150	2	20
Vinyl acetate	25.0	24.3		ug/L		97	48 - 140	1	20
Vinyl chloride	25.0	26.5		ug/L		106	59 - 133	2	30
1,2-Dibromoethane (EDB)	25.0	26.1		ug/L		104	70 - 130	1	20
2-Butanone (MEK)	25.0	24.6		ug/L		98	44 - 150	2	35
4-Methyl-2-pentanone (MIBK)	25.0	25.3		ug/L		101	59 - 149	2	30
Acrylonitrile	250	247		ug/L		99	48 - 140	4	30
Acrolein	25.0	20.2		ug/L		81	10 - 145	5	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132

Lab Sample ID: 440-170565-5 MS

Matrix: Water

Analysis Batch: 378704

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
1,2,3-Trichloropropane	ND		25.0	26.3		ug/L		105	60 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	60 - 149
1,1,1-Trichloroethane	ND		25.0	25.1		ug/L		100	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	26.8		ug/L		107	63 - 130
1,1,2-Trichloroethane	ND		25.0	25.8		ug/L		103	70 - 130
1,1-Dichloroethane	ND		25.0	25.1		ug/L		101	65 - 130
1,1-Dichloroethene	ND		25.0	24.7		ug/L		99	70 - 130
1,1-Dichloropropene	ND		25.0	26.0		ug/L		104	64 - 130
1,2,4-Trichlorobenzene	ND		25.0	26.6		ug/L		106	60 - 140
1,2-Dibromo-3-Chloropropane	ND		25.0	26.8		ug/L		107	48 - 140
1,2-Dichlorobenzene	ND		25.0	25.6		ug/L		102	70 - 130
1,2-Dichloroethane	ND		25.0	24.6		ug/L		98	56 - 146
1,2-Dichloropropane	ND		25.0	25.5		ug/L		102	69 - 130
1,3-Dichlorobenzene	ND		25.0	24.9		ug/L		99	70 - 130
1,3-Dichloropropane	ND		25.0	25.4		ug/L		102	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-5 MS

Matrix: Water

Analysis Batch: 378704

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
1,4-Dichlorobenzene	ND		25.0	25.4		ug/L		102	70 - 130
2,2-Dichloropropane	ND		25.0	25.7		ug/L		103	69 - 138
2-Hexanone	ND		25.0	27.3		ug/L		109	10 - 150
Acetone	ND		25.0	28.4		ug/L		114	10 - 150
Benzene	ND		25.0	24.1		ug/L		96	66 - 130
Bromoform	ND		25.0	26.3		ug/L		105	59 - 150
Bromomethane	ND		25.0	26.4		ug/L		106	62 - 131
Carbon disulfide	ND		25.0	24.7		ug/L		99	49 - 140
Carbon tetrachloride	ND		25.0	25.8		ug/L		103	60 - 150
Chlorobenzene	ND		25.0	24.4		ug/L		97	70 - 130
Bromochloromethane	ND		25.0	25.9		ug/L		104	70 - 130
Chloroethane	ND		25.0	25.9		ug/L		104	68 - 130
Chloroform	ND		25.0	25.2		ug/L		101	70 - 130
Chloromethane	ND		25.0	26.1		ug/L		104	39 - 144
cis-1,2-Dichloroethene	0.54		25.0	25.2		ug/L		99	70 - 130
cis-1,3-Dichloropropene	ND		25.0	26.0		ug/L		104	70 - 133
Dibromochloromethane	ND		25.0	25.1		ug/L		100	70 - 148
Dibromomethane	ND		25.0	25.3		ug/L		101	70 - 130
Bromodichloromethane	ND		25.0	24.8		ug/L		99	70 - 138
Dichlorodifluoromethane	ND		25.0	24.3		ug/L		97	25 - 142
Ethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130
m,p-Xylene	ND		25.0	25.6		ug/L		102	70 - 133
Methylene Chloride	ND		25.0	24.6		ug/L		99	52 - 130
Methyl tert-butyl ether	ND		25.0	26.4		ug/L		106	70 - 130
Naphthalene	ND		25.0	27.3		ug/L		109	60 - 140
o-Xylene	ND		25.0	25.7		ug/L		103	70 - 133
Styrene	ND		25.0	24.9		ug/L		99	29 - 150
t-Butanol	33		250	268		ug/L		94	70 - 130
Tetrachloroethene	ND		25.0	25.4		ug/L		101	70 - 137
Toluene	ND		25.0	25.1		ug/L		100	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130
trans-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	70 - 138
Trichloroethene	ND		25.0	25.6		ug/L		102	70 - 130
Trichlorofluoromethane	ND		25.0	26.5		ug/L		106	60 - 150
Vinyl acetate	ND		25.0	26.6		ug/L		106	23 - 150
Vinyl chloride	ND		25.0	27.0		ug/L		108	50 - 137
1,2-Dibromoethane (EDB)	ND		25.0	27.0		ug/L		108	70 - 131
2-Butanone (MEK)	ND		25.0	26.9		ug/L		107	48 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.8		ug/L		115	52 - 150
Acrylonitrile	ND		250	289		ug/L		115	38 - 144
Acrolein	ND		25.0	25.9		ug/L		104	10 - 147
Surrogate	MS %Recovery	MS Qualifier	Limits						
Toluene-d8 (Surr)	106		80 - 128						
4-Bromofluorobenzene (Surr)	98		80 - 120						
Dibromofluoromethane (Surr)	104		76 - 132						

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-5 MSD

Matrix: Water

Analysis Batch: 378704

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
1,2,3-Trichloropropane	ND		25.0	25.7		ug/L		103	60 - 130	2	30
1,1,1,2-Tetrachloroethane	ND		25.0	25.6		ug/L		102	60 - 149	1	20
1,1,1-Trichloroethane	ND		25.0	25.4		ug/L		102	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.2		ug/L		105	63 - 130	2	30
1,1,2-Trichloroethane	ND		25.0	25.7		ug/L		103	70 - 130	0	25
1,1-Dichloroethane	ND		25.0	25.7		ug/L		103	65 - 130	2	20
1,1-Dichloroethene	ND		25.0	25.1		ug/L		100	70 - 130	2	20
1,1-Dichloropropene	ND		25.0	25.9		ug/L		103	64 - 130	0	20
1,2,4-Trichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 140	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	27.2		ug/L		109	48 - 140	2	30
1,2-Dichlorobenzene	ND		25.0	25.5		ug/L		102	70 - 130	0	20
1,2-Dichloroethane	ND		25.0	24.7		ug/L		99	56 - 146	0	20
1,2-Dichloropropane	ND		25.0	26.0		ug/L		104	69 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	25.4		ug/L		102	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	26.2		ug/L		105	70 - 130	3	25
1,4-Dichlorobenzene	ND		25.0	25.7		ug/L		103	70 - 130	1	20
2,2-Dichloropropane	ND		25.0	25.4		ug/L		102	69 - 138	1	25
2-Hexanone	ND		25.0	27.6		ug/L		110	10 - 150	1	35
Acetone	ND		25.0	25.8		ug/L		103	10 - 150	10	35
Benzene	ND		25.0	24.6		ug/L		98	66 - 130	2	20
Bromoform	ND		25.0	26.1		ug/L		105	59 - 150	1	25
Bromomethane	ND		25.0	26.8		ug/L		107	62 - 131	1	25
Carbon disulfide	ND		25.0	25.3		ug/L		101	49 - 140	2	20
Carbon tetrachloride	ND		25.0	25.7		ug/L		103	60 - 150	1	25
Chlorobenzene	ND		25.0	24.9		ug/L		100	70 - 130	2	20
Bromochloromethane	ND		25.0	26.0		ug/L		104	70 - 130	0	25
Chloroethane	ND		25.0	26.4		ug/L		106	68 - 130	2	25
Chloroform	ND		25.0	25.3		ug/L		101	70 - 130	0	20
Chloromethane	ND		25.0	26.8		ug/L		107	39 - 144	3	25
cis-1,2-Dichloroethene	0.54		25.0	25.3		ug/L		99	70 - 130	0	20
cis-1,3-Dichloropropene	ND		25.0	26.7		ug/L		107	70 - 133	3	20
Dibromochloromethane	ND		25.0	24.9		ug/L		100	70 - 148	1	25
Dibromomethane	ND		25.0	25.2		ug/L		101	70 - 130	1	25
Bromodichloromethane	ND		25.0	24.7		ug/L		99	70 - 138	0	20
Dichlorodifluoromethane	ND		25.0	25.3		ug/L		101	25 - 142	4	30
Ethylbenzene	ND		25.0	25.7		ug/L		103	70 - 130	4	20
m,p-Xylene	ND		25.0	25.9		ug/L		103	70 - 133	1	25
Methylene Chloride	ND		25.0	25.0		ug/L		100	52 - 130	1	20
Methyl tert-butyl ether	ND		25.0	26.5		ug/L		106	70 - 130	1	25
Naphthalene	ND		25.0	27.1		ug/L		108	60 - 140	1	30
o-Xylene	ND		25.0	26.0		ug/L		104	70 - 133	1	20
Styrene	ND		25.0	24.9		ug/L		100	29 - 150	0	35
t-Butanol	33		250	263		ug/L		92	70 - 130	2	25
Tetrachloroethene	ND		25.0	26.2		ug/L		105	70 - 137	3	20
Toluene	ND		25.0	25.5		ug/L		102	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	25.6		ug/L		102	70 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	70 - 138	2	25
Trichloroethene	ND		25.0	26.0		ug/L		104	70 - 130	1	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-5 MSD

Matrix: Water

Analysis Batch: 378704

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
Trichlorofluoromethane	ND		25.0	27.2		ug/L		109	60 - 150	3	25
Vinyl acetate	ND		25.0	27.0		ug/L		108	23 - 150	2	30
Vinyl chloride	ND		25.0	27.6		ug/L		110	50 - 137	2	30
1,2-Dibromoethane (EDB)	ND		25.0	27.2		ug/L		109	70 - 131	1	25
2-Butanone (MEK)	ND		25.0	26.2		ug/L		105	48 - 140	2	40
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.2		ug/L		117	52 - 150	1	35
Acrylonitrile	ND		250	281		ug/L		112	38 - 144	3	40
Acrolein	ND		25.0	23.2		ug/L		93	10 - 147	11	40
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Toluene-d8 (Surr)	105		80 - 128								
4-Bromofluorobenzene (Surr)	97		80 - 120								
Dibromofluoromethane (Surr)	102		76 - 132								

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

Lab Sample ID: MB 440-378304/1-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 378304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		12/27/16 08:45	12/28/16 16:21	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120				12/27/16 08:45	12/28/16 16:21	1

Lab Sample ID: LCS 440-378304/2-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 378304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	2.00	1.12		ug/L		56	35 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	59		30 - 120						

Lab Sample ID: LCSD 440-378304/3-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 378304

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.33		ug/L		67	35 - 120	17	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	68		30 - 120						

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QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-377296/4

Matrix: Water

Analysis Batch: 377296

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			12/21/16 09:52	1

Lab Sample ID: LCS 440-377296/2

Matrix: Water

Analysis Batch: 377296

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	1.08		mg/L		96	90 - 110

Lab Sample ID: 440-170478-H-1 MS

Matrix: Water

Analysis Batch: 377296

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	ND		1.13	1.14		mg/L		101	80 - 120

Lab Sample ID: 440-170478-H-1 MSD

Matrix: Water

Analysis Batch: 377296

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	ND		1.13	1.14		mg/L		101	80 - 120	0	20

Lab Sample ID: MB 440-377297/4

Matrix: Water

Analysis Batch: 377297

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			12/21/16 09:52	1
Chloride	ND		0.50	0.25	mg/L			12/21/16 09:52	1
Fluoride	ND		0.50	0.25	mg/L			12/21/16 09:52	1
Sulfate	ND		0.50	0.25	mg/L			12/21/16 09:52	1

Lab Sample ID: LCS 440-377297/2

Matrix: Water

Analysis Batch: 377297

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.04		mg/L		101	90 - 110
Chloride	5.00	4.55		mg/L		91	90 - 110
Fluoride	5.00	5.06		mg/L		101	90 - 110
Sulfate	5.00	4.94		mg/L		99	90 - 110

Lab Sample ID: 440-170478-H-1 MS

Matrix: Water

Analysis Batch: 377297

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	2.4		5.00	7.74		mg/L		107	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-170478-H-1 MS

Matrix: Water

Analysis Batch: 377297

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
Fluoride	2.7		5.00	8.43		mg/L		114	80 - 120
Sulfate	ND		5.00	5.04		mg/L		101	80 - 120

Lab Sample ID: 440-170478-H-1 MSD

Matrix: Water

Analysis Batch: 377297

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	2.4		5.00	7.76		mg/L		108	80 - 120	0	20
Fluoride	2.7		5.00	8.37		mg/L		112	80 - 120	1	20
Sulfate	ND		5.00	5.09		mg/L		102	80 - 120	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-378813/1-A

Matrix: Water

Analysis Batch: 379188

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 378813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		12/29/16 08:04	12/30/16 11:09	1
Calcium	ND		0.10	0.050	mg/L		12/29/16 08:04	12/30/16 11:09	1
Iron	ND		0.040	0.010	mg/L		12/29/16 08:04	12/30/16 11:09	1
Magnesium	ND		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:09	1
Manganese	ND		0.020	0.010	mg/L		12/29/16 08:04	12/30/16 11:09	1
Potassium	ND		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:09	1
Sodium	ND		0.50	0.25	mg/L		12/29/16 08:04	12/30/16 11:09	1

Lab Sample ID: LCS 440-378813/2-A

Matrix: Water

Analysis Batch: 379188

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 378813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120
Calcium	1.00	1.06		mg/L		106	80 - 120
Iron	1.00	1.09		mg/L		109	80 - 120
Magnesium	1.00	1.04		mg/L		104	80 - 120
Manganese	1.00	1.04		mg/L		104	80 - 120
Potassium	10.0	10.0		mg/L		100	80 - 120
Sodium	10.0	10.0		mg/L		100	80 - 120

Lab Sample ID: 440-170565-4 MS

Matrix: Water

Analysis Batch: 379188

Client Sample ID: MW-5

Prep Type: Total Recoverable

Prep Batch: 378813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.0		1.00	2.00		mg/L		95	75 - 125
Calcium	430		1.00	401	4	mg/L		-3358	75 - 125
Iron	19		1.00	18.8	4	mg/L		-47	75 - 125
Magnesium	190		1.00	176	4	mg/L		-1542	75 - 125

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-4 MS

Matrix: Water

Analysis Batch: 379188

Client Sample ID: MW-5
Prep Type: Total Recoverable

Prep Batch: 378813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	4.8		1.00	5.38	4	mg/L		58	75 - 125
Potassium	30		10.0	38.7		mg/L		85	75 - 125
Sodium	270		10.0	255	4	mg/L		-138	75 - 125

Lab Sample ID: 440-170565-4 MSD

Matrix: Water

Analysis Batch: 379188

Client Sample ID: MW-5
Prep Type: Total Recoverable

Prep Batch: 378813

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Boron	1.0		1.00	1.95		mg/L		91	75 - 125	2	20
Calcium	430		1.00	414	4	mg/L		-2083	75 - 125	3	20
Iron	19		1.00	19.8	4	mg/L		57	75 - 125	5	20
Magnesium	190		1.00	183	4	mg/L		-814	75 - 125	4	20
Manganese	4.8		1.00	5.54	4	mg/L		74	75 - 125	3	20
Potassium	30		10.0	39.2		mg/L		90	75 - 125	1	20
Sodium	270		10.0	263	4	mg/L		-54	75 - 125	3	20

Lab Sample ID: MB 440-378816/1-A

Matrix: Water

Analysis Batch: 379159

Client Sample ID: Method Blank
Prep Type: Total Recoverable

Prep Batch: 378816

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		12/29/16 08:09	12/30/16 10:10	1
Calcium	ND		0.10	0.050	mg/L		12/29/16 08:09	12/30/16 10:10	1
Iron	ND		0.040	0.010	mg/L		12/29/16 08:09	12/30/16 10:10	1
Magnesium	ND		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:10	1
Manganese	ND		0.020	0.010	mg/L		12/29/16 08:09	12/30/16 10:10	1
Potassium	ND		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:10	1
Sodium	ND		0.50	0.25	mg/L		12/29/16 08:09	12/30/16 10:10	1

Lab Sample ID: LCS 440-378816/2-A

Matrix: Water

Analysis Batch: 379159

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

Prep Batch: 378816

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.885		mg/L		89	80 - 120
Calcium	1.00	1.02		mg/L		102	80 - 120
Iron	1.00	0.999		mg/L		100	80 - 120
Magnesium	1.00	0.989		mg/L		99	80 - 120
Manganese	1.00	1.01		mg/L		101	80 - 120
Potassium	10.0	8.93		mg/L		89	80 - 120
Sodium	10.0	8.95		mg/L		89	80 - 120

Lab Sample ID: 440-170565-3 MS

Matrix: Water

Analysis Batch: 379159

Client Sample ID: DW-4
Prep Type: Total Recoverable

Prep Batch: 378816

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.59		1.00	1.62		mg/L		103	75 - 125

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

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

Lab Sample ID: 440-170565-3 MS

Matrix: Water

Analysis Batch: 379159

Client Sample ID: DW-4
Prep Type: Total Recoverable

Prep Batch: 378816

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	200		1.00	202	4	mg/L		75	75 - 125
Iron	2.5		1.00	3.57		mg/L		102	75 - 125
Magnesium	130		1.00	135	4	mg/L		290	75 - 125
Manganese	0.14		1.00	1.15		mg/L		102	75 - 125
Potassium	4.7		10.0	14.9		mg/L		102	75 - 125
Sodium	480		10.0	493	4	mg/L		105	75 - 125

Lab Sample ID: 440-170565-3 MSD

Matrix: Water

Analysis Batch: 379159

Client Sample ID: DW-4
Prep Type: Total Recoverable

Prep Batch: 378816

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Boron	0.59		1.00	1.60		mg/L		101	75 - 125	1	20
Calcium	200		1.00	208	4	mg/L		661	75 - 125	3	20
Iron	2.5		1.00	3.58		mg/L		104	75 - 125	0	20
Magnesium	130		1.00	136	4	mg/L		401	75 - 125	1	20
Manganese	0.14		1.00	1.15		mg/L		102	75 - 125	0	20
Potassium	4.7		10.0	15.2		mg/L		106	75 - 125	2	20
Sodium	480		10.0	499	4	mg/L		167	75 - 125	1	20

Method: 410.4 - COD

Lab Sample ID: MB 440-379698/3

Matrix: Water

Analysis Batch: 379698

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			01/04/17 09:09	1

Lab Sample ID: LCS 440-379698/4

Matrix: Water

Analysis Batch: 379698

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	199		mg/L		99	90 - 110

Lab Sample ID: 440-170565-1 MS

Matrix: Water

Analysis Batch: 379698

Client Sample ID: MW-2A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	16	J	200	205		mg/L		94	70 - 120

Lab Sample ID: 440-170565-1 MSD

Matrix: Water

Analysis Batch: 379698

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	Limit
Chemical Oxygen Demand	16	J	200	200		mg/L		92	70 - 120	2	15

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: 410.4 - COD (Continued)

Lab Sample ID: MB 440-379832/3

Matrix: Water

Analysis Batch: 379832

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			01/04/17 15:34	1

Lab Sample ID: LCS 440-379832/4

Matrix: Water

Analysis Batch: 379832

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		100	90 - 110

Lab Sample ID: 440-170910-C-1 MS

Matrix: Water

Analysis Batch: 379832

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	202		mg/L		101	70 - 120

Lab Sample ID: 440-170910-C-1 MSD

Matrix: Water

Analysis Batch: 379832

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	200		mg/L		100	70 - 120	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-377837/3

Matrix: Water

Analysis Batch: 377837

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/22/16 13:58	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/22/16 13:58	1

Lab Sample ID: LCS 440-377837/2

Matrix: Water

Analysis Batch: 377837

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	85.8	85.1		mg/L		99	80 - 120

Lab Sample ID: 440-170565-7 DU

Matrix: Water

Analysis Batch: 377837

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	170		167		mg/L		0.2	20
Bicarbonate Alkalinity as CaCO3	170		167		mg/L		0.2	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 440-378308/3

Matrix: Water

Analysis Batch: 378308

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/27/16 04:30	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/27/16 04:30	1

Lab Sample ID: LCS 440-378308/2

Matrix: Water

Analysis Batch: 378308

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	85.8	86.0		mg/L		100	80 - 120

Lab Sample ID: MRL 440-378308/11

Matrix: Water

Analysis Batch: 378308

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	4.00	ND		mg/L		84	50 - 150

Lab Sample ID: 550-74795-A-5 DU

Matrix: Water

Analysis Batch: 378308

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	190		188		mg/L		1	20
Bicarbonate Alkalinity as CaCO3	190		184		mg/L		1	20

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

Lab Sample ID: MB 440-378530/1

Matrix: Water

Analysis Batch: 378530

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			12/28/16 08:52	1

Lab Sample ID: LCS 440-378530/2

Matrix: Water

Analysis Batch: 378530

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	976		mg/L		98	90 - 110

Lab Sample ID: 440-170565-1 DU

Matrix: Water

Analysis Batch: 378530

Client Sample ID: MW-2A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2500		2620		mg/L		3	5

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-377746/1

Matrix: Water

Analysis Batch: 377746

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 15:56	1

Lab Sample ID: 440-170565-4 DU

Matrix: Water

Analysis Batch: 377746

Client Sample ID: MW-5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	190		183		mg/L		6	20

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-378501/2-A

Matrix: Water

Analysis Batch: 378507

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 378501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		12/28/16 03:00	12/28/16 05:00	1

Lab Sample ID: LCS 440-378501/1-A

Matrix: Water

Analysis Batch: 378507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 378501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.40		mg/L		96	85 - 115

Lab Sample ID: 440-171048-A-3-B MS

Matrix: Water

Analysis Batch: 378507

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 378501

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	ND		2.50	2.40		mg/L		96	75 - 125

Lab Sample ID: 440-171048-A-3-C MSD

Matrix: Water

Analysis Batch: 378507

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 378501

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	ND		2.50	2.31		mg/L		93	75 - 125	4	15

Lab Sample ID: 440-171121-B-2-B DU

Matrix: Water

Analysis Batch: 378507

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 378501

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia (as N)	69		66.3		mg/L		4	15

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-377513/3

Matrix: Water

Analysis Batch: 377513

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	0.020	mg/L			12/21/16 22:27	1

Lab Sample ID: LCS 440-377513/4

Matrix: Water

Analysis Batch: 377513

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	0.513		mg/L		103	80 - 120

Lab Sample ID: 440-170565-1 MS

Matrix: Water

Analysis Batch: 377513

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 Sulfide	ND		0.500	0.472		mg/L		94	70 - 130

Lab Sample ID: 440-170565-1 MSD

Matrix: Water

Analysis Batch: 377513

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 Sulfide	ND		0.500	0.463		mg/L		93	70 - 130	2	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-380232/9

Matrix: Water

Analysis Batch: 380232

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			01/05/17 11:59	1

Lab Sample ID: LCS 440-380232/8

Matrix: Water

Analysis Batch: 380232

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	5.00	4.92		mg/L		98	90 - 110

Lab Sample ID: MRL 440-380232/39

Matrix: Water

Analysis Batch: 380232

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	0.0831	J	mg/L		83	50 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170565-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 440-170251-G-11 MS

Matrix: Water

Analysis Batch: 380232

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	1.2		5.00	6.27		mg/L		102	80 - 120

Lab Sample ID: 440-170251-G-11 MSD

Matrix: Water

Analysis Batch: 380232

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	1.2		5.00	6.30		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 440-380347/7

Matrix: Water

Analysis Batch: 380347

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			01/06/17 06:17	1

Lab Sample ID: LCS 440-380347/6

Matrix: Water

Analysis Batch: 380347

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	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: MRL 440-380347/5

Matrix: Water

Analysis Batch: 380347

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	0.101		mg/L		101	50 - 150

Lab Sample ID: 440-171441-A-1 MS

Matrix: Water

Analysis Batch: 380347

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.7		5.00	6.22		mg/L		90	80 - 120

Lab Sample ID: 440-171441-A-1 MSD

Matrix: Water

Analysis Batch: 380347

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.7		5.00	7.14		mg/L		109	80 - 120	14	20

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170565-1

GC/MS VOA

Analysis Batch: 378516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	8260B	
440-170565-2	MW-2B	Total/NA	Water	8260B	
440-170565-3	DW-4	Total/NA	Water	8260B	
440-170565-4	MW-5	Total/NA	Water	8260B	
MB 440-378516/4	Method Blank	Total/NA	Water	8260B	
LCS 440-378516/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-378516/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-170565-1 MS	MW-2A	Total/NA	Water	8260B	
440-170565-1 MSD	MW-2A	Total/NA	Water	8260B	

Analysis Batch: 378704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-5	MW-9	Total/NA	Water	8260B	
440-170565-6	DW-3	Total/NA	Water	8260B	
440-170565-7	Duplicate	Total/NA	Water	8260B	
440-170565-8	QCAB	Total/NA	Water	8260B	
440-170565-9	QCTB	Total/NA	Water	8260B	
MB 440-378704/4	Method Blank	Total/NA	Water	8260B	
LCS 440-378704/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-378704/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-170565-5 MS	MW-9	Total/NA	Water	8260B	
440-170565-5 MSD	MW-9	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 378304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	3520C	
440-170565-2	MW-2B	Total/NA	Water	3520C	
440-170565-4	MW-5	Total/NA	Water	3520C	
440-170565-5	MW-9	Total/NA	Water	3520C	
440-170565-6	DW-3	Total/NA	Water	3520C	
440-170565-7	Duplicate	Total/NA	Water	3520C	
MB 440-378304/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-378304/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-378304/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 378647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-378304/1-A	Method Blank	Total/NA	Water	8270C	378304
LCS 440-378304/2-A	Lab Control Sample	Total/NA	Water	8270C	378304
LCSD 440-378304/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	378304

Analysis Batch: 378649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	8270C	378304
440-170565-2	MW-2B	Total/NA	Water	8270C	378304
440-170565-4	MW-5	Total/NA	Water	8270C	378304
440-170565-5	MW-9	Total/NA	Water	8270C	378304
440-170565-6	DW-3	Total/NA	Water	8270C	378304

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170565-1

GC/MS Semi VOA (Continued)

Analysis Batch: 378649 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-7	Duplicate	Total/NA	Water	8270C	378304

HPLC/IC

Analysis Batch: 377296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	300.0	
440-170565-2	MW-2B	Total/NA	Water	300.0	
440-170565-3	DW-4	Total/NA	Water	300.0	
440-170565-4	MW-5	Total/NA	Water	300.0	
440-170565-5	MW-9	Total/NA	Water	300.0	
440-170565-6	DW-3	Total/NA	Water	300.0	
440-170565-7	Duplicate	Total/NA	Water	300.0	
MB 440-377296/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377296/2	Lab Control Sample	Total/NA	Water	300.0	
440-170478-H-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-170478-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 377297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	300.0	
440-170565-1	MW-2A	Total/NA	Water	300.0	
440-170565-2	MW-2B	Total/NA	Water	300.0	
440-170565-2	MW-2B	Total/NA	Water	300.0	
440-170565-3	DW-4	Total/NA	Water	300.0	
440-170565-3	DW-4	Total/NA	Water	300.0	
440-170565-4	MW-5	Total/NA	Water	300.0	
440-170565-4	MW-5	Total/NA	Water	300.0	
440-170565-5	MW-9	Total/NA	Water	300.0	
440-170565-5	MW-9	Total/NA	Water	300.0	
440-170565-6	DW-3	Total/NA	Water	300.0	
440-170565-6	DW-3	Total/NA	Water	300.0	
440-170565-7	Duplicate	Total/NA	Water	300.0	
440-170565-7	Duplicate	Total/NA	Water	300.0	
MB 440-377297/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377297/2	Lab Control Sample	Total/NA	Water	300.0	
440-170478-H-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-170478-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 378813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-4	MW-5	Total Recoverable	Water	3005A	
440-170565-5	MW-9	Total Recoverable	Water	3005A	
440-170565-6	DW-3	Total Recoverable	Water	3005A	
440-170565-7	Duplicate	Total Recoverable	Water	3005A	
MB 440-378813/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-378813/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-170565-4 MS	MW-5	Total Recoverable	Water	3005A	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170565-1

Metals (Continued)

Prep Batch: 378813 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-4 MSD	MW-5	Total Recoverable	Water	3005A	

Prep Batch: 378816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total Recoverable	Water	3005A	
440-170565-2	MW-2B	Total Recoverable	Water	3005A	
440-170565-3	DW-4	Total Recoverable	Water	3005A	
MB 440-378816/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-378816/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-170565-3 MS	DW-4	Total Recoverable	Water	3005A	
440-170565-3 MSD	DW-4	Total Recoverable	Water	3005A	

Analysis Batch: 379159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total Recoverable	Water	6010B	378816
440-170565-2	MW-2B	Total Recoverable	Water	6010B	378816
440-170565-3	DW-4	Total Recoverable	Water	6010B	378816
MB 440-378816/1-A	Method Blank	Total Recoverable	Water	6010B	378816
LCS 440-378816/2-A	Lab Control Sample	Total Recoverable	Water	6010B	378816
440-170565-3 MS	DW-4	Total Recoverable	Water	6010B	378816
440-170565-3 MSD	DW-4	Total Recoverable	Water	6010B	378816

Analysis Batch: 379188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-4	MW-5	Total Recoverable	Water	6010B	378813
440-170565-5	MW-9	Total Recoverable	Water	6010B	378813
440-170565-6	DW-3	Total Recoverable	Water	6010B	378813
440-170565-7	Duplicate	Total Recoverable	Water	6010B	378813
MB 440-378813/1-A	Method Blank	Total Recoverable	Water	6010B	378813
LCS 440-378813/2-A	Lab Control Sample	Total Recoverable	Water	6010B	378813
440-170565-4 MS	MW-5	Total Recoverable	Water	6010B	378813
440-170565-4 MSD	MW-5	Total Recoverable	Water	6010B	378813

General Chemistry

Analysis Batch: 377513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 4500 S2 D	
440-170565-2	MW-2B	Total/NA	Water	SM 4500 S2 D	
440-170565-3	DW-4	Total/NA	Water	SM 4500 S2 D	
440-170565-4	MW-5	Total/NA	Water	SM 4500 S2 D	
440-170565-5	MW-9	Total/NA	Water	SM 4500 S2 D	
440-170565-6	DW-3	Total/NA	Water	SM 4500 S2 D	
440-170565-7	Duplicate	Total/NA	Water	SM 4500 S2 D	
MB 440-377513/3	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-377513/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-170565-1 MS	MW-2A	Total/NA	Water	SM 4500 S2 D	
440-170565-1 MSD	MW-2A	Total/NA	Water	SM 4500 S2 D	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170565-1

General Chemistry (Continued)

Analysis Batch: 377746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 4500 CO2 C	
440-170565-2	MW-2B	Total/NA	Water	SM 4500 CO2 C	
440-170565-3	DW-4	Total/NA	Water	SM 4500 CO2 C	
440-170565-4	MW-5	Total/NA	Water	SM 4500 CO2 C	
440-170565-5	MW-9	Total/NA	Water	SM 4500 CO2 C	
440-170565-6	DW-3	Total/NA	Water	SM 4500 CO2 C	
440-170565-7	Duplicate	Total/NA	Water	SM 4500 CO2 C	
MB 440-377746/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-170565-4 DU	MW-5	Total/NA	Water	SM 4500 CO2 C	

Analysis Batch: 377837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-3	DW-4	Total/NA	Water	SM 2320B	
440-170565-4	MW-5	Total/NA	Water	SM 2320B	
440-170565-5	MW-9	Total/NA	Water	SM 2320B	
440-170565-6	DW-3	Total/NA	Water	SM 2320B	
440-170565-7	Duplicate	Total/NA	Water	SM 2320B	
MB 440-377837/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-377837/2	Lab Control Sample	Total/NA	Water	SM 2320B	
440-170565-7 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 378308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 2320B	
440-170565-2	MW-2B	Total/NA	Water	SM 2320B	
MB 440-378308/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-378308/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 440-378308/11	Lab Control Sample	Total/NA	Water	SM 2320B	
550-74795-A-5 DU	Duplicate	Total/NA	Water	SM 2320B	

Prep Batch: 378501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 4500 NH3 B	
440-170565-2	MW-2B	Total/NA	Water	SM 4500 NH3 B	
440-170565-3	DW-4	Total/NA	Water	SM 4500 NH3 B	
440-170565-4	MW-5	Total/NA	Water	SM 4500 NH3 B	
440-170565-5	MW-9	Total/NA	Water	SM 4500 NH3 B	
440-170565-6	DW-3	Total/NA	Water	SM 4500 NH3 B	
440-170565-7	Duplicate	Total/NA	Water	SM 4500 NH3 B	
MB 440-378501/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-378501/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-171048-A-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-171048-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-171121-B-2-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 378507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 4500 NH3 D	378501
440-170565-2	MW-2B	Total/NA	Water	SM 4500 NH3 D	378501
440-170565-3	DW-4	Total/NA	Water	SM 4500 NH3 D	378501
440-170565-4	MW-5	Total/NA	Water	SM 4500 NH3 D	378501

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170565-1

General Chemistry (Continued)

Analysis Batch: 378507 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-5	MW-9	Total/NA	Water	SM 4500 NH3 D	378501
440-170565-6	DW-3	Total/NA	Water	SM 4500 NH3 D	378501
440-170565-7	Duplicate	Total/NA	Water	SM 4500 NH3 D	378501
MB 440-378501/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	378501
LCS 440-378501/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	378501
440-171048-A-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	378501
440-171048-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	378501
440-171121-B-2-B DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	378501

Analysis Batch: 378530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 2540C	
440-170565-2	MW-2B	Total/NA	Water	SM 2540C	
440-170565-3	DW-4	Total/NA	Water	SM 2540C	
440-170565-4	MW-5	Total/NA	Water	SM 2540C	
440-170565-5	MW-9	Total/NA	Water	SM 2540C	
440-170565-6	DW-3	Total/NA	Water	SM 2540C	
440-170565-7	Duplicate	Total/NA	Water	SM 2540C	
MB 440-378530/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-378530/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-170565-1 DU	MW-2A	Total/NA	Water	SM 2540C	

Analysis Batch: 379698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	410.4	
440-170565-5	MW-9	Total/NA	Water	410.4	
440-170565-6	DW-3	Total/NA	Water	410.4	
440-170565-7	Duplicate	Total/NA	Water	410.4	
MB 440-379698/3	Method Blank	Total/NA	Water	410.4	
LCS 440-379698/4	Lab Control Sample	Total/NA	Water	410.4	
440-170565-1 MS	MW-2A	Total/NA	Water	410.4	
440-170565-1 MSD	MW-2A	Total/NA	Water	410.4	

Analysis Batch: 379832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-2	MW-2B	Total/NA	Water	410.4	
440-170565-3	DW-4	Total/NA	Water	410.4	
440-170565-4	MW-5	Total/NA	Water	410.4	
MB 440-379832/3	Method Blank	Total/NA	Water	410.4	
LCS 440-379832/4	Lab Control Sample	Total/NA	Water	410.4	
440-170910-C-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-170910-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 380232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-1	MW-2A	Total/NA	Water	SM 5310C	
440-170565-2	MW-2B	Total/NA	Water	SM 5310C	
440-170565-3	DW-4	Total/NA	Water	SM 5310C	
440-170565-6	DW-3	Total/NA	Water	SM 5310C	
440-170565-7	Duplicate	Total/NA	Water	SM 5310C	
MB 440-380232/9	Method Blank	Total/NA	Water	SM 5310C	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170565-1

General Chemistry (Continued)

Analysis Batch: 380232 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-380232/8	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380232/39	Lab Control Sample	Total/NA	Water	SM 5310C	
440-170251-G-11 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-170251-G-11 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 380347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170565-4	MW-5	Total/NA	Water	SM 5310C	
440-170565-5	MW-9	Total/NA	Water	SM 5310C	
MB 440-380347/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-380347/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380347/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-171441-A-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-171441-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Definitions/Glossary

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

TestAmerica Job ID: 440-170565-1

Qualifiers

GC/MS VOA

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

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.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-170565-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-170565-1

Login Number: 170565

List Source: 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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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.	False	Refer to Job Narrative for details.
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-170697-1

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:

1/10/2017 1:20:49 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

TestAmerica Job ID: 440-170697-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-170697-1	DW-5	Water	12/22/16 09:00	12/22/16 15:10
440-170697-2	MW-1	Water	12/22/16 10:05	12/22/16 15:10
440-170697-3	MW-13R	Water	12/22/16 09:20	12/22/16 15:10
440-170697-4	QCAB	Water	12/22/16 00:01	12/22/16 15:10
440-170697-5	QCTB	Water	12/22/16 00:01	12/22/16 15:10

Case Narrative

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

TestAmerica Job ID: 440-170697-1

Job ID: 440-170697-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-170697-1

Comments

No additional comments.

Receipt

The samples were received on 12/22/2016 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

GC/MS VOA

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

GC/MS Semi VOA

Method(s) 8270C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-378304 and analytical batch 440-378647. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

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

HPLC/IC

Method(s) 300.0: The continuing calibration verification (CCV) associated with batch 440-377636 recovered above the upper control limit for Sulfate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: DW-5 (440-170697-1).

Method(s) 300.0: Due to the high concentration of Chloride and/or Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-377636 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The following sample was diluted for Nitrate as N due to the nature of the sample matrix: MW-1 (440-170697-2). 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-379996 and analytical batch 440-380880 were outside control limits for Boron. 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.

General Chemistry

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

Organic Prep

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

VOA Prep

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

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: DW-5

Lab Sample ID: 440-170697-1

Date Collected: 12/22/16 09:00

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/29/16 21:59	1
Acetonitrile	ND		20	10	ug/L			12/29/16 21:59	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 21:59	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 21:59	1
Allyl chloride	2.3		1.0	0.50	ug/L			12/29/16 21:59	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 21:59	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 21:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 21:59	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 21:59	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 21:59	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 21:59	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 21:59	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 21:59	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 21:59	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 21:59	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 21:59	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 21:59	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 21:59	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 21:59	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 21:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 21:59	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 21:59	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 21:59	1
Naphthalene	0.86	J	1.0	0.40	ug/L			12/29/16 21:59	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Propionitrile	ND		20	10	ug/L			12/29/16 21:59	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: DW-5

Lab Sample ID: 440-170697-1

Date Collected: 12/22/16 09:00

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
t-Butanol	5.0	J ID	10	5.0	ug/L			12/29/16 21:59	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 21:59	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 21:59	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 21:59	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 21:59	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 21:59	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 21:59	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 21:59	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 21:59	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Butane, 2,3-dimethyl-	14	T J N	ug/L		4.46	79-29-8		12/29/16 21:59	1
Benzene, (2-methylpropyl)-	11	T J N	ug/L		13.22	538-93-2		12/29/16 21:59	1
1H-Indene, 2,3-dihydro-1,6-dimethyl-	12	T J N	ug/L		14.96	17059-48-2		12/29/16 21:59	1
Benzene, 1,2,4,5-tetramethyl-	34	T J N	ug/L		15.26	95-93-2		12/29/16 21:59	1
Benzene, pentamethyl-	13	T J N	ug/L		16.21	700-12-9		12/29/16 21:59	1
1H-Indene, 2,3-dihydro-1,1,5-trimethyl-	8.3	T J N	ug/L		16.37	40650-41-7		12/29/16 21:59	1
Unknown	9.7	T J	ug/L		16.63			12/29/16 21:59	1
1H-Indene, 2,3-dihydro-4,7-dimethyl-	13	T J N	ug/L		16.96	6682-71-9		12/29/16 21:59	1
Unknown	10	T J	ug/L		17.15			12/29/16 21:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		12/29/16 21:59	1
4-Bromofluorobenzene (Surr)	100		80 - 120		12/29/16 21:59	1
Dibromofluoromethane (Surr)	102		76 - 132		12/29/16 21:59	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		12/27/16 08:45	12/29/16 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	51		30 - 120				12/27/16 08:45	12/29/16 16:14	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.67		0.50	0.25	mg/L			12/23/16 00:45	1
Nitrate as N	ND		0.11	0.055	mg/L			12/23/16 00:45	1
Chloride	21		0.50	0.25	mg/L			12/23/16 00:45	1
Fluoride	3.7		0.50	0.25	mg/L			12/23/16 00:45	1
Sulfate	ND		0.50	0.25	mg/L			12/23/16 00:45	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: DW-5

Lab Sample ID: 440-170697-1

Date Collected: 12/22/16 09:00

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.86		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:12	1
Manganese	0.11		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:12	1
Magnesium	0.95		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:12	1
Iron	0.14		0.040	0.010	mg/L		01/05/17 08:50	01/09/17 19:12	1
Sodium	480		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:12	1
Boron	2.8	F1	0.050	0.010	mg/L		01/05/17 08:50	01/09/17 19:12	1
Calcium	5.9		0.10	0.050	mg/L		01/05/17 08:50	01/09/17 19:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	51		20	10	mg/L			01/05/17 17:38	1
Total Dissolved Solids	1100		10	5.0	mg/L			12/25/16 10:08	1
Ammonia (as N)	0.27	J	0.50	0.10	mg/L		01/03/17 03:00	01/03/17 04:30	1
Total Sulfide	0.073		0.050	0.020	mg/L			12/24/16 08:16	1
Total Organic Carbon	6.8		0.50	0.25	mg/L			01/06/17 09:19	5
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	970		4.0	4.0	mg/L			12/23/16 06:01	1
Bicarbonate Alkalinity as CaCO3	930		4.0	4.0	mg/L			12/23/16 06:01	1
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 17:34	1

Client Sample ID: MW-1

Lab Sample ID: 440-170697-2

Date Collected: 12/22/16 10:05

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/29/16 22:27	1
Acetonitrile	ND		20	10	ug/L			12/29/16 22:27	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 22:27	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 22:27	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 22:27	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 22:27	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 22:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 22:27	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 22:27	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 22:27	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 22:27	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: MW-1

Lab Sample ID: 440-170697-2

Date Collected: 12/22/16 10:05

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 22:27	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 22:27	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 22:27	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 22:27	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 22:27	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 22:27	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 22:27	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 22:27	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 22:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 22:27	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 22:27	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 22:27	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 22:27	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Propionitrile	ND		20	10	ug/L			12/29/16 22:27	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
t-Butanol	20		10	5.0	ug/L			12/29/16 22:27	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 22:27	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 22:27	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 22:27	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:27	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 22:27	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 22:27	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 22:27	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 22:27	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.8	T J	ug/L		4.44			12/29/16 22:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		12/29/16 22:27	1
4-Bromofluorobenzene (Surr)	103		80 - 120		12/29/16 22:27	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: MW-1

Lab Sample ID: 440-170697-2

Date Collected: 12/22/16 10:05

Matrix: Water

Date Received: 12/22/16 15:10

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	102		76 - 132		12/29/16 22:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		1.0	0.25	ug/L		12/28/16 09:58	12/29/16 20:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	48		30 - 120	12/28/16 09:58	12/29/16 20:18	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	3.7		1.0	0.50	mg/L			12/23/16 01:10	2
Nitrate as N	ND		0.22	0.11	mg/L			12/23/16 01:10	2
Chloride	220		50	25	mg/L			12/23/16 01:23	100
Fluoride	2.5		1.0	0.50	mg/L			12/23/16 01:10	2
Sulfate	1600		100	50	mg/L			12/24/16 07:58	200

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		01/05/17 08:50	01/09/17 19:24	1
Manganese	3.6		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:24	1
Magnesium	210		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:24	1
Iron	63		0.040	0.010	mg/L		01/05/17 08:50	01/09/17 19:24	1
Sodium	370		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:24	1
Boron	1.3		0.050	0.010	mg/L		01/05/17 08:50	01/09/17 19:24	1
Calcium	460		0.10	0.050	mg/L		01/05/17 08:50	01/09/17 19:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	140		20	10	mg/L			01/05/17 17:38	1
Total Dissolved Solids	3400		50	25	mg/L			12/25/16 10:08	1
Ammonia (as N)	3.7		0.50	0.10	mg/L		01/03/17 03:00	01/03/17 04:30	1
Total Sulfide	0.025	J	0.050	0.020	mg/L			12/24/16 08:16	1
Total Organic Carbon	44		1.0	0.50	mg/L			01/05/17 07:57	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	700		4.0	4.0	mg/L			12/23/16 06:24	1
Bicarbonate Alkalinity as CaCO3	700		4.0	4.0	mg/L			12/23/16 06:24	1
Carbon Dioxide, Free	300		2.0	2.0	mg/L			12/22/16 17:34	1

Client Sample ID: MW-13R

Lab Sample ID: 440-170697-3

Date Collected: 12/22/16 09:20

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/29/16 22:54	1
Acetonitrile	ND		20	10	ug/L			12/29/16 22:54	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 22:54	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 22:54	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 22:54	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: MW-13R

Lab Sample ID: 440-170697-3

Date Collected: 12/22/16 09:20

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 22:54	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 22:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 22:54	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 22:54	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 22:54	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 22:54	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 22:54	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 22:54	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 22:54	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 22:54	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 22:54	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 22:54	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 22:54	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 22:54	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 22:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 22:54	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 22:54	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 22:54	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 22:54	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Propionitrile	ND		20	10	ug/L			12/29/16 22:54	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
t-Butanol	6.3	J ID	10	5.0	ug/L			12/29/16 22:54	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 22:54	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: MW-13R

Lab Sample ID: 440-170697-3

Date Collected: 12/22/16 09:20

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 22:54	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 22:54	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 22:54	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 22:54	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 22:54	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 22:54	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 22:54	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 22:54	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.8	T J	ug/L		4.44			12/29/16 22:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 128		12/29/16 22:54	1
4-Bromofluorobenzene (Surr)	100		80 - 120		12/29/16 22:54	1
Dibromofluoromethane (Surr)	103		76 - 132		12/29/16 22:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.2		1.0	0.26	ug/L		12/28/16 09:58	12/29/16 20:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	44		30 - 120	12/28/16 09:58	12/29/16 20:39	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.7		0.50	0.25	mg/L			12/23/16 01:36	1
Nitrate as N	ND		0.11	0.055	mg/L			12/23/16 01:36	1
Chloride	210		25	13	mg/L			12/23/16 01:48	50
Fluoride	0.59		0.50	0.25	mg/L			12/23/16 01:36	1
Sulfate	680		50	25	mg/L			12/24/16 08:15	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	23		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:26	1
Manganese	ND		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:26	1
Magnesium	160		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:26	1
Iron	0.23		0.040	0.010	mg/L		01/05/17 08:50	01/09/17 19:26	1
Sodium	210		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:26	1
Boron	0.88		0.050	0.010	mg/L		01/05/17 08:50	01/09/17 19:26	1
Calcium	170		0.10	0.050	mg/L		01/05/17 08:50	01/09/17 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	250		20	10	mg/L			01/05/17 17:38	1
Total Dissolved Solids	2000		20	10	mg/L			12/25/16 10:08	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: MW-13R

Lab Sample ID: 440-170697-3

Date Collected: 12/22/16 09:20

Matrix: Water

Date Received: 12/22/16 15:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	6.3		1.0	0.20	mg/L		01/03/17 03:00	01/03/17 04:30	1
Total Sulfide	100		10	4.0	mg/L			12/24/16 08:16	200
Total Organic Carbon	22		1.0	0.50	mg/L			01/05/17 05:31	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	720		4.0	4.0	mg/L			12/23/16 06:36	1
Bicarbonate Alkalinity as CaCO3	720		4.0	4.0	mg/L			12/23/16 06:36	1
Carbon Dioxide, Free	72		2.0	2.0	mg/L			12/22/16 21:04	1

Client Sample ID: QCAB

Lab Sample ID: 440-170697-4

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/29/16 23:22	1
Acetonitrile	ND		20	10	ug/L			12/29/16 23:22	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 23:22	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 23:22	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 23:22	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 23:22	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 23:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 23:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 23:22	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 23:22	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 23:22	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 23:22	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 23:22	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 23:22	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: QCAB

Lab Sample ID: 440-170697-4

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 23:22	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 23:22	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 23:22	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 23:22	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 23:22	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 23:22	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 23:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 23:22	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 23:22	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 23:22	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 23:22	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Propionitrile	ND		20	10	ug/L			12/29/16 23:22	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 23:22	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 23:22	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 23:22	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 23:22	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:22	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 23:22	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 23:22	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 23:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 23:22	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/29/16 23:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		12/29/16 23:22	1
4-Bromofluorobenzene (Surr)	103		80 - 120		12/29/16 23:22	1
Dibromofluoromethane (Surr)	107		76 - 132		12/29/16 23:22	1

Client Sample ID: QCTB

Lab Sample ID: 440-170697-5

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/29/16 23:49	1
Acetonitrile	ND		20	10	ug/L			12/29/16 23:49	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 23:49	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: QCTB

Lab Sample ID: 440-170697-5

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 23:49	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 23:49	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 23:49	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 23:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 23:49	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 23:49	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 23:49	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 23:49	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 23:49	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 23:49	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 23:49	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 23:49	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 23:49	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 23:49	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 23:49	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 23:49	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 23:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 23:49	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 23:49	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 23:49	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 23:49	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Propionitrile	ND		20	10	ug/L			12/29/16 23:49	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 23:49	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1

TestAmerica Irvine

Client Sample Results

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: QCTB

Lab Sample ID: 440-170697-5

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 23:49	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 23:49	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 23:49	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 23:49	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 23:49	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 23:49	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 23:49	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/29/16 23:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128					12/29/16 23:49	1
4-Bromofluorobenzene (Surr)	101		80 - 120					12/29/16 23:49	1
Dibromofluoromethane (Surr)	107		76 - 132					12/29/16 23:49	1

Method Summary

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

TestAmerica Job ID: 440-170697-1

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 CO2 C	Free Carbon Dioxide	SM	TAL IRV
SM 4500 NH3 D	Ammonia	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5310C	TOC	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 = 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: 440-170697-1

Client Sample ID: DW-5

Date Collected: 12/22/16 09:00

Date Received: 12/22/16 15:10

Lab Sample ID: 440-170697-1

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	379003	12/29/16 21:59	AA	TAL IRV
Total/NA	Prep	3520C			980 mL	1 mL	378304	12/27/16 08:45	FTD	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 16:14	HN	TAL IRV
Total/NA	Analysis	300.0		1			377635	12/23/16 00:45	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377636	12/23/16 00:45	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379996	01/05/17 08:50	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380880	01/09/17 19:12	B1H	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	380158	01/05/17 17:38	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377894	12/23/16 06:01	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 17:34	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	379386	01/03/17 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			379387	01/03/17 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	378107	12/24/16 08:16	EN	TAL IRV
Total/NA	Analysis	SM 5310C		5	100 mL	100 mL	380347	01/06/17 09:19	YZ	TAL IRV

Client Sample ID: MW-1

Date Collected: 12/22/16 10:05

Date Received: 12/22/16 15:10

Lab Sample ID: 440-170697-2

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	379003	12/29/16 22:27	AA	TAL IRV
Total/NA	Prep	3520C			985 mL	1 mL	378579	12/28/16 09:58	BMN	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 20:18	HN	TAL IRV
Total/NA	Analysis	300.0		200			377952	12/24/16 07:58	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377635	12/23/16 01:10	NTN	TAL IRV
Total/NA	Analysis	300.0		2			377636	12/23/16 01:10	NTN	TAL IRV
Total/NA	Analysis	300.0		100			377636	12/23/16 01:23	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379996	01/05/17 08:50	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380880	01/09/17 19:24	B1H	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	380158	01/05/17 17:38	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377894	12/23/16 06:24	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 17:34	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	379386	01/03/17 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			379387	01/03/17 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	378107	12/24/16 08:16	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380231	01/05/17 07:57	YZ	TAL IRV

TestAmerica Irvine

Lab Chronicle

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

TestAmerica Job ID: 440-170697-1

Client Sample ID: MW-13R

Lab Sample ID: 440-170697-3

Date Collected: 12/22/16 09:20

Matrix: Water

Date Received: 12/22/16 15:10

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	379003	12/29/16 22:54	AA	TAL IRV
Total/NA	Prep	3520C			965 mL	1 mL	378579	12/28/16 09:58	BMN	TAL IRV
Total/NA	Analysis	8270C		1			378649	12/29/16 20:39	HN	TAL IRV
Total/NA	Analysis	300.0		100			377952	12/24/16 08:15	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377635	12/23/16 01:36	NTN	TAL IRV
Total/NA	Analysis	300.0		1			377636	12/23/16 01:36	NTN	TAL IRV
Total/NA	Analysis	300.0		50			377636	12/23/16 01:48	NTN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	379996	01/05/17 08:50	Q1N	TAL IRV
Total Recoverable	Analysis	6010B		1			380880	01/09/17 19:26	B1H	TAL IRV
Total/NA	Analysis	410.4		1	0.625 mL	2.5 mL	380158	01/05/17 17:38	KYP	TAL IRV
Total/NA	Analysis	SM 2320B		1			377894	12/23/16 06:36	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	378207	12/25/16 10:08	XL	TAL IRV
Total/NA	Analysis	SM 4500 CO2 C		1	25 mL	25 mL	377750	12/22/16 21:04	SN	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			25 mL	50 mL	379386	01/03/17 03:00	YZ	TAL IRV
Total/NA	Analysis	SM 4500 NH3 D		1			379387	01/03/17 04:30	YZ	TAL IRV
Total/NA	Analysis	SM 4500 S2 D		200	7.5 mL	7.5 mL	378107	12/24/16 08:16	EN	TAL IRV
Total/NA	Analysis	SM 5310C		10	100 mL	100 mL	380231	01/05/17 05:31	YZ	TAL IRV

Client Sample ID: QCAB

Lab Sample ID: 440-170697-4

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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	379003	12/29/16 23:22	AA	TAL IRV

Client Sample ID: QCTB

Lab Sample ID: 440-170697-5

Date Collected: 12/22/16 00:01

Matrix: Water

Date Received: 12/22/16 15:10

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	379003	12/29/16 23:49	AA	TAL IRV

Laboratory References:

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

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: MB 440-379003/4

Matrix: Water

Analysis Batch: 379003

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	10	ug/L			12/29/16 19:41	1
Acetonitrile	ND		20	10	ug/L			12/29/16 19:41	1
Acrolein	ND		5.0	2.5	ug/L			12/29/16 19:41	1
Acrylonitrile	ND		2.0	1.0	ug/L			12/29/16 19:41	1
Allyl chloride	ND		1.0	0.50	ug/L			12/29/16 19:41	1
Benzene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Bromochloromethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Bromodichloromethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Bromoform	ND		1.0	0.40	ug/L			12/29/16 19:41	1
Bromomethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
2-Butanone (MEK)	ND		5.0	2.5	ug/L			12/29/16 19:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			12/29/16 19:41	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Chlorobenzene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
2-Chloro-1,3-butadiene	ND		1.0	0.50	ug/L			12/29/16 19:41	1
Chloroethane	ND		1.0	0.40	ug/L			12/29/16 19:41	1
Chloroform	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Chloromethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Dibromochloromethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/29/16 19:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Dibromomethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			12/29/16 19:41	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			12/29/16 19:41	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Ethylbenzene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Ethyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 19:41	1
2-Hexanone	ND		5.0	2.5	ug/L			12/29/16 19:41	1
Iodomethane	ND		2.0	1.0	ug/L			12/29/16 19:41	1
Isobutyl alcohol	ND		25	13	ug/L			12/29/16 19:41	1
Methylacrylonitrile	ND		5.0	2.5	ug/L			12/29/16 19:41	1
Methylene Chloride	ND		2.0	0.88	ug/L			12/29/16 19:41	1
Methyl methacrylate	ND		2.0	1.0	ug/L			12/29/16 19:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/29/16 19:41	1
Methyl tert-butyl ether	ND		0.50	0.25	ug/L			12/29/16 19:41	1
m,p-Xylene	ND		1.0	0.50	ug/L			12/29/16 19:41	1
Naphthalene	ND		1.0	0.40	ug/L			12/29/16 19:41	1
o-Xylene	ND		0.50	0.25	ug/L			12/29/16 19:41	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: MB 440-379003/4

Matrix: Water

Analysis Batch: 379003

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Propionitrile	ND		20	10	ug/L			12/29/16 19:41	1
Styrene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
t-Butanol	ND		10	5.0	ug/L			12/29/16 19:41	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Tetrachloroethene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Tetrahydrofuran	ND		10	5.0	ug/L			12/29/16 19:41	1
Toluene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
trans-1,4-Dichloro-2-butene	ND		5.0	2.5	ug/L			12/29/16 19:41	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			12/29/16 19:41	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Trichloroethene	ND		0.50	0.25	ug/L			12/29/16 19:41	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			12/29/16 19:41	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			12/29/16 19:41	1
Vinyl acetate	ND		4.0	2.0	ug/L			12/29/16 19:41	1
Vinyl chloride	ND		0.50	0.25	ug/L			12/29/16 19:41	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					12/29/16 19:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	107		80 - 128		12/29/16 19:41	1
4-Bromofluorobenzene (Surr)	102		80 - 120		12/29/16 19:41	1
Dibromofluoromethane (Surr)	104		76 - 132		12/29/16 19:41	1

Lab Sample ID: LCS 440-379003/5

Matrix: Water

Analysis Batch: 379003

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	20.9		ug/L		83	10 - 150
Acrolein	25.0	18.7		ug/L		75	10 - 145
Acrylonitrile	250	223		ug/L		89	48 - 140
Benzene	25.0	24.1		ug/L		96	68 - 130
Bromochloromethane	25.0	24.2		ug/L		97	70 - 130
Bromodichloromethane	25.0	24.8		ug/L		99	70 - 132
Bromoform	25.0	24.0		ug/L		96	60 - 148
Bromomethane	25.0	22.5		ug/L		90	64 - 139
2-Butanone (MEK)	25.0	21.2		ug/L		85	44 - 150
Carbon disulfide	25.0	20.8		ug/L		83	52 - 136
Carbon tetrachloride	25.0	21.6		ug/L		86	60 - 150
Chlorobenzene	25.0	23.2		ug/L		93	70 - 130
Chloroethane	25.0	22.4		ug/L		90	64 - 135
Chloroform	25.0	23.4		ug/L		94	70 - 130

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: LCS 440-379003/5

Matrix: Water

Analysis Batch: 379003

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	25.0	21.7		ug/L		87	47 - 140
cis-1,2-Dichloroethene	25.0	23.4		ug/L		93	70 - 133
cis-1,3-Dichloropropene	25.0	25.4		ug/L		102	70 - 133
Dibromochloromethane	25.0	23.8		ug/L		95	69 - 145
1,2-Dibromo-3-Chloropropane	25.0	20.6		ug/L		82	52 - 140
1,2-Dibromoethane (EDB)	25.0	23.9		ug/L		96	70 - 130
Dibromomethane	25.0	22.8		ug/L		91	70 - 130
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
1,3-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,4-Dichlorobenzene	25.0	23.9		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	18.9		ug/L		75	29 - 150
1,1-Dichloroethane	25.0	23.4		ug/L		94	64 - 130
1,2-Dichloroethane	25.0	24.1		ug/L		96	57 - 138
1,1-Dichloroethene	25.0	21.8		ug/L		87	70 - 130
1,2-Dichloropropane	25.0	24.7		ug/L		99	67 - 130
1,3-Dichloropropane	25.0	24.3		ug/L		97	70 - 130
2,2-Dichloropropane	25.0	22.0		ug/L		88	68 - 141
1,1-Dichloropropene	25.0	22.9		ug/L		91	70 - 130
Ethylbenzene	25.0	22.4		ug/L		90	70 - 130
2-Hexanone	25.0	21.8		ug/L		87	10 - 150
Methylene Chloride	25.0	23.0		ug/L		92	52 - 130
4-Methyl-2-pentanone (MIBK)	25.0	23.8		ug/L		95	59 - 149
Methyl tert-butyl ether	25.0	25.6		ug/L		102	63 - 131
m,p-Xylene	25.0	23.8		ug/L		95	70 - 130
Naphthalene	25.0	24.6		ug/L		99	60 - 140
o-Xylene	25.0	23.6		ug/L		95	70 - 130
Styrene	25.0	23.3		ug/L		93	70 - 134
t-Butanol	250	244		ug/L		97	70 - 130
1,1,1,2-Tetrachloroethane	25.0	23.5		ug/L		94	60 - 141
1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	63 - 130
Tetrachloroethene	25.0	21.7		ug/L		87	70 - 130
Toluene	25.0	22.7		ug/L		91	70 - 130
trans-1,2-Dichloroethene	25.0	23.6		ug/L		94	70 - 130
trans-1,3-Dichloropropene	25.0	25.1		ug/L		101	70 - 132
1,2,4-Trichlorobenzene	25.0	25.2		ug/L		101	60 - 140
1,1,1-Trichloroethane	25.0	21.5		ug/L		86	70 - 130
1,1,2-Trichloroethane	25.0	24.1		ug/L		96	70 - 130
Trichloroethene	25.0	22.7		ug/L		91	70 - 130
Trichlorofluoromethane	25.0	21.5		ug/L		86	60 - 150
1,2,3-Trichloropropane	25.0	22.7		ug/L		91	63 - 130
Vinyl acetate	25.0	25.9		ug/L		104	48 - 140
Vinyl chloride	25.0	20.7		ug/L		83	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 128
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: 440-170481-A-1 MS

Matrix: Water

Analysis Batch: 379003

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
Acetone	ND		25.0	19.1	J	ug/L		77	10 - 150
Acrolein	ND		25.0	17.6		ug/L		70	10 - 147
Acrylonitrile	ND		250	208		ug/L		83	38 - 144
Benzene	ND		25.0	24.4		ug/L		98	66 - 130
Bromochloromethane	ND		25.0	24.4		ug/L		97	70 - 130
Bromodichloromethane	ND		25.0	25.0		ug/L		100	70 - 138
Bromoform	ND		25.0	23.1		ug/L		92	59 - 150
Bromomethane	ND		25.0	23.2		ug/L		93	62 - 131
2-Butanone (MEK)	ND		25.0	18.7		ug/L		75	48 - 140
Carbon disulfide	ND		25.0	22.2		ug/L		89	49 - 140
Carbon tetrachloride	ND		25.0	22.5		ug/L		90	60 - 150
Chlorobenzene	ND		25.0	23.3		ug/L		93	70 - 130
Chloroethane	ND		25.0	23.2		ug/L		93	68 - 130
Chloroform	ND		25.0	23.4		ug/L		94	70 - 130
Chloromethane	ND		25.0	21.8		ug/L		87	39 - 144
cis-1,2-Dichloroethene	ND		25.0	23.6		ug/L		94	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.2		ug/L		101	70 - 133
Dibromochloromethane	ND		25.0	23.3		ug/L		93	70 - 148
1,2-Dibromo-3-Chloropropane	ND		25.0	18.8		ug/L		75	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	22.9		ug/L		92	70 - 131
Dibromomethane	ND		25.0	23.1		ug/L		93	70 - 130
1,2-Dichlorobenzene	ND		25.0	24.0		ug/L		96	70 - 130
1,3-Dichlorobenzene	ND		25.0	23.2		ug/L		93	70 - 130
1,4-Dichlorobenzene	ND		25.0	23.5		ug/L		94	70 - 130
Dichlorodifluoromethane	ND		25.0	20.0		ug/L		80	25 - 142
1,1-Dichloroethane	ND		25.0	23.6		ug/L		95	65 - 130
1,2-Dichloroethane	ND		25.0	23.5		ug/L		94	56 - 146
1,1-Dichloroethene	ND		25.0	22.3		ug/L		89	70 - 130
1,2-Dichloropropane	ND		25.0	25.1		ug/L		100	69 - 130
1,3-Dichloropropane	ND		25.0	23.6		ug/L		94	70 - 130
2,2-Dichloropropane	ND		25.0	23.7		ug/L		95	69 - 138
1,1-Dichloropropene	ND		25.0	23.7		ug/L		95	64 - 130
Ethylbenzene	ND		25.0	23.1		ug/L		92	70 - 130
2-Hexanone	ND		25.0	20.6		ug/L		83	10 - 150
Methylene Chloride	ND		25.0	22.5		ug/L		90	52 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	22.3		ug/L		89	52 - 150
Methyl tert-butyl ether	ND		25.0	25.4		ug/L		102	70 - 130
m,p-Xylene	ND		25.0	24.0		ug/L		96	70 - 133
Naphthalene	0.49	J	25.0	23.5		ug/L		92	60 - 140
o-Xylene	ND		25.0	24.0		ug/L		96	70 - 133
Styrene	0.84		25.0	24.7		ug/L		95	29 - 150
t-Butanol	ND		250	240		ug/L		96	70 - 130
1,1,1,2-Tetrachloroethane	ND		25.0	23.6		ug/L		94	60 - 149
1,1,1,2,2-Tetrachloroethane	ND		25.0	22.5		ug/L		90	63 - 130
Tetrachloroethene	ND		25.0	22.1		ug/L		88	70 - 137
Toluene	ND		25.0	23.2		ug/L		93	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.1		ug/L		96	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 138

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: 440-170481-A-1 MS

Matrix: Water

Analysis Batch: 379003

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		25.0	25.0		ug/L		100	60 - 140
1,1,1-Trichloroethane	ND		25.0	22.3		ug/L		89	70 - 130
1,1,2-Trichloroethane	ND		25.0	23.4		ug/L		94	70 - 130
Trichloroethene	ND		25.0	23.5		ug/L		94	70 - 130
Trichlorofluoromethane	ND		25.0	22.2		ug/L		89	60 - 150
1,2,3-Trichloropropane	ND		25.0	21.2		ug/L		85	60 - 130
Vinyl acetate	ND		25.0	25.3		ug/L		101	23 - 150
Vinyl chloride	ND		25.0	21.5		ug/L		86	50 - 137

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 128
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132

Lab Sample ID: 440-170481-A-1 MSD

Matrix: Water

Analysis Batch: 379003

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
Acetone	ND		25.0	20.4		ug/L		82	10 - 150	6	35
Acrolein	ND		25.0	19.8		ug/L		79	10 - 147	11	40
Acrylonitrile	ND		25.0	23.1		ug/L		92	38 - 144	10	40
Benzene	ND		25.0	25.4		ug/L		102	66 - 130	4	20
Bromochloromethane	ND		25.0	25.5		ug/L		102	70 - 130	5	25
Bromodichloromethane	ND		25.0	26.1		ug/L		105	70 - 138	4	20
Bromoform	ND		25.0	25.0		ug/L		100	59 - 150	8	25
Bromomethane	ND		25.0	23.2		ug/L		93	62 - 131	0	25
2-Butanone (MEK)	ND		25.0	21.9		ug/L		87	48 - 140	15	40
Carbon disulfide	ND		25.0	22.6		ug/L		91	49 - 140	2	20
Carbon tetrachloride	ND		25.0	23.3		ug/L		93	60 - 150	3	25
Chlorobenzene	ND		25.0	24.1		ug/L		96	70 - 130	3	20
Chloroethane	ND		25.0	23.6		ug/L		94	68 - 130	2	25
Chloroform	ND		25.0	24.4		ug/L		98	70 - 130	4	20
Chloromethane	ND		25.0	22.3		ug/L		89	39 - 144	2	25
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	70 - 130	3	20
cis-1,3-Dichloropropene	ND		25.0	26.2		ug/L		105	70 - 133	4	20
Dibromochloromethane	ND		25.0	24.8		ug/L		99	70 - 148	6	25
1,2-Dibromo-3-Chloropropane	ND		25.0	21.4		ug/L		86	48 - 140	13	30
1,2-Dibromoethane (EDB)	ND		25.0	24.5		ug/L		98	70 - 131	7	25
Dibromomethane	ND		25.0	23.9		ug/L		96	70 - 130	3	25
1,2-Dichlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	7	20
1,3-Dichlorobenzene	ND		25.0	24.5		ug/L		98	70 - 130	5	20
1,4-Dichlorobenzene	ND		25.0	24.9		ug/L		99	70 - 130	6	20
Dichlorodifluoromethane	ND		25.0	20.3		ug/L		81	25 - 142	1	30
1,1-Dichloroethane	ND		25.0	24.4		ug/L		97	65 - 130	3	20
1,2-Dichloroethane	ND		25.0	25.4		ug/L		102	56 - 146	8	20
1,1-Dichloroethene	ND		25.0	22.9		ug/L		92	70 - 130	3	20
1,2-Dichloropropane	ND		25.0	25.9		ug/L		104	69 - 130	3	20

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QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: 440-170481-A-1 MSD

Matrix: Water

Analysis Batch: 379003

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
1,3-Dichloropropane	ND		25.0	25.1		ug/L		100	70 - 130	6	25
2,2-Dichloropropane	ND		25.0	24.9		ug/L		99	69 - 138	5	25
1,1-Dichloropropene	ND		25.0	24.5		ug/L		98	64 - 130	3	20
Ethylbenzene	ND		25.0	23.7		ug/L		95	70 - 130	3	20
2-Hexanone	ND		25.0	22.8		ug/L		91	10 - 150	10	35
Methylene Chloride	ND		25.0	23.5		ug/L		94	52 - 130	4	20
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.7		ug/L		99	52 - 150	10	35
Methyl tert-butyl ether	ND		25.0	27.0		ug/L		108	70 - 130	6	25
m,p-Xylene	ND		25.0	24.7		ug/L		99	70 - 133	3	25
Naphthalene	0.49	J	25.0	25.9		ug/L		102	60 - 140	10	30
o-Xylene	ND		25.0	24.7		ug/L		99	70 - 133	3	20
Styrene	0.84		25.0	25.0		ug/L		96	29 - 150	1	35
t-Butanol	ND		250	249		ug/L		100	70 - 130	4	25
1,1,1,2-Tetrachloroethane	ND		25.0	24.3		ug/L		97	60 - 149	3	20
1,1,2,2-Tetrachloroethane	ND		25.0	24.7		ug/L		99	63 - 130	9	30
Tetrachloroethene	ND		25.0	22.5		ug/L		90	70 - 137	2	20
Toluene	ND		25.0	23.6		ug/L		95	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	25.1		ug/L		101	70 - 130	4	20
trans-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 138	6	25
1,2,4-Trichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 140	5	20
1,1,1-Trichloroethane	ND		25.0	23.1		ug/L		92	70 - 130	4	20
1,1,2-Trichloroethane	ND		25.0	25.3		ug/L		101	70 - 130	8	25
Trichloroethene	ND		25.0	24.1		ug/L		97	70 - 130	3	20
Trichlorofluoromethane	ND		25.0	22.9		ug/L		92	60 - 150	3	25
1,2,3-Trichloropropane	ND		25.0	23.6		ug/L		94	60 - 130	11	30
Vinyl acetate	ND		25.0	27.4		ug/L		110	23 - 150	8	30
Vinyl chloride	ND		25.0	21.6		ug/L		87	50 - 137	1	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Toluene-d8 (Surr)	100		80 - 128								
4-Bromofluorobenzene (Surr)	102		80 - 120								
Dibromofluoromethane (Surr)	105		76 - 132								

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

Lab Sample ID: MB 440-378304/1-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 378304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		12/27/16 08:45	12/28/16 16:21	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	51		30 - 120						
							Prepared	Analyzed	Dil Fac
							12/27/16 08:45	12/28/16 16:21	1

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QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: LCS 440-378304/2-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 378304

			Spike	LCS	LCS						
Analyte			Added	Result	Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			2.00	1.12		ug/L		56	35 - 120		

Lab Sample ID: LCSD 440-378304/3-A

Matrix: Water

Analysis Batch: 378647

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 378304

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane			2.00	1.33		ug/L		67	35 - 120	17	35
	</										

Lab Sample ID: MB 440-378579/1-A

Matrix: Water

Analysis Batch: 378649

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 378579

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		1.0	0.25	ug/L		12/28/16 09:58	12/29/16 17:42	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
1,4-Dioxane-d8 (Surr)	62		30 - 120	12/28/16 09:58	12/29/16 17:42	1			

Lab Sample ID: LCS 440-378579/2-A

Matrix: Water

Analysis Batch: 378649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 378579

			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
1,4-Dioxane			2.00	1.02		ug/L		51	35 - 120		
Surrogate	LCS	LCS									
	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	56		30 - 120								

Lab Sample ID: 440-170807-F-3-A MSD

Matrix: Water

Analysis Batch: 378649

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 378579

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	ND		2.01	1.20		ug/L		60	35 - 120	2	25
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	59		30 - 120								

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

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

Lab Sample ID: 440-170807-G-3-A MS

Matrix: Water

Analysis Batch: 378649

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 378579

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	ND		2.02	1.23		ug/L		61	35 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	61		30 - 120						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-377635/4

Matrix: Water

Analysis Batch: 377635

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.055	mg/L			12/22/16 12:05	1

Lab Sample ID: LCS 440-377635/2

Matrix: Water

Analysis Batch: 377635

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	1.13		mg/L		100	90 - 110

Lab Sample ID: 440-170778-G-4 MS

Matrix: Water

Analysis Batch: 377635

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	0.19	J	2.26	2.28		mg/L		92	80 - 120

Lab Sample ID: 440-170778-G-4 MSD

Matrix: Water

Analysis Batch: 377635

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	0.19	J	2.26	2.30		mg/L		94	80 - 120	1	20

Lab Sample ID: MB 440-377636/4

Matrix: Water

Analysis Batch: 377636

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			12/22/16 12:05	1
Chloride	ND		0.50	0.25	mg/L			12/22/16 12:05	1
Fluoride	ND		0.50	0.25	mg/L			12/22/16 12:05	1
Sulfate	ND		0.50	0.25	mg/L			12/22/16 12:05	1

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-377636/2

Matrix: Water

Analysis Batch: 377636

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.14		mg/L		103	90 - 110
Chloride	5.00	4.81		mg/L		96	90 - 110
Fluoride	5.00	4.85		mg/L		97	90 - 110
Sulfate	5.00	5.09		mg/L		102	90 - 110

Lab Sample ID: 440-170778-G-4 MS

Matrix: Water

Analysis Batch: 377636

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	3.7		10.0	13.1		mg/L		94	80 - 120
Fluoride	0.84	J	10.0	9.59		mg/L		88	80 - 120

Lab Sample ID: 440-170778-G-4 MSD

Matrix: Water

Analysis Batch: 377636

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	3.7		10.0	13.2		mg/L		95	80 - 120	0	20
Fluoride	0.84	J	10.0	9.91		mg/L		91	80 - 120	3	20

Lab Sample ID: MB 440-377952/4

Matrix: Water

Analysis Batch: 377952

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50	0.25	mg/L			12/23/16 12:24	1

Lab Sample ID: LCS 440-377952/2

Matrix: Water

Analysis Batch: 377952

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	4.75		mg/L		95	90 - 110

Lab Sample ID: 440-170930-G-11 MS

Matrix: Water

Analysis Batch: 377952

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
Sulfate	670		1000	1580		mg/L		91	80 - 120

Lab Sample ID: 440-170930-G-11 MSD

Matrix: Water

Analysis Batch: 377952

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
Sulfate	670		1000	1580		mg/L		90	80 - 120	0	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-379996/1-A

Matrix: Water

Analysis Batch: 380880

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 379996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:07	1
Manganese	ND		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:07	1
Magnesium	ND		0.020	0.010	mg/L		01/05/17 08:50	01/09/17 19:07	1
Iron	ND		0.040	0.010	mg/L		01/05/17 08:50	01/09/17 19:07	1
Sodium	ND		0.50	0.25	mg/L		01/05/17 08:50	01/09/17 19:07	1
Boron	ND		0.050	0.010	mg/L		01/05/17 08:50	01/09/17 19:07	1
Calcium	ND		0.10	0.050	mg/L		01/05/17 08:50	01/09/17 19:07	1

Lab Sample ID: LCS 440-379996/2-A

Matrix: Water

Analysis Batch: 380880

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 379996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	10.0	11.0		mg/L		110	80 - 120
Manganese	1.00	1.13		mg/L		113	80 - 120
Magnesium	1.00	1.13		mg/L		113	80 - 120
Iron	1.00	1.08		mg/L		108	80 - 120
Sodium	10.0	10.8		mg/L		108	80 - 120
Boron	1.00	1.03		mg/L		103	80 - 120
Calcium	1.00	1.10		mg/L		110	80 - 120

Lab Sample ID: 440-170697-1 MS

Matrix: Water

Analysis Batch: 380880

Client Sample ID: DW-5

Prep Type: Total Recoverable

Prep Batch: 379996

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	0.86		10.0	12.2		mg/L		114	75 - 125
Manganese	0.11		1.00	1.23		mg/L		112	75 - 125
Magnesium	0.95		1.00	2.04		mg/L		109	75 - 125
Iron	0.14		1.00	1.27		mg/L		113	75 - 125
Sodium	480		10.0	478	4	mg/L		-28	75 - 125
Boron	2.8	F1	1.00	3.90		mg/L		111	75 - 125
Calcium	5.9		1.00	6.86	4	mg/L		95	75 - 125

Lab Sample ID: 440-170697-1 MSD

Matrix: Water

Analysis Batch: 380880

Client Sample ID: DW-5

Prep Type: Total Recoverable

Prep Batch: 379996

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	0.86		10.0	12.3		mg/L		115	75 - 125	1	20
Manganese	0.11		1.00	1.23		mg/L		113	75 - 125	1	20
Magnesium	0.95		1.00	2.10		mg/L		115	75 - 125	3	20
Iron	0.14		1.00	1.25		mg/L		112	75 - 125	1	20
Sodium	480		10.0	508	4	mg/L		271	75 - 125	6	20
Boron	2.8	F1	1.00	4.13	F1	mg/L		134	75 - 125	6	20
Calcium	5.9		1.00	7.28	4	mg/L		137	75 - 125	6	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: 410.4 - COD

Lab Sample ID: MB 440-380158/3

Matrix: Water

Analysis Batch: 380158

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			01/05/17 17:37	1

Lab Sample ID: LCS 440-380158/4

Matrix: Water

Analysis Batch: 380158

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	208		mg/L		104	90 - 110

Lab Sample ID: 440-170653-A-1 MS

Matrix: Water

Analysis Batch: 380158

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	31		200	240		mg/L		104	70 - 120

Lab Sample ID: 440-170653-A-1 MSD

Matrix: Water

Analysis Batch: 380158

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	31		200	230		mg/L		100	70 - 120	4	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-377894/3

Matrix: Water

Analysis Batch: 377894

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/23/16 04:57	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			12/23/16 04:57	1

Lab Sample ID: LCS 440-377894/2

Matrix: Water

Analysis Batch: 377894

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	85.8	86.1		mg/L		100	80 - 120

Lab Sample ID: MRL 440-377894/11

Matrix: Water

Analysis Batch: 377894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	4.00	ND		mg/L		85	50 - 150

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MRL 440-377894/4

Matrix: Water

Analysis Batch: 377894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	4.00	4.43		mg/L		111	50 - 150

Lab Sample ID: 440-170697-3 DU

Matrix: Water

Analysis Batch: 377894

Client Sample ID: MW-13R

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	720		717		mg/L		0.1	20
Bicarbonate Alkalinity as CaCO3	720		717		mg/L		0.1	20

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

Lab Sample ID: MB 440-378207/1

Matrix: Water

Analysis Batch: 378207

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			12/25/16 06:59	1

Lab Sample ID: LCS 440-378207/2

Matrix: Water

Analysis Batch: 378207

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	972		mg/L		97	90 - 110

Lab Sample ID: 440-170251-H-2 DU

Matrix: Water

Analysis Batch: 378207

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	3500		3470		mg/L		0.7	5

Method: SM 4500 CO2 C - Free Carbon Dioxide

Lab Sample ID: MB 440-377750/1

Matrix: Water

Analysis Batch: 377750

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide, Free	ND		2.0	2.0	mg/L			12/22/16 16:00	1

Lab Sample ID: 440-170697-2 DU

Matrix: Water

Analysis Batch: 377750

Client Sample ID: MW-1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbon Dioxide, Free	300		299		mg/L		0	20

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 440-379386/2-A
Matrix: Water
Analysis Batch: 379387

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 379386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.50	0.10	mg/L		01/03/17 03:00	01/03/17 04:30	1

Lab Sample ID: LCS 440-379386/1-A
Matrix: Water
Analysis Batch: 379387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 379386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.50	2.31		mg/L		92	85 - 115

Lab Sample ID: 440-171529-A-1-C MS
Matrix: Water
Analysis Batch: 379387

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 379386

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.68		2.50	2.93		mg/L		90	75 - 125

Lab Sample ID: 440-171529-A-1-D MSD
Matrix: Water
Analysis Batch: 379387

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 379386

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.68		2.50	2.81		mg/L		85	75 - 125	4	15

Lab Sample ID: 440-171523-B-2-C DU
Matrix: Water
Analysis Batch: 379387

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 379386

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia (as N)	66		69.1		mg/L		4	15

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-378107/4
Matrix: Water
Analysis Batch: 378107

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	0.020	mg/L			12/24/16 08:15	1

Lab Sample ID: LCS 440-378107/5
Matrix: Water
Analysis Batch: 378107

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Sulfide	0.480	0.460		mg/L		96	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: LCSD 440-378107/16

Matrix: Water

Analysis Batch: 378107

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	0.480	0.481		mg/L		100	80 - 120	4	20

Lab Sample ID: MRL 440-378107/3

Matrix: Water

Analysis Batch: 378107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Sulfide	0.0480	0.0436	J	mg/L		91	50 - 150		

Lab Sample ID: 440-170768-A-1 MS

Matrix: Water

Analysis Batch: 378107

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Sulfide	ND		0.480	0.464		mg/L		97	70 - 130		

Lab Sample ID: 440-170768-A-1 MSD

Matrix: Water

Analysis Batch: 378107

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		0.480	0.478		mg/L		100	70 - 130	3	30

Lab Sample ID: 440-170768-A-1 DU

Matrix: Water

Analysis Batch: 378107

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Sulfide	ND		ND		mg/L				NC	30

Method: SM 5310C - TOC

Lab Sample ID: MB 440-380231/7

Matrix: Water

Analysis Batch: 380231

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			01/05/17 04:52	1

Lab Sample ID: LCS 440-380231/6

Matrix: Water

Analysis Batch: 380231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.00	4.85		mg/L		97	90 - 110		

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: MRL 440-380231/5

Matrix: Water

Analysis Batch: 380231

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	0.0552	J	mg/L		55	50 - 150

Lab Sample ID: MRL 440-380231/8

Matrix: Water

Analysis Batch: 380231

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	0.0831	J	mg/L		83	50 - 150

Lab Sample ID: 440-171890-A-5 MS

Matrix: Water

Analysis Batch: 380231

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	0.71		5.00	5.84		mg/L		103	80 - 120

Lab Sample ID: 440-171890-A-5 MSD

Matrix: Water

Analysis Batch: 380231

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	0.71		5.00	5.61		mg/L		98	80 - 120	4	20

Lab Sample ID: MB 440-380347/7

Matrix: Water

Analysis Batch: 380347

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			01/06/17 06:17	1

Lab Sample ID: LCS 440-380347/6

Matrix: Water

Analysis Batch: 380347

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	5.00	4.87		mg/L		97	90 - 110

Lab Sample ID: MRL 440-380347/5

Matrix: Water

Analysis Batch: 380347

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	0.101		mg/L		101	50 - 150

Lab Sample ID: 440-171441-A-1 MS

Matrix: Water

Analysis Batch: 380347

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.7		5.00	6.22		mg/L		90	80 - 120

TestAmerica Irvine

QC Sample Results

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

TestAmerica Job ID: 440-170697-1

Lab Sample ID: 440-171441-A-1 MSD

Matrix: Water

Analysis Batch: 380347

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.7		5.00	7.14		mg/L		109	80 - 120	14	20

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QC Association Summary

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

TestAmerica Job ID: 440-170697-1

GC/MS VOA

Analysis Batch: 379003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	8260B	
440-170697-2	MW-1	Total/NA	Water	8260B	
440-170697-3	MW-13R	Total/NA	Water	8260B	
440-170697-4	QCAB	Total/NA	Water	8260B	
440-170697-5	QCTB	Total/NA	Water	8260B	
MB 440-379003/4	Method Blank	Total/NA	Water	8260B	
LCS 440-379003/5	Lab Control Sample	Total/NA	Water	8260B	
440-170481-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-170481-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 378304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	3520C	
MB 440-378304/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-378304/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-378304/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 378579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-2	MW-1	Total/NA	Water	3520C	
440-170697-3	MW-13R	Total/NA	Water	3520C	
MB 440-378579/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-378579/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-170807-F-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	
440-170807-G-3-A MS	Matrix Spike	Total/NA	Water	3520C	

Analysis Batch: 378647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-378304/1-A	Method Blank	Total/NA	Water	8270C	378304
LCS 440-378304/2-A	Lab Control Sample	Total/NA	Water	8270C	378304
LCSD 440-378304/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	378304

Analysis Batch: 378649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	8270C	378304
440-170697-2	MW-1	Total/NA	Water	8270C	378579
440-170697-3	MW-13R	Total/NA	Water	8270C	378579
MB 440-378579/1-A	Method Blank	Total/NA	Water	8270C	378579
LCS 440-378579/2-A	Lab Control Sample	Total/NA	Water	8270C	378579
440-170807-F-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	378579
440-170807-G-3-A MS	Matrix Spike	Total/NA	Water	8270C	378579

HPLC/IC

Analysis Batch: 377635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	300.0	
440-170697-2	MW-1	Total/NA	Water	300.0	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170697-1

HPLC/IC (Continued)

Analysis Batch: 377635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-3	MW-13R	Total/NA	Water	300.0	
MB 440-377635/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377635/2	Lab Control Sample	Total/NA	Water	300.0	
440-170778-G-4 MS	Matrix Spike	Total/NA	Water	300.0	
440-170778-G-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 377636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	300.0	
440-170697-2	MW-1	Total/NA	Water	300.0	
440-170697-2	MW-1	Total/NA	Water	300.0	
440-170697-3	MW-13R	Total/NA	Water	300.0	
440-170697-3	MW-13R	Total/NA	Water	300.0	
MB 440-377636/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377636/2	Lab Control Sample	Total/NA	Water	300.0	
440-170778-G-4 MS	Matrix Spike	Total/NA	Water	300.0	
440-170778-G-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 377952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-2	MW-1	Total/NA	Water	300.0	
440-170697-3	MW-13R	Total/NA	Water	300.0	
MB 440-377952/4	Method Blank	Total/NA	Water	300.0	
LCS 440-377952/2	Lab Control Sample	Total/NA	Water	300.0	
440-170930-G-11 MS	Matrix Spike	Total/NA	Water	300.0	
440-170930-G-11 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 379996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total Recoverable	Water	3005A	
440-170697-2	MW-1	Total Recoverable	Water	3005A	
440-170697-3	MW-13R	Total Recoverable	Water	3005A	
MB 440-379996/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-379996/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
440-170697-1 MS	DW-5	Total Recoverable	Water	3005A	
440-170697-1 MSD	DW-5	Total Recoverable	Water	3005A	

Analysis Batch: 380880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total Recoverable	Water	6010B	379996
440-170697-2	MW-1	Total Recoverable	Water	6010B	379996
440-170697-3	MW-13R	Total Recoverable	Water	6010B	379996
MB 440-379996/1-A	Method Blank	Total Recoverable	Water	6010B	379996
LCS 440-379996/2-A	Lab Control Sample	Total Recoverable	Water	6010B	379996
440-170697-1 MS	DW-5	Total Recoverable	Water	6010B	379996
440-170697-1 MSD	DW-5	Total Recoverable	Water	6010B	379996

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170697-1

General Chemistry

Analysis Batch: 377750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 4500 CO2 C	
440-170697-2	MW-1	Total/NA	Water	SM 4500 CO2 C	
440-170697-3	MW-13R	Total/NA	Water	SM 4500 CO2 C	
MB 440-377750/1	Method Blank	Total/NA	Water	SM 4500 CO2 C	
440-170697-2 DU	MW-1	Total/NA	Water	SM 4500 CO2 C	

Analysis Batch: 377894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 2320B	
440-170697-2	MW-1	Total/NA	Water	SM 2320B	
440-170697-3	MW-13R	Total/NA	Water	SM 2320B	
MB 440-377894/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 440-377894/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 440-377894/11	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 440-377894/4	Lab Control Sample	Total/NA	Water	SM 2320B	
440-170697-3 DU	MW-13R	Total/NA	Water	SM 2320B	

Analysis Batch: 378107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 4500 S2 D	
440-170697-2	MW-1	Total/NA	Water	SM 4500 S2 D	
440-170697-3	MW-13R	Total/NA	Water	SM 4500 S2 D	
MB 440-378107/4	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 440-378107/5	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 440-378107/16	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 440-378107/3	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
440-170768-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
440-170768-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	
440-170768-A-1 DU	Duplicate	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 378207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 2540C	
440-170697-2	MW-1	Total/NA	Water	SM 2540C	
440-170697-3	MW-13R	Total/NA	Water	SM 2540C	
MB 440-378207/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 440-378207/2	Lab Control Sample	Total/NA	Water	SM 2540C	
440-170251-H-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Prep Batch: 379386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 4500 NH3 B	
440-170697-2	MW-1	Total/NA	Water	SM 4500 NH3 B	
440-170697-3	MW-13R	Total/NA	Water	SM 4500 NH3 B	
MB 440-379386/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
LCS 440-379386/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
440-171529-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-171529-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-171523-B-2-C DU	Duplicate	Total/NA	Water	SM 4500 NH3 B	

TestAmerica Irvine

QC Association Summary

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

TestAmerica Job ID: 440-170697-1

General Chemistry (Continued)

Analysis Batch: 379387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 4500 NH3 D	379386
440-170697-2	MW-1	Total/NA	Water	SM 4500 NH3 D	379386
440-170697-3	MW-13R	Total/NA	Water	SM 4500 NH3 D	379386
MB 440-379386/2-A	Method Blank	Total/NA	Water	SM 4500 NH3 D	379386
LCS 440-379386/1-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	379386
440-171529-A-1-C MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	379386
440-171529-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	379386
440-171523-B-2-C DU	Duplicate	Total/NA	Water	SM 4500 NH3 D	379386

Analysis Batch: 380158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	410.4	
440-170697-2	MW-1	Total/NA	Water	410.4	
440-170697-3	MW-13R	Total/NA	Water	410.4	
MB 440-380158/3	Method Blank	Total/NA	Water	410.4	
LCS 440-380158/4	Lab Control Sample	Total/NA	Water	410.4	
440-170653-A-1 MS	Matrix Spike	Total/NA	Water	410.4	
440-170653-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	410.4	

Analysis Batch: 380231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-2	MW-1	Total/NA	Water	SM 5310C	
440-170697-3	MW-13R	Total/NA	Water	SM 5310C	
MB 440-380231/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-380231/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380231/5	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380231/8	Lab Control Sample	Total/NA	Water	SM 5310C	
440-171890-A-5 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-171890-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Analysis Batch: 380347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-170697-1	DW-5	Total/NA	Water	SM 5310C	
MB 440-380347/7	Method Blank	Total/NA	Water	SM 5310C	
LCS 440-380347/6	Lab Control Sample	Total/NA	Water	SM 5310C	
MRL 440-380347/5	Lab Control Sample	Total/NA	Water	SM 5310C	
440-171441-A-1 MS	Matrix Spike	Total/NA	Water	SM 5310C	
440-171441-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310C	

Definitions/Glossary

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

TestAmerica Job ID: 440-170697-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
ID	Analyte identified by RT & presence of single mass ion

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.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-170697-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-170697-1

Login Number: 170697

List Source: 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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-172844-1

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:

1/17/2017 1:38:34 PM

Rossina Tomova, Project Manager I

(949)261-1022

rossina.tomova@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

TestAmerica Job ID: 440-172844-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-172844-1	DW-4	Water	01/10/17 10:00	01/10/17 15:55

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Case Narrative

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

TestAmerica Job ID: 440-172844-1

Job ID: 440-172844-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-172844-1

Comments

No additional comments.

Receipt

The sample was received on 1/10/2017 3:55 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

GC/MS Semi VOA

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

Organic 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: 440-172844-1

Client Sample ID: DW-4

Date Collected: 01/10/17 10:00

Date Received: 01/10/17 15:55

Lab Sample ID: 440-172844-1

Matrix: Water

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		01/12/17 07:22	01/13/17 21:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	52		30 - 120				01/12/17 07:22	01/13/17 21:45	1

Method Summary

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

TestAmerica Job ID: 440-172844-1

Method	Method Description	Protocol	Laboratory
8270C	Semivolatile Organic Compounds (GC/MS)	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: 440-172844-1

Client Sample ID: DW-4

Date Collected: 01/10/17 10:00

Date Received: 01/10/17 15:55

Lab Sample ID: 440-172844-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			990 mL	1 mL	381422	01/12/17 07:22	JC1	TAL IRV
Total/NA	Analysis	8270C		1			381868	01/13/17 21:45	HN	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: 440-172844-1

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

Lab Sample ID: MB 440-381422/1-A

Matrix: Water

Analysis Batch: 381868

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 381422

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.25	ug/L		01/12/17 07:22	01/13/17 19:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		30 - 120				01/12/17 07:22	01/13/17 19:34	1

Lab Sample ID: LCS 440-381422/2-A

Matrix: Water

Analysis Batch: 381868

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 381422

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	0.881	J	ug/L		44	35 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	53		30 - 120				

Lab Sample ID: 440-172766-C-5-A MS

Matrix: Water

Analysis Batch: 381868

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 381422

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	ND		1.99	1.06		ug/L		53	35 - 120
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	51		30 - 120						

Lab Sample ID: 440-172766-C-5-B MSD

Matrix: Water

Analysis Batch: 381868

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 381422

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD RPD	Limit
1,4-Dioxane	ND		2.04	0.974	J	ug/L		48	35 - 120	8	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,4-Dioxane-d8 (Surr)	47		30 - 120								

QC Association Summary

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

TestAmerica Job ID: 440-172844-1

GC/MS Semi VOA

Prep Batch: 381422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-172844-1	DW-4	Total/NA	Water	3520C	
MB 440-381422/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-381422/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-172766-C-5-A MS	Matrix Spike	Total/NA	Water	3520C	
440-172766-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 381868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-172844-1	DW-4	Total/NA	Water	8270C	381422
MB 440-381422/1-A	Method Blank	Total/NA	Water	8270C	381422
LCS 440-381422/2-A	Lab Control Sample	Total/NA	Water	8270C	381422
440-172766-C-5-A MS	Matrix Spike	Total/NA	Water	8270C	381422
440-172766-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C	381422

Definitions/Glossary

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

TestAmerica Job ID: 440-172844-1

Qualifiers

GC/MS Semi VOA

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

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

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

TestAmerica Job ID: 440-172844-1


Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Certification renewal pending - certification considered valid.

TestAmerica Irvine

Client Contact Name: <u>GLA Republic</u> State/Zip: <u>11115 W. Boulevard Cr.</u> none: <u>858-451-1136</u> Fax: <u>858-451-1136</u> Project Name: <u>Sunshine Cyn. 4P</u> Site: P O #		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>M. Eaton</u> Date: <u>01-10-17</u> Lab Contact: <u>R. Tamara</u> Carrier: <u>T A</u>		COC No: _____ of _____ COCs Sampler: <u>BS, PC</u> For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:	
Sample Identification <u>DW-4</u>		Sample Date: <u>11/01/17</u> Time: <u>1000</u> Type: <u>G</u> Matrix: <u>GW</u> # of Cont.: <u>2</u>		Filtered Sample (Y / N) <u>X</u>		Sample Specific Notes: <div style="border: 1px solid black; padding: 5px; text-align: center;">  440-172844 Chain of Custody </div>	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____		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					
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 checked="" type="checkbox"/> Unknown		Special Instructions/QC Requirements & Comments: <div style="text-align: right; font-size: 1.2em;">2.7/21 ~ 1074</div>					
Relinquished by: <u>[Signature]</u> Relinquished by: <u>[Signature]</u> Relinquished by: <u>[Signature]</u>		Custody Seal No.: _____ Company: <u>Geo-log</u> Date/Time: <u>11/01/17 1045</u>		Received by: <u>[Signature]</u> Company: <u>1-10-17</u> Date/Time: <u>1312</u>		Therm ID No.: _____ Date/Time: <u>11/01/17 1555</u>	

Login Sample Receipt Checklist

Client: Geo-Logic Associates

Job Number: 440-172844-1

Login Number: 172844

List Source: TestAmerica Irvine

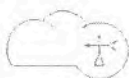
List Number: 1

Creator: Garcia, Veronica G

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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
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 $<6\text{mm}$ (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



Environmental Inc.

NEXT MONTH 8-16-16

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns					TEMPERATURE: 870				
DATE: 7-19-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: Gem 5000 / 4500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
213									
A - 13	1210		0.0	1.10	7.6	16.8	80.6	2	
B - 29	1212		0.0	1.08	0.0	19.6	80.4	2	
C - 45	1214		0.0	1.55	0.0	19.9	80.0	3	
D - 61	1217		0.0	-1.73	0.0	19.8	80.2	4	
E - 77	1221		0.0	-15.48	0.0	19.9	80.1	4	
214									
A - 13	1200		0.0	-1.19	1.2	17.0	81.7	2	
B - 30	1202		0.0	-1.65	0.2	19.0	80.8	2	
C - 48	1204		0.0	-15.96	0.1	19.6	80.3	3	
215									
A - 13	1142		0.0	1.12	5.6	7.6	86.6	2	
B - 30	1144		0.0	1.16	6.9	9.7	83.4	2	
C - 47	1146		0.0	1.15	0.1	18.8	81.1	3	
D - 64	1149		0.0	1.10	0.2	19.4	80.4	4	
E - 81	1153		0.0	1.18	4.7	9.5	85.8	4	
216									
A - 14	1125		0.0	1.10	0.0	19.7	80.3	2	
B - 43	1127		0.0	1.12	0.0	19.8	80.2	2	
C - 62	1129		0.0	1.14	0.0	19.7	80.3	3	
D - 86	1132		0.0	1.15	0.0	19.7	80.3	4	
E - 110	1136		0.0	1.10	0.0	19.7	80.3	4	
217									
A - 13	1115		0.0	1.07	3.3	16.4	80.3	2	
B - 30	1117		0.0	1.02	2.1	17.5	80.3	2	
218									
7.5								2	Removed Due to Construction

RES SIGNATURE: _____

LEA SIGNATURE: _____

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns					TEMPERATURE: 80°				
DATE: 7-19-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: Geom 5000 / G500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
219									
A - 13	1055		0.0	+1.16	0.7	18.8	80.6	2	
B - 64	1057		0.0	+1.18	0.0	19.1	80.9	2	
C - 115	1059		0.0	+1.16	0.0	19.4	80.6	3	
D - 166	1102		0.0	+1.17	0.7	17.2	81.5	4	
E - 217	1106		0.0	+1.14	0.0	19.5	80.5	4	
220									
A - 14	1020		0.0	+1.13	1.3	18.3	80.4	2	
B - 40	1022		0.0	+1.11	0.8	18.7	80.5	2	
C - 87	1024		0.0	+1.14	0.1	19.4	80.5	3	
D - 124	1027		0.0	+1.16	0.1	19.3	80.6	4	
E - 158	1031		0.0	+1.12	0.1	19.1	80.8	4	
220B									
A - 14	1000		0.0	+1.30	2.1	17.3	80.6	2	
B - 38	1002		0.0	+1.13	0.1	19.8	80.1	2	
C - 62	1004		0.0	+0.07	2.3	16.2	81.5	3	
D - 86	1007		0.0	+1.10	2.1	17.1	80.8	4	
E - 110	1012		0.0	7.11	1.7	16.9	81.3	4	
221									
A - 13	0920		0.0	+1.06	0.6	19.6	79.8	2	
B - 56	0922		0.0	+1.10	0.5	19.0	80.6	2	
C - 99	0924		0.0	+1.08	0.3	19.9	79.8	3	
D - 142	0927		0.0	+1.06	0.0	20.3	79.7	4	
E - 185	0931		0.0	+1.27	0.0	20.3	79.7	4	
222									
A - 13	0940		0.0	+1.09	0.8	19.3	80.0	2	
B - 54.8	0942		0.0	+1.11	0.0	20.0	80.0	2	
C - 96.5	0944		0.0	+1.15	0.4	19.5	80.1	3	
D - 138.3	0947		0.0	+1.10	0.1	19.9	80.0	4	
E - 180	0951		0.0	+1.08	0.0	20.0	79.9	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____



Environmental Inc.

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: <i>Robert Johns</i>				TEMPERATURE: <i>70°</i>					
DATE: <i>7-19-16</i>				WEATHER CONDITIONS: <i>Sunny & Clear</i>					
				INST & SERIAL #: <i>Gem 5000 / GS00530</i>					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
223									
A - 13	<i>0900</i>		<i>0.0</i>	<i>1.09</i>	<i>5.3</i>	<i>5.5</i>	<i>89.2</i>	<i>2</i>	
B - 37.5	<i>0902</i>		<i>0.0</i>	<i>1.08</i>	<i>6.4</i>	<i>3.8</i>	<i>89.8</i>	<i>2</i>	
C - 62	<i>0904</i>		<i>0.0</i>	<i>1.12</i>	<i>3.9</i>	<i>11.3</i>	<i>84.8</i>	<i>3</i>	
D - 86.5	<i>0907</i>		<i>0.0</i>	<i>1.09</i>	<i>2.1</i>	<i>15.0</i>	<i>82.9</i>	<i>4</i>	
E - 111	<i>0911</i>		<i>0.0</i>	<i>1.10</i>	<i>3.6</i>	<i>11.1</i>	<i>85.3</i>	<i>4</i>	
224									
A - 13	<i>0830</i>		<i>0.0</i>	<i>1.03</i>	<i>0.0</i>	<i>20.3</i>	<i>79.6</i>	<i>2</i>	
B - 67.5	<i>0832</i>		<i>0.0</i>	<i>1.02</i>	<i>0.0</i>	<i>20.3</i>	<i>79.6</i>	<i>2</i>	
C - 122	<i>0834</i>		<i>0.0</i>	<i>1.05</i>	<i>0.0</i>	<i>20.3</i>	<i>79.6</i>	<i>3</i>	
D - 177.5	<i>0837</i>		<i>0.0</i>	<i>-13.04</i>	<i>0.0</i>	<i>20.3</i>	<i>79.6</i>	<i>4</i>	
E - 232	<i>0841</i>		<i>0.0</i>	<i>-9.97</i>	<i>0.0</i>	<i>20.3</i>	<i>79.6</i>	<i>4</i>	
225									
A - 13	<i>0810</i>		<i>0.0</i>	<i>-7.35</i>	<i>0.5</i>	<i>19.5</i>	<i>80.0</i>	<i>2</i>	
B - 72	<i>0812</i>		<i>0.0</i>	<i>-5.03</i>	<i>0.0</i>	<i>20.1</i>	<i>79.9</i>	<i>2</i>	
C - 131	<i>0814</i>		<i>0.0</i>	<i>-10.52</i>	<i>0.2</i>	<i>19.8</i>	<i>79.9</i>	<i>3</i>	
D - 190	<i>0817</i>		<i>0.0</i>	<i>-10.64</i>	<i>0.0</i>	<i>20.1</i>	<i>79.8</i>	<i>4</i>	
E - 244	<i>0841</i>		<i>0.0</i>	<i>-9.40</i>	<i>0.0</i>	<i>20.2</i>	<i>79.8</i>	<i>4</i>	
226									
A - 13	<i>0710</i>		<i>0.0</i>	<i>1.02</i>	<i>0.1</i>	<i>20.0</i>	<i>80.0</i>	<i>2</i>	
B - 64	<i>0712</i>		<i>0.0</i>	<i>-11.93</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>2</i>	
C - 114	<i>0714</i>		<i>0.0</i>	<i>-11.34</i>	<i>0.1</i>	<i>20.1</i>	<i>79.8</i>	<i>3</i>	
D - 164	<i>0717</i>		<i>0.0</i>	<i>-12.17</i>	<i>0.1</i>	<i>20.2</i>	<i>79.7</i>	<i>4</i>	
E - 208	<i>0721</i>		<i>0.0</i>	<i>-12.78</i>	<i>0.2</i>	<i>20.2</i>	<i>79.6</i>	<i>4</i>	
227									
A - 13	<i>0730</i>		<i>0.0</i>	<i>0.02</i>	<i>0.1</i>	<i>20.3</i>	<i>79.6</i>	<i>2</i>	
B - 48.7	<i>0732</i>		<i>0.0</i>	<i>-1.62</i>	<i>0.2</i>	<i>20.2</i>	<i>79.7</i>	<i>2</i>	
C - 84.4	<i>0734</i>		<i>0.0</i>	<i>-1.58</i>	<i>0.1</i>	<i>20.3</i>	<i>79.6</i>	<i>3</i>	
D - 114	<i>0737</i>		<i>0.0</i>	<i>-1.80</i>	<i>0.1</i>	<i>20.3</i>	<i>79.7</i>	<i>4</i>	
E - 115.7	<i>0740</i>		<i>0.0</i>	<i>-1.56</i>	<i>0.2</i>	<i>19.9</i>	<i>79.9</i>	<i>4</i>	

RES SIGNATURE: *[Signature]*

LEA SIGNATURE: _____

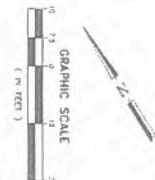
**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns				TEMPERATURE: 69°					
DATE: 7-19-16				WEATHER CONDITIONS: Sunny 90 mph					
				INST & SERIAL #: Gcm 5000 / G500530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
228									
A - 13	0750		0.0	4.11	0.1	20.0	80.0	2	
B - 63	0752		0.0	-1.67	0.1	19.7	80.1	2	
C - 113	0754		0.0	-1.47	0.0	20.0	79.9	3	
D - 163	0757		0.0	-1.54	0.2	19.9	79.9	4	
E - 213	0801		0.0	-0.49	0.1	20.0	79.9	4	
229									
A - 13	0650		0.0	-1.45	0.8	18.9	80.3	2	
B - 48.7	0652		0.0	-11.37	0.1	20.3	79.6	2	
C - 84.4	0654		0.0	-14.96	0.1	20.2	79.7	3	
D - 114	0657		0.0	-16.56	0.1	20.2	79.7	4	
E - 155.7	0701		0.0	-23.0	0.1	20.1	79.8	4	
230									
A - 16								2	Removed Due to Construction
B - 33								2	
C - 50								3	
231									
A - 13								2	Removed Due to Construction
B - 26								2	
C - 39								3	
D - 51								4	
E - 66								4	
241									
A - 13	1227		0.0	-15.58	0.0	19.9	80.0	2	
B - 28	1229		0.0	-22.65	0.0	20.0	80.0	2	
C - 47	1231		0.0	-2.81	0.0	20.0	80.0	3	
D - 64	1234		0.0	-27.91	0.0	20.0	80.0	4	
E - 85	1237		0.0	-27.90	0.0	20.0	80.0	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____

Clerk



1 OF 1

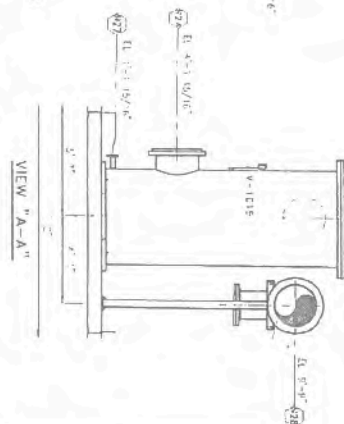
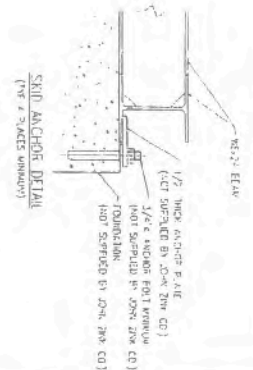
FLARE 9 AND 10 PLAN



1360 Valley Vista Drive, Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

NO	REV	DATE	BY	CHK	DATE
----	-----	------	----	-----	------

no.	CD	DATE	NAME	ADDRESS	TELEPHONE
1	2	3	4	5	6
100	1	2	3	4	5
101	1	2	3	4	5
102	1	2	3	4	5
103	1	2	3	4	5
104	1	2	3	4	5
105	1	2	3	4	5
106	1	2	3	4	5
107	1	2	3	4	5
108	1	2	3	4	5
109	1	2	3	4	5
110	1	2	3	4	5
111	1	2	3	4	5
112	1	2	3	4	5
113	1	2	3	4	5
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115	1	2	3	4	5
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141	1	2	3	4	5
142	1	2	3	4	5
143	1	2	3	4	5
144	1	2	3	4	5
145	1	2	3	4	5
146	1	2	3	4	5
147	1	2	3	4	5
148	1	2	3	4	5
149	1	2	3	4	5
150	1	2	3	4	5
151	1	2	3	4	5
152	1	2	3	4	5
153	1	2	3	4	5
154	1	2	3	4	5
155	1	2	3	4	5
156	1	2	3	4	5
157	1	2	3	4	5
158	1	2	3	4	5
159	1	2	3	4	5
160	1	2	3	4	5
161	1	2	3	4	5
162	1	2	3	4	5
163	1	2	3	4	5
164	1	2	3	4	5
165	1	2	3	4	5
166	1	2	3	4	5
167	1	2	3	4	5
168	1	2	3	4	5
169	1	2	3	4	5
170	1	2	3	4	5
171	1	2	3	4	5
172	1	2	3	4	5
173	1	2	3	4	5
174	1	2	3	4	5
175	1	2	3	4	5
176	1	2	3	4	5
177	1	2	3	4	5



FLARE # 9

[illegible][illegible]

EXHIBIT VA

Flare Component Leak Testing

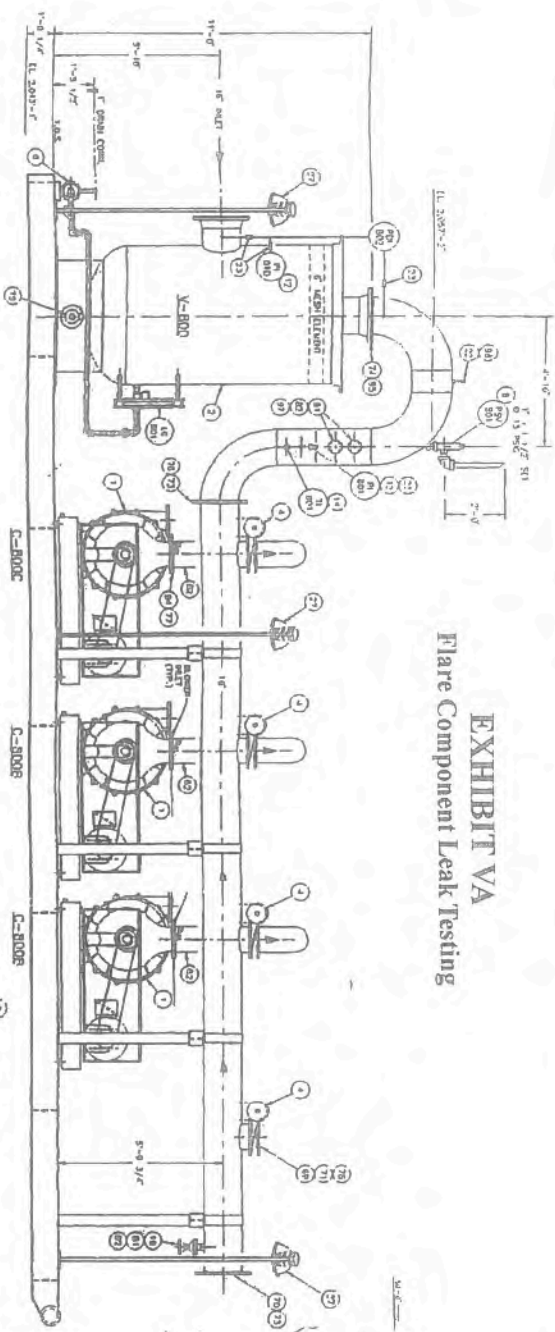
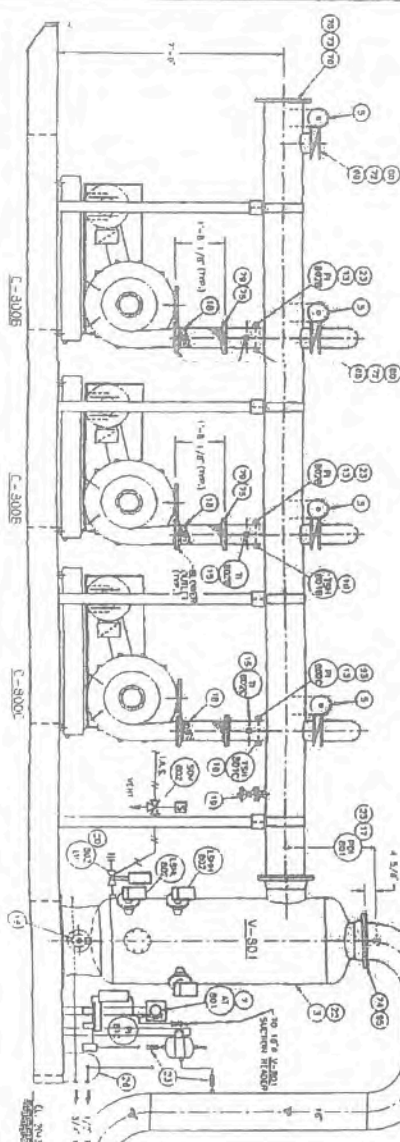


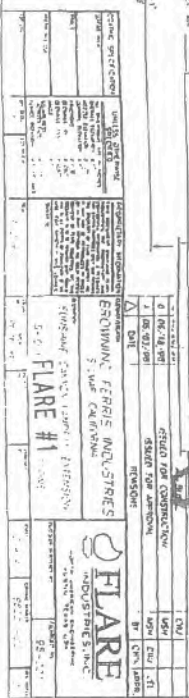
EXHIBIT VA

Flare Component Leak Testing

- NOTES:
1. ALL CHARGE DUALS TO BE VISIBLE FROM EDGE OF SHED.
 2. ALL BLOWER CASINGS TO HAVE DRAIN VALVES W/PIPS.
 3. ALL AIRS (PIPS) TO HAVE 1/4" W/EP W/ALS DOWLED TO BOTTOM OF DRYER ELL.
 4. ALL CHARGE CASSETS TO HAVE BLANK VALVES.



SECTION A



Sushine Canyon Landfill Condensate Check

5,572 PPM

TREATED LEACHATE
AND CONDENSATE

6,225 PPM

Jul 19, 2016

L.T.F. MONITORING

[illegible]

RES SIGNATURE:



GAS MONITORING EQUIPMENT CALIBRATION



[illegible]

SIGNATURE:



SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TEMPERATURE: 71°
WEATHER CONDITIONS: Sunny & Clear
INST & SERIAL #: Gen SWO/G50530

RES SIGNATURE: 
LEA SIGNATURE: 



Environmental Inc.

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns				TEMPERATURE: 79.0					
DATE: 7-21-16				WEATHER CONDITIONS: Sunny & Clear					
				INST & SERIAL #: Gem 5000j 4560530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
242									
C - 42	0830		0.0	+0.9	4.7	11.1	84.1	3	
D - 60	0833		0.0	+1.7	4.2	12.3	83.4	4	
E - 78	0836		0.0	+1.4	7.9	6.4	85.7	4	
243									
A - 11	0950		0.0	+0.7	4.7	11.1	84.3	2	
B - 20	0952		0.0	1.0	4.4	11.1	84.5	2	
C - 33	0954		0.0	+0.8	2.9	13.4	83.7	3	
244									
A - 11	0917		0.0	+1.0	0.1	20.2	79.8	2	
B - 21	0919		0.0	+1.4	18.3	2.6	79.2	2	
C - 36	0921		0.0	+1.0	5.9	15.1	79.0	3	
245									
A - 11	1005		0.0	+0.1	12.8	4.9	82.3	2	
B - 20	1007		0.0	+0.3	7.4	12.8	79.8	2	
C - 35	1009		0.0	+0.2	6.0	14.0	80.0	3	
D - 50	1012		0.0	+0.1	9.7	10.0	80.4	4	
E - 64	1016		0.0	+2.8	0.1	18.6	81.2	4	
246									
A - 9								2	Removed
B - 16								2	Due to Construction
205R									
A - 11	0927		0.0	+1.4	12.3	9.2	78.6	2	
B - 20	0929		0.2	+0.1	29.9	0.4	69.4	2	
C - 33	0931		1.2	+0.8	39.4	0.3	59.1	3	
D - 48	0934		1.9	+0.4	44.2	0.0	53.9	4	
E - 62	0937		1.9	+2.6	44.8	0.0	53.3	4	

RES SIGNATURE:

LEA SIGNATURE:



Environmental Inc.

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns				TEMPERATURE: 75.0					
DATE: 7-21-16				WEATHER CONDITIONS: Sunny & Clear					
				INST & SERIAL #: Gem 5000/6500530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
239									
A-11	0745		0.0	+0.06	6.9	14.2	78.9	2	
B-20	0747		0.0	+0.05	0.1	20.2	79.6	2	
C-35	0749		0.0	+0.05	0.1	20.5	79.5	3	
D-50	0752		0.0	+0.10	0.1	20.5	79.4	4	
E-64	0756		0.0	+0.08	0.1	20.5	79.4	4	
240									
A-11	0800		0.0	+0.08	17.5	4.7	77.8	2	
B-20	0802		0.0	+0.10	0.4	19.9	79.7	2	
C-33	0804		0.0	+0.07	0.1	20.4	79.5	3	
D-49	0806		0.0	+0.05	0.1	20.3	79.6	4	
E-61	0811		0.5	-0.92	0.1	20.1	79.4	4	

RES SIGNATURE:

LEA SIGNATURE:

SUNSHINE CANYON - COUNTY

TECHNICIAN: Robert Johns
DATE: 7-21-16
TEMPERATURE: 75°
WEATHER CONDITIONS: Sunny & Clear
INST & SERIAL #: Gen Saver G520, E30

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**SUNSHINE CANYON BUILDING METER CALIBRATION
CONTINUOUS BUILDING MONITORING**

LOCATION	SERIAL NUMBER	DATE	CALIBRATION GAS	NOTES
LTP Trailer	Sierra 2001 0305501	7-21-16	1.0% by vol. CH ₄	
LEA Office	Sierra 2001 011853	7-21-16	1.0% by vol. CH ₄	
Scale House	Sierra 2001 011813	7-21-16	1.0% by vol. CH ₄	
Training Room	Sierra 2001 043130490M	7-21-16	1.0% by vol. CH ₄	
Scale House	Sierra 2001 043130409	7-21-16	1.0% by vol. CH ₄	
Men's Locker Room	Sierra 2001 043130409	7-21-16	1.0% by vol. CH ₄	
New Office North Hall	Sierra 2001 043130409	7-21-16	1.0% by vol. CH ₄	
New Office South Hall	Sierra 2001 043130409	7-21-16	1.0% by vol. CH ₄	

Technician: 

NEXT MONTH 9-20-16

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <u>Robert Johns</u>					TEMPERATURE: <u>78.0</u>				
DATE: <u>8-16-16</u>					WEATHER CONDITIONS: <u>Sunny & Clear</u>				
					INST & SERIAL #: <u>Gen 5000 / G50030</u>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
213									
A - 13	1155		0.0	+1.04	3.4	15.4	81.2	2	
B - 29	1157		0.0	+1.04	0.0	19.6	80.4	2	
C - 45	1159		0.0	-1.58	0.0	19.6	80.3	3	
D - 61	1202		0.0	-1.75	0.0	19.5	80.5	4	
E - 77	1206		0.0	-16.93	0.0	19.5	80.5	4	
214									
A - 13	1145		0.0	+1.05	1.6	16.9	81.6	2	
B - 30	1147		0.0	-1.67	0.8	18.0	81.2	2	
C - 48	1149		0.0	-15.80	0.0	19.5	80.4	3	
215									
A - 13	1127		0.0	+1.04	6.5	56.5	88.0	2	
B - 30	1129		0.0	+1.09	0.4	17.1	82.5	2	
C - 47	1131		0.0	+1.04	0.0	19.5	80.4	3	
D - 64	1134		0.0	+1.05	0.2	19.2	80.6	4	
E - 81	1138		0.0	+1.10	4.9	9.0	86.1	4	
216									
A - 14	1110		0.0	+1.05	0.0	19.6	80.3	2	
B - 43	1112		0.0	+1.08	0.1	19.5	80.4	2	
C - 62	1114		0.0	+1.04	0.0	19.6	80.3	3	
D - 86	1117		0.0	+1.09	0.0	19.7	80.3	4	
E - 110	1121		0.0	+1.12	0.1	19.4	80.5	4	
217									
A - 13	1100		0.0	+1.03	3.2	16.8	80.0	2	
B - 30	1102		0.0	+1.12	2.2	17.5	80.4	2	
218									
7.5								2	Removed due to construction

RES SIGNATURE: _____

LEA SIGNATURE:  _____



Environmental Inc.

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

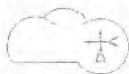
TECHNICIAN: Robert Johns
DATE: 8-16-16

TEMPERATURE: 72.0
WEATHER CONDITIONS: Sunny 40°C
INST & SERIAL #: Gen 5000/4520530

PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
219									
A - 13	1040		0.0	+1.07	0.5	18.6	80.8	2	
B - 64	1042		0.0	+1.12	0.1	19.3	80.5	2	
C - 115	1044		0.0	+1.11	0.0	19.6	80.4	3	
D - 166	1047		0.0	+1.07	0.0	19.6	80.3	4	
E - 217	1057		0.0	+1.06	0.0	19.7	80.3	4	
220									
A - 14	1020		0.0	+1.05	1.2	18.1	80.8	2	
B - 40	1022		0.0	+1.06	0.0	19.4	80.6	2	
C - 87	1024		0.0	+1.07	0.0	19.5	80.5	3	
D - 124	1027		0.0	+1.10	0.0	19.4	80.6	4	
E - 158	1031		0.0	+1.04	0.0	19.5	80.4	4	
220B									
A - 14	0957		0.0	+1.08	1.6	17.3	81.1	2	
B - 38	0959		0.0	+1.03	0.0	19.3	80.6	2	
C - 62	1001		0.0	+1.02	1.8	16.6	81.7	3	
D - 86	1004		0.0	+1.07	2.2	16.2	81.5	4	
E - 110	1008		0.0	+1.06	0.4	18.4	81.1	4	
221									
A - 13	0920		0.0	+1.01	0.7	19.1	80.3	2	
B - 56	0922		0.0	+1.02	0.3	19.2	80.5	2	
C - 99	0924		0.0	+1.17	0.4	19.5	80.2	3	
D - 142	0927		0.0	+1.08	0.0	20.1	79.8	4	
E - 185	0931		0.0	1.0	0.0	20.1	79.8	4	
222									
A - 13	0940		0.0	+1.02	2.2	17.5	80.3	2	
B - 54.8	0942		0.0	+1.04	0.0	20.1	79.9	2	
C - 96.5	0944		0.0	+1.08	0.3	19.7	80.0	3	
D - 138.3	0947		0.0	+1.04	0.6	19.2	80.2	4	
E - 180	0951		0.0	+1.01	0.0	20.0	80.0	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____



Environmental Inc.

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns				TEMPERATURE: 70°					
DATE: 8-16-16				WEATHER CONDITIONS: Sunny & Clear					
				INST & SERIAL #: Gem 5000 / 4500530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
223									
A - 13	0900		0.0	1.04	5.7	4.5	89.7	2	
B - 37.5	0902		0.0	1.12	4.6	8.0	87.4	2	
C - 62	0904		0.0	1.11	1.9	15.2	82.8	3	
D - 86.5	0907		0.0	1.07	1.6	16.2	82.1	4	
E - 111	0911		0.0	1.07	3.3	11.7	84.9	4	
224									
A - 13	0830		0.0	1.11	0.0	20.1	79.8	2	
B - 67.5	0832		0.0	1.02	0.0	20.1	79.8	2	
C - 122	0834		0.0	1.04	0.0	20.1	79.8	3	
D - 177.5	0837		0.0	13.12	0.0	20.1	79.8	4	
E - 232	0841		0.0	9.31	0.0	20.1	79.8	4	
225									
A - 13	0815		0.0	1.15	0.6	19.2	80.3	2	
B - 72	0817		0.0	1.69	0.1	20.0	79.9	2	
C - 131	0819		0.0	12.23	0.0	20.0	79.9	3	
D - 190	0822		0.0	11.42	0.0	20.0	79.9	4	
E - 244	0826		0.0	10.19	0.0	20.1	79.9	4	
226									
A - 13	0718		0.0	1.01	0.1	19.7	80.3	2	
B - 64	0720		0.0	13.69	0.1	19.6	80.3	2	
C - 114	0722		0.0	11.96	0.1	19.7	80.3	3	
D - 164	0725		0.0	13.16	0.1	19.7	80.2	4	
E - 208	0729		0.0	13.01	0.1	19.7	80.2	4	
227									
A - 13	0735		0.0	1.05	1.7	15.4	82.8	2	
B - 48.7	0737		0.0	1.16	5.3	2.8	91.9	2	
C - 84.4	0739		0.0	1.25	2.6	12.5	84.9	3	
D - 114	0742		0.0	1.23	1.3	15.8	82.9	4	
E - 115.7	0746		0.0	1.01	0.7	16.7	82.7	4	

RES SIGNATURE:

LEA SIGNATURE:



Environmental Inc.

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns				TEMPERATURE: 68°					
DATE: 8-16-16				WEATHER CONDITIONS: Sunny 80/64 -					
				INST & SERIAL #: Gem Sany G520530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
228									
A - 13	0800		0.0	-103	0.1	19.6	80.2	2	
B - 63	0802		0.0	-128	1.7	19.8	82.6	2	
C - 113	0804		0.0	-10	0.1	19.7	80.2	3	
D - 163	0807		0.0	-12	0.3	19.4	80.3	4	
E - 213	0811		0.0	-124	0.2	19.6	80.2	4	
229									
A - 13	0700		0.0	-1.99	0.5	18.9	80.3	2	
B - 48.7	0702		0.0	-15.86	0.1	20.3	79.6	2	
C - 84.4	0704		0.0	-17.41	0.1	20.2	79.8	3	
D - 114	0707		0.0	-19.17	0.1	20.0	79.9	4	
E - 155.7	0711		0.0	-27.08	0.1	20.0	80.0	4	
230									
A - 16								2	Removed Due to Construction
B - 33								2	
C - 50								3	
231									
A - 13								2	Removed Due to Construction
B - 26								2	
C - 39								3	
D - 51								4	
E - 66								4	
241									
A - 13	1215		0.0	-15.52	0.0	19.6	80.4	2	
B - 28	1217		0.0	-23.32	0.0	19.6	80.4	2	
C - 47	1219		0.0	-7.09	0.0	19.6	80.4	3	
D - 64	1222		0.0	-25.72	0.0	19.6	80.4	4	
E - 85	1226		0.0	-28.30	0.0	19.6	80.4	4	

RES SIGNATURE: Bruce

LEA SIGNATURE: [Signature]



GAS MONITORING EQUIPMENT CALIBRATION

[illegible]

SIGNATURE:



NEXT MONTH 9-22-16

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns
DATE: 8-18-16

TEMPERATURE: 60°
WEATHER CONDITIONS: sunny & clear
INST & SERIAL #: Gem 500 / G500530

PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
202									
A - 10								2	Removed
B - 25								2	Due to
C - 38								3	Construction
203									
A - 10	0629		0.0	+0.5	1.6	19.2	79.2	2	
B - 25	0631		0.0	1.0	0.1	20.4	79.5	2	
C - 40	0633		0.0	+0.1	1.4	19.3	79.3	3	
206									
A - 10	0650		0.0	+0.7	4.7	12.2	78.1	2	
B - 25	0652		0.0	+0.1	12.3	9.9	77.8	2	
C - 38	0654		0.0	+0.4	19.3	11.1	69.6	3	
207									
A - 10	0700		0.0	-0.1	0.1	20.5	79.4	2	
B - 25	0702		0.0	-0.43	1.0	17.1	81.8	2	
C - 40	0704		0.0	+0.2	0.1	20.5	79.5	3	
208									
A - 9.1	0640		0.0	+0.6	3.0	18.3	78.7	2	
B - 25	0643		0.0	+0.2	8.9	12.7	78.4	2	
C - 40	0645		0.0	+0.3	9.2	11.8	78.9	3	
210									
A - 10	0715		0.0	-0.37	0.1	20.5	79.4	2	
B - 25	0717		0.0	-0.32	0.1	20.5	79.4	2	
C - 39	0719		0.0	-0.37	0.1	20.4	79.5	3	

RES SIGNATURE: [Signature]

LEA SIGNATURE: [Signature]

**SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns				TEMPERATURE:					
DATE: 8-18-16				WEATHER CONDITIONS: Sunny & Clear					
				INST & SERIAL #: Gem 5000 / G500530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
242									
C-42	0800		0.0	1.05	4.1	13.5	82.4	3	
D-60	0802		0.0	1.05	6.5	8.2	85.2	4	
E-78	0804		0.0	1.04	7.7	7.1	85.2	4	
243									
A-11	0900		0.0	1.04	4.3	15.0	80.7	2	
B-20	0903		0.0	1.01	4.8	11.9	83.3	2	
C-33	0905		0.0	1.13	3.6	14.3	82.2	3	
244									
A-11	0810		0.0	1.06	9.1	11.8	79.1	2	
B-21	0812		0.0	1.01	11.0	9.9	79.2	2	
C-36	0814		0.0	1.05	11.6	11.5	77.0	3	
245									
A-11	0915		0.0	1.12	8.0	12.0	80.1	2	
B-20	0917		0.0	1.15	6.9	14.4	78.7	2	
C-35	0919		0.0	1.15	7.2	13.8	79.0	3	
D-50	0922		0.0	1.06	5.4	14.9	79.7	4	
E-64	0926		0.0	1.13	0.1	19.8	80.1	4	
246									
A-9								2	Removed Due to Construction
B-16								2	
205R									
A-11	0827		0.0	1.05	13.0	9.1	77.9	2	
B-20	0829		0.3	1.03	31.4	0.2	68.2	2	
C-33	0831		1.2	1.06	39.7	0.6	58.5	3	
D-48	0835		2.1	1.18	45.3	0.0	52.6	4	
E-62	0839		1.9	1.10	44.4	0.0	53.7	4	

RES SIGNATURE: 

LEA SIGNATURE: _____



Environmental Inc.

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns					TEMPERATURE: 61°				
DATE: 8-18-16					WEATHER CONDITIONS: Sunny - 461°				
					INST & SERIAL #: Gem 5000 / G500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
239									
A-11	0727		0.0	+0.1	4.6	16.9	78.4	2	
B-20	0729		0.0	+0.5	0.1	20.7	79.2	2	
C-35	0731		0.0	0	0.1	20.8	79.2	3	
D-50	0734		0.0	+0.5	0.1	20.7	79.2	4	
E-64	0738		0.0	+0.4	0.1	20.8	79.1	4	
240									
A-11	0742		0.0	-0.2	14.4	8.3	76.9	2	
B-20	0744		0.0	+0.7	0.2	20.6	79.2	2	
C-33	0746		0.0	+0.8	0.1	20.8	79.1	3	
D-49	0749		0.0	-0.40	0.1	20.9	79.0	4	
E-61	0754		0.9	+0.4	0.1	20.7	78.3	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

[illegible]

RES SIGNATURE:

LEA SIGNATURE: _____

GAS MONITORING EQUIPMENT CALIBRATION

[illegible]

SIGNATURE: [Signature]

NEXT MONTH 10-18-16

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**


TECHNICIAN: <i>Robert Johns</i>					TEMPERATURE: <i>77°</i>				
DATE: <i>9-20-16</i>					WEATHER CONDITIONS: <i>Sunny & Clear</i>				
					INST & SERIAL #: <i>Gen 5200 / 6500530</i>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
213									
A - 13	<i>1218</i>		<i>0.0</i>	<i>+1.08</i>	<i>2.0</i>	<i>17.5</i>	<i>80.6</i>	<i>2</i>	
B - 29	<i>1220</i>		<i>0.0</i>	<i>-0.05</i>	<i>0.1</i>	<i>19.2</i>	<i>80.8</i>	<i>2</i>	
C - 45	<i>1222</i>		<i>0.0</i>	<i>-1.67</i>	<i>0.0</i>	<i>19.6</i>	<i>80.4</i>	<i>3</i>	
D - 61	<i>1225</i>		<i>0.0</i>	<i>-1.65</i>	<i>0.0</i>	<i>19.6</i>	<i>80.4</i>	<i>4</i>	
E - 77	<i>1229</i>		<i>0.0</i>	<i>-17.64</i>	<i>0.0</i>	<i>19.6</i>	<i>80.3</i>	<i>4</i>	
214									
A - 13	<i>1205</i>		<i>0.0</i>	<i>-1.15</i>	<i>1.6</i>	<i>16.8</i>	<i>81.6</i>	<i>2</i>	
B - 30	<i>1207</i>		<i>0.0</i>	<i>-1.60</i>	<i>0.0</i>	<i>16.8</i>	<i>81.2</i>	<i>2</i>	
C - 48	<i>1209</i>		<i>0.0</i>	<i>-14.70</i>	<i>0.0</i>	<i>19.3</i>	<i>80.7</i>	<i>3</i>	
215									
A - 13	<i>1150</i>		<i>0.0</i>	<i>+1.08</i>	<i>6.7</i>	<i>5.1</i>	<i>88.2</i>	<i>2</i>	
B - 30	<i>1152</i>		<i>0.0</i>	<i>+1.02</i>	<i>7.7</i>	<i>8.4</i>	<i>83.8</i>	<i>2</i>	
C - 47	<i>1154</i>		<i>0.0</i>	<i>+1.10</i>	<i>0.2</i>	<i>15.6</i>	<i>84.2</i>	<i>3</i>	
D - 64	<i>1157</i>		<i>0.0</i>	<i>+1.07</i>	<i>0.2</i>	<i>15.0</i>	<i>80.9</i>	<i>4</i>	
E - 81	<i>1201</i>		<i>0.0</i>	<i>+1.15</i>	<i>4.8</i>	<i>7.8</i>	<i>85.3</i>	<i>4</i>	
216									
A - 14	<i>1130</i>		<i>0.0</i>	<i>+1.07</i>	<i>0.0</i>	<i>19.8</i>	<i>80.2</i>	<i>2</i>	
B - 43	<i>1132</i>		<i>0.0</i>	<i>+1.07</i>	<i>0.0</i>	<i>19.9</i>	<i>80.1</i>	<i>2</i>	
C - 62	<i>1134</i>		<i>0.0</i>	<i>+1.06</i>	<i>0.0</i>	<i>19.9</i>	<i>80.1</i>	<i>3</i>	
D - 86	<i>1137</i>		<i>0.0</i>	<i>+1.07</i>	<i>0.0</i>	<i>19.8</i>	<i>80.2</i>	<i>4</i>	
E - 110	<i>1141</i>		<i>0.0</i>	<i>+1.1</i>	<i>0.0</i>	<i>19.6</i>	<i>80.3</i>	<i>4</i>	
217									
A - 13	<i>1120</i>		<i>0.0</i>	<i>+1.09</i>	<i>4.6</i>	<i>15.2</i>	<i>80.2</i>	<i>2</i>	
B - 30	<i>1122</i>		<i>0.0</i>	<i>+1.05</i>	<i>2.0</i>	<i>18.0</i>	<i>80.1</i>	<i>2</i>	
218									
<i>7.5</i>								<i>2</i>	<i>Removed Due to Construction</i>

RES SIGNATURE: *[Signature]*

LEA SIGNATURE: _____

**SUNSHINE CANYON LANDFILL – CITY
PERIMETER PROBE MONITORING DATA**


TECHNICIAN: Robert Johns					TEMPERATURE: 77°				
DATE: 9-20-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: Gem 5000/G500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
219									
A - 13	1100		0.0	1.14	0.2	19.4	80.5	2	
B - 64	1102		0.0	1.08	4.5	9.7	85.8	2	
C - 115	1104		0.0	1.10	0.1	18.9	81.1	3	
D - 166	1107		0.0	1.09	0.2	19.3	80.6	4	
E - 217	1111		0.0	1.07	0.3	19.1	80.6	4	
220									
A - 14	1030		0.0	1.09	1.0	16.4	80.6	2	
B - 40	1032		0.0	1.08	0.3	19.2	80.5	2	
C - 87	1034		0.0	1.12	0.1	19.6	80.3	3	
D - 124	1037		0.0	1.14	1.2	17.7	81.1	4	
E - 158	1041		0.0	1.18	0.1	19.2	80.7	4	
220B									
A - 14	1010		0.0	1.07	1.1	18.6	80.4	2	
B - 38	1012		0.0	1.27	0.1	19.9	80.0	2	
C - 62	1014		0.0	1.07	3.6	14.3	82.1	3	
D - 86	1017		0.0	1.14	2.6	15.7	81.7	4	
E - 110	1021		0.0	1.05	1.9	15.9	82.2	4	
221									
A - 13	0950		0.0	1.02	1.0	18.8	80.2	2	
B - 56	0952		0.0	1.07	0.1	19.9	80.0	2	
C - 99	0954		0.0	2.05	7.3	4.9	87.8	3	
D - 142	0957		0.0	1.09	0.0	20.0	80.0	4	
E - 185	1001		0.0	1.05	0.1	20.0	79.9	4	
222									
A - 13	1010		0.0	1.05	2.0	17.8	80.1	2	
B - 54.8	1012		0.0	1.05	0.0	19.7	80.3	2	
C - 96.5	1014		0.0	1.08	0.3	19.6	80.1	3	
D - 138.3	1017		0.0	1.07	0.1	20.0	79.9	4	
E - 180	1021		0.0	1.02	0.0	20.1	79.9	4	

RES SIGNATURE: 

LEA SIGNATURE: _____

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns				TEMPERATURE: 77°					
DATE: 9-20-16				WEATHER CONDITIONS: Sunny & Clear					
				INST & SERIAL #: Gm 500 / G50530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
223									
A - 13	0910		0.0	1.03	5.4	5.0	89.7	2	
B - 37.5	0912		0.0	1.05	6.9	3.2	70.0	2	
C - 62	0915		0.0	1.20	1.8	19.4	82.8	3	
D - 86.5	0928		0.0	1.10	0.4	18.4	81.2	4	
E - 111	0942		0.0	1.10	1.0	18.0	81.0	4	
224									
A - 13	0900		0.0	1.07	0.5	19.3	80.2	2	
B - 67.5	0902		0.0	1.12	0.0	19.8	80.2	2	
C - 122	0904		0.0	1.07	0.0	19.9	80.1	3	
D - 177.5	0907		0.0	-13.03	0.0	19.9	80.1	4	
E - 232	0911		0.0	-9.52	0.0	19.9	80.0	4	
225									
A - 13	0830		0.0	-7.05	0.4	18.8	80.8	2	
B - 72	0832		0.0	-6.73	0.3	19.1	80.7	2	
C - 131	0834		0.0	-11.99	0.7	18.6	80.7	3	
D - 190	0837		0.0	-11.29	0.0	19.5	80.4	4	
E - 244	0841		0.0	-10.08	0.0	19.6	80.3	4	
226									
A - 13	0735		0.0	1.08	0.1	19.8	80.1	2	
B - 64	0737		0.0	1.06	0.1	19.9	80.1	2	
C - 114	0739		0.0	1.06	0.1	19.9	80.1	3	
D - 164	0742		0.0	-12.79	0.1	19.9	80.0	4	
E - 208	0746		0.0	-12.80	0.1	19.9	80.0	4	
227									
A - 13	0750		0.0	1.04	0.7	19.2	80.1	2	
B - 48.7	0752		0.0	-7.34	0.2	19.6	80.1	2	
C - 84.4	0754		0.0	-13.2	0.8	18.8	80.4	3	
D - 114	0757		0.0	-7.51	0.5	18.9	80.6	4	
E - 115.7	0801		0.0	-7.31	0.1	18.9	81.0	4	

RES SIGNATURE: 

LEA SIGNATURE: _____

**SUNSHINE CANYON LANDFILL – CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns					TEMPERATURE: 77°				
DATE: 9-20-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: Gem 5000/4500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
228									
A - 13	0810		0.0	+1.38	0.1	16.8	81.1	2	
B - 63	0812		0.0	-2.02	0.7	17.4	81.9	2	
C - 113	0814		0.0	-2.23	0.0	18.8	81.1	3	
D - 163	0817		0.0	-0.38	0.3	18.6	81.1	4	
E - 213	0821		0.0	-1.49	0.3	16.7	81.0	4	
229									
A - 13	0720		0.0	+1.01	0.1	20.1	79.8	2	
B - 48.7	0722		0.0	+1.03	0.1	20.0	79.9	2	
C - 84.4	0724		0.0	+1.06	0.1	19.9	80.0	3	
D - 114	0727		0.0	+1.03	0.1	19.9	80.1	4	
E - 155.7	0731		0.0	+1.04	0.1	19.9	80.1	4	
230									Removed
A - 16								2	Due to
B - 33								2	Construction
C - 50								3	
231									Removed Due to Construction
A - 13								2	
B - 26								2	
C - 39								3	
D - 51								4	
E - 66								4	
241									
A - 13	1235		0.0	-15.46	0.0	19.7	80.3	2	
B - 28	1237		0.0	-22.58	0.0	19.7	80.2	2	
C - 47	1238		0.0	-3.22	0.0	19.8	80.2	3	
D - 64	1241		0.0	-28.03	0.0	19.6	80.2	4	
E - 85	1245		0.0	-27.23	0.0	19.6	80.2	4	

RES SIGNATURE: Robert Johns

LEA SIGNATURE: _____

GAS MONITORING EQUIPMENT CALIBRATION

DATE	UNIT	SERIAL #	CAL GAS
9-20-16	Gem 5000	G1890530	15 % City

SIGNATURE: 



SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA


TEMPERATURE: 67°
WEATHER CONDITIONS: Clear Light
INST & SERIAL #: Gen 5000 / G500530

RES SIGNATURE:

LEA SIGNATURE: _____

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns					TEMPERATURE: 670				
DATE: 9-22-16					WEATHER CONDITIONS: Overcast				
					INST & SERIAL #: Gem 5000 / 4500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL.	PURGE TIME (min)	COMMENTS
242									
C - 42	0910		0.0	+0.08	5.1	10.1	84.8	3	
D - 60	0913		0.0	1.07	6.1	9.7	84.2	4	
E - 78	0917		0.0	1.09	8.8	3.5	87.7	4	
243									
A - 11	0945		0.0	1.05	5.4	10.7	83.9	2	
B - 20	0947		0.0	1.16	5.4	9.7	85.0	2	
C - 33	0950		0.0	1.20	3.9	12.8	83.3	3	
244									
A - 11	0935		0.0	0.0	10.2	11.1	78.7	2	
B - 21	0937		0.0	1.12	10.4	10.6	79.0	2	
C - 36	0939		0.0	1.05	7.9	14.4	77.7	3	
245									
A - 11	1000		0.0	1.10	13.4	6.6	80.0	2	
B - 20	1002		0.0	1.06	24.3	1.4	74.3	2	
C - 35	1004		0.0	1.03	8.0	13.4	78.6	3	
D - 50	1007		0.0	1.0	6.3	14.4	79.3	4	
E - 64	1011		0.0	-1.24	0.1	20.0	79.8	4	
246									
A - 9								2	Removed Due to Construction
B - 16								2	
205R									
A - 11	0730		0.0	1.09	12.2	10.1	77.7	2	
B - 20	0732		0.4	1.01	32.0	0.1	67.5	2	
C - 33	0734		1.2	1.23	40.9	0.0	57.8	3	
D - 48	0737		2.2	1.15	45.8	0.0	52.0	4	
E - 62	0741		1.8	1.14	43.6	0.0	54.6	4	

RES SIGNATURE: 

LEA SIGNATURE: 



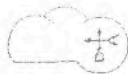
Environmental Inc.

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns					TEMPERATURE: 67°				
DATE: 9-22-16					WEATHER CONDITIONS: Overcast				
					INST & SERIAL #: Gem 5000 / 4580530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
239									
A - 11	0830		0.0	1.03	5.3	16.1	78.5	2	
B - 20	0832		0.0	1.02	0.2	20.4	79.4	2	
C - 35	0834		0.0	1.05	0.1	20.7	79.3	3	
D - 50	0837		0.0	1.04	0.1	20.6	79.2	4	
E - 64	0841		0.0	1.01	0.1	20.7	79.2	4	
240									
A - 11	0850		0.0	1.01	23.5	0.4	75.8	2	
B - 20	0852		0.0	1.04	0.1	20.7	79.2	2	
C - 33	0854		0.0	1.07	0.1	20.8	79.2	3	
D - 49	0857		0.0	1.07	0.1	20.8	79.1	4	
E - 61	0901		0.2	1.03	0.1	20.5	79.0	4	

RES SIGNATURE:

LEA SIGNATURE:



SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

[illegible]

RES SIGNATURE:

LEA SIGNATURE: _____



GAS MONITORING EQUIPMENT CALIBRATION

[illegible]

SIGNATURE:

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NEXT MONTH 11-15-16

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <u>Robert Johns</u>					TEMPERATURE: <u>70°</u>				
DATE: <u>10-18-16</u>					WEATHER CONDITIONS: <u>Sunny 80/60 mph Windy</u>				
					INST & SERIAL #: <u>Gem 5700 / 500130</u>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
213									
A-13	1215		0.0	+1.02	4.0	15.3	80.6	2	
B-29	1217		0.0	+1.01	0.1	19.6	80.3	2	
C-45	1219		0.0	-1.45	0.1	20.1	79.9	3	
D-61	1222		0.0	-1.58	0.1	20.2	79.7	4	
E-77	1226		0.0	-16.33	0.1	20.2	79.7	4	
214									
A-13	1202		0.0	+1.03	2.3	14.2	83.5	2	
B-30	1204		0.0	-1.01	0.3	18.1	81.6	2	
C-48	1206		0.0	+1.02	0.4	19.4	80.4	3	
215									
A-13	1146		0.0	+1.12	6.1	7.8	86.1	2	
B-30	1148		0.0	-1.14	7.2	9.7	83.1	2	
C-47	1150		0.0	+1.46	0.1	19.4	80.4	3	
D-64	1153		0.0	-1.05	0.2	19.4	80.0	4	
E-81	1157		0.0	+1.10	5.0	10.2	84.8	4	
216									
A-14	1130		0.0	+1.06	1.7	17.0	81.3	2	
B-43	1132		0.0	1.0	0.2	19.7	80.1	2	
C-62	1134		0.0	+1.03	0.1	20.0	79.9	3	
D-86	1136		0.0	+1.05	0.1	20.0	79.8	4	
E-110	1141		0.0	+1.06	0.3	19.7	80.0	4	
217									
A-13	1110		0.0	+1.04	4.2	16.5	79.3	2	
B-30	1112		0.0	-1.02	3.2	17.5	79.3	2	
218									
7.5								2	Removed Due to construction

RES SIGNATURE: _____

LEA SIGNATURE: _____



Environmental Inc.

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns					TEMPERATURE: 62°				
DATE: 10-18-16					WEATHER CONDITIONS: Windy				
					INST & SERIAL #: 4cm 5000 / 4500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
219									
A - 13	1050		0.0	+1.05	0.9	19.2	80.0	2	
B - 64	1052		0.0	+1.10	6.0	7.0	86.9	2	
C - 115	1054		0.0	+1.05	0.1	20.2	79.7	3	
D - 166	1057		0.0	+1.03	0.1	20.4	79.5	4	
E - 217	1101		0.0	+1.05	0.1	20.7	79.3	4	
220									
A - 14	1032		0.0	+1.04	1.6	18.5	79.9	2	
B - 40	1034		0.0	+1.02	0.8	19.6	79.7	2	
C - 87	1036		0.0	+1.04	0.1	20.6	79.3	3	
D - 124	1039		0.0	-1.03	0.1	20.9	79.0	4	
E - 158	1042		0.0	-1.01	2.3	17.7	80.0	4	
220B									
A - 14	1010		0.0	+1.04	0.2	19.8	80.0	2	
B - 38	1012		0.0	+1.01	0.1	20.0	80.0	2	
C - 62	1014		0.0	-1.12	4.9	12.1	83.0	3	
D - 86	1016		0.0	-1.17	2.6	16.1	81.3	4	
E - 110	1021		0.0	-1.29	1.9	17.5	80.6	4	
221									
A - 13	0930		0.0	+1.01	0.12	20.2	79.5	2	
B - 56	0932		0.0	-1.11	0.12	20.2	79.6	2	
C - 99	0934		0.0	-1.21	0.4	19.9	79.8	3	
D - 142	0937		0.0	-1.09	0.1	20.1	79.9	4	
E - 185	0941		0.0	+1.19	0.1	19.9	80.1	4	
222									
A - 13	0950		0.0	+1.30	1.5	18.2	80.2	2	
B - 54.8	0952		0.0	+1.01	0.1	19.5	80.4	2	
C - 96.5	0954		0.0	+1.03	0.2	19.4	80.3	3	
D - 138.3	0957		0.0	+1.02	2.9	16.4	80.7	4	
E - 180	1001		0.0	0	0.1	19.7	80.2	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**


TECHNICIAN: Robert Johns					TEMPERATURE: 61°				
DATE: 10-18-16					WEATHER CONDITIONS: Wind,				
					INST & SERIAL #: Gerni Saw/GS20530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (-/+)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
223									
A - 13	0910		0.0	-1.01	5.2	4.8	0.0.0	2	
B - 37.5	0912		0.0	-1.03	0.1	4.6	89.3	2	
C - 62	0914		0.0	-1.18	2.5	14.3	83.1	3	
D - 86.5	0916		0.0	0	0.9	18.5	80.6	4	
E - 111	0921		0.0	-0.1	2.3	14.6	83.1	4	
224									
A - 13	0850		0.0	-1.12	0.1	20.9	79.0	2	
B - 67.5	0852		0.0	-1.05	0.1	21.0	79.0	2	
C - 122	0854		0.0	-1.01	0.1	21.0	79.0	3	
D - 177.5	0857		0.0	-12.91	0.1	21.0	79.0	4	
E - 232	0901		0.0	-1.26	0.1	21.0	79.0	4	
225									
A - 13	0830		0.0	-1.18	0.6	20.1	79.3	2	
B - 72	0832		0.0	-6.90	0.3	20.6	79.1	2	
C - 131	0834		0.0	-11.90	0.1	20.9	79.0	3	
D - 190	0837		0.0	-11.03	0.1	20.9	79.0	4	
E - 244	0841		0.0	-9.88	0.1	20.9	79.0	4	
226									
A - 13	0720		0.0	-1.10	0.1	20.8	79.1	2	
B - 64	0722		0.0	-13.22	0.1	20.7	79.2	2	
C - 114	0724		0.0	-11.53	0.1	20.7	79.2	3	
D - 164	0727		0.0	-12.71	0.1	20.8	79.2	4	
E - 208	0731		0.0	-12.07	0.1	20.8	79.1	4	
227									
A - 13	0845		0.0	-1.04	3.0	11.6	85.4	2	
B - 48.7	0847		0.0	-1.10	6.1	4.7	89.2	2	
C - 84.4	0849		0.0	-1.02	5.3	3.4	91.3	3	
D - 114	0852		0.0	-1.13	4.2	1.5	94.3	4	
E - 115.7	0856		0.0	1.0	4.1	3.6	92.3	4	


RES SIGNATURE: 

LEA SIGNATURE: 

SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns				TEMPERATURE: 61°					
DATE: 10-18-16				WEATHER CONDITIONS: Windy					
				INST & SERIAL #: Gcm 5200 / G500.530					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
228									
A-13	0810		0.0	-1.01	0.9	18.9	80.2	2	
B-63	0812		0.0	1.01	1.8	17.2	81.0	2	
C-113	0814		0.3	+1.26	5.4	5.4	88.9	3	
D-163	0817		0.0	+1.05	3.5	6.8	89.7	4	
E-213	0821		0.0	-1.09	2.8	7.0	89.2	4	
229									
A-13	0700		0.0	-1.70	1.0	17.9	81.1	2	
B-48.7	0702		0.0	-15.6	0.1	20.3	79.7	2	
C-84.4	0704		0.0	-16.44	0.1	20.3	79.6	3	
D-114	0707		0.0	-16.33	0.1	20.4	79.5	4	
E-155.7	0711		0.0	-25.81	0.1	20.5	79.5	4	
230									
A-16								2	Removed Due to Construction
B-33								2	
C-50								3	
231									
A-13								2	Removed Due to Construction
B-26								2	
C-39								3	
D-51								4	
E-66								4	
241									
A-13	1232		0.0	-13.32	0.0	20.1	79.8	2	
B-28	1234		0.0	-19.32	0.0	20.2	79.8	2	
C-47	1236		0.0	-2.51	0.0	20.2	79.8	2	
D-64	1239		0.0	-24.42	0.0	20.2	79.8	4	
E-85	1242		0.0	-22.74	0.0	20.2	79.8	4	

RES SIGNATURE: 

LLA SIGNATURE: 

GAS MONITORING EQUIPMENT CALIBRATION

DATE	UNIT	SERIAL #	CAL GAS
10-18-16	Gem 5000	G500530	15% CH ₄
10-18-16	TKA 1000B	1030945322	500ppm CH ₄

SIGNATURE: 

NEXT MONTH 11-17-16

**SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Whus				TEMPERATURE: 70°					
DATE: 10-20-16				WEATHER CONDITIONS: Windy					
				INST & SERIAL #: Gem Survey GSUJS30					
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
202									
A - 10								2	Removed Due to Constraints
B - 25								2	
C - 38								3	
203									
A - 10	0650		0.0	1.0	1.7	18.9	79.4	2	
B - 25	0652		0.0	1.03	2.1	18.5	79.4	2	
C - 40	0654		0.0	-1.03	1.5	16.8	79.7	3	
206									
A - 10	0730		0.0	1.04	10.1	10.7	79.2	2	
B - 25	0732		0.0	-1.02	13.2	9.1	77.7	2	
C - 38	0734		0.0	1.0	18.2	7.0	74.8	3	
207									
A - 10	0720		0.0	-1.54	0.1	20.3	79.7	2	
B - 25	0722		0.0	-1.51	0.3	19.2	80.5	2	
C - 40	0724		0.0	-1.02	0.1	20.2	79.7	3	
208									
A - 9.1	0710		0.0	-1.02	0.3	19.9	79.8	2	
B - 25	0712		0.0	-1.04	7.2	14.1	78.7	2	
C - 40	0714		0.0	-1.03	7.5	13.1	79.4	3	
210									
A - 10	0810		0.0	-1.42	0.1	20.1	79.8	2	
B - 25	0812		0.0	-1.10	0.1	20.1	79.8	2	
C - 39	0814		0.0	-1.14	0.1	20.1	79.9	3	

RES SIGNATURE:

LEA SIGNATURE: _____

**SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns					TEMPERATURE: 70°				
DATE: 10-20-16					WEATHER CONDITIONS: Windy				
					INST & SERIAL #: G4m 5000 / G520530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
242									
C - 42	0920		0.0	10	3.4	13.2	83.3	3	
D - 60	0922		0.4	-103	8.3	4.2	87.2	4	
E - 78	0924		0.0	-101	5.6	9.0	85.4	4	
243									
A - 11	0940		0.0	-101	3.5	12.3	84.2	2	
B - 20	0942		0.0	-114	2.8	13.7	83.5	2	
C - 33	0944		0.0	-112	2.1	15.8	82.0	3	
244									
A - 11	0930		0.0	-104	11.3	7.9	80.8	2	
B - 21	0933		0.0	-104	9.7	11.0	79.3	2	
C - 36	0934		0.0	-108	11.4	11.4	77.2	3	
245									
A - 11	0950		0.0	-107	9.7	9.8	80.5	2	
B - 20	0952		0.0	-105	3.3	17.5	79.1	2	
C - 35	0954		0.0	-109	7.9	13.3	78.8	3	
D - 50	0957		0.0	-10	4.6	15.7	79.7	4	
E - 64	1001		0.0	-106	0.1	19.8	80.1	4	
246									
A - 9								2	Removed Due
B - 16								2	to Construction
205R									
A - 11	0740		0.0	10	10.4	11.5	78.1	2	
B - 20	0742		0.2	-122	29.5	1.9	68.4	2	
C - 33	0744		1.3	-127	40.5	0.0	58.2	3	
D - 48	0748		2.1	-106	44.8	0.0	53.1	4	
E - 62	0751		1.6	-93	42.7	0.0	55.7	4	

RES SIGNATURE: 

LEA SIGNATURE: 

**SUNSHINE CANYON – COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <i>K. J. [Signature]</i>					TEMPERATURE: 70°				
DATE: 10-20-16					WEATHER CONDITIONS: windy				
					INST & SERIAL #: Gen SWO / GSWX30				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
239									
A-11	0830		0.0	-18	14.6	8.0	77.4	2	
B-20	0832		0.0	-204	0.2	19.8	80.0	2	
C-35	0834		0.0	-1.01	20.4	20.4	79.5	3	
D-50	0837		0.0	+1.04	0.1	20.4	79.5	4	
E-64	0841		0.0	+1.02	0.1	20.3	79.6	4	
240									
A-11	0900		0.0	-106	12.3	10.3	77.4	2	
B-20	0902		0.0	-205	0.3	20.0	79.7	2	
C-33	0904		0.0	-1.01	0.1	20.4	79.6	3	
D-49	0907		0.0	+1.04	0.1	20.4	79.5	4	
E-61	0911		0.9	+1.01	0.1	20.3	79.7	4	

RES SIGNATURE: *[Signature]*

LEA SIGNATURE: *[Signature]*

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M



GAS MONITORING EQUIPMENT CALIBRATION

[illegible]

SIGNATURE: *[Signature]*


L.T.F. MONITORING

[illegible]

RES SIGNATURE: 

GAS MONITORING EQUIPMENT CALIBRATION

DATE	UNIT	SERIAL #	CAL GAS
10-18-16	Gen 5000	6520530	15 42 CH4
10-18-16	TRA 1000B	1030945322	500ppm CH4

SIGNATURE: 

**SUNSHINE CANYON BUILDING METER CALIBRATION
CONTINUOUS BUILDING MONITORING**

LOCATION	SERIAL NUMBER	DATE	CALIBRATION GAS	NOTES
LTP Trailer	Sierra 2001 0305501	10-20-16	1.0% by vol. CH ₄	
LEA Office	Sierra 2001 011853	10-20-16	1.0% by vol. CH ₄	
Scale House	Sierra 2001 011813	10-20-16	1.0% by vol. CH ₄	
Training Room	Sierra 2001 043130490M	10-20-16	1.0% by vol. CH ₄	
Scale House	Sierra 2001 043130409	10-20-16	1.0% by vol. CH ₄	
Men's Locker Room	Sierra 2001 043130409	10-20-16	1.0% by vol. CH ₄	
New Office North Hall	Sierra 2001 043130409	10-20-16	1.0% by vol. CH ₄	
New Office South Hall	Sierra 2001 043130409	10-20-16	1.0% by vol. CH ₄	

Technician: _____



Sushine Canyon Landfill Condensate Check

475 ppm

605 ppm

TREATED LEACHATE
AND CONDENSATE

Oct 18, 2016

10-20-16

All Clear

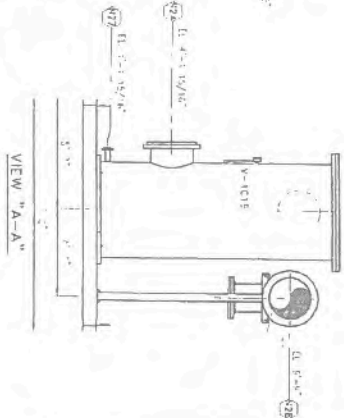
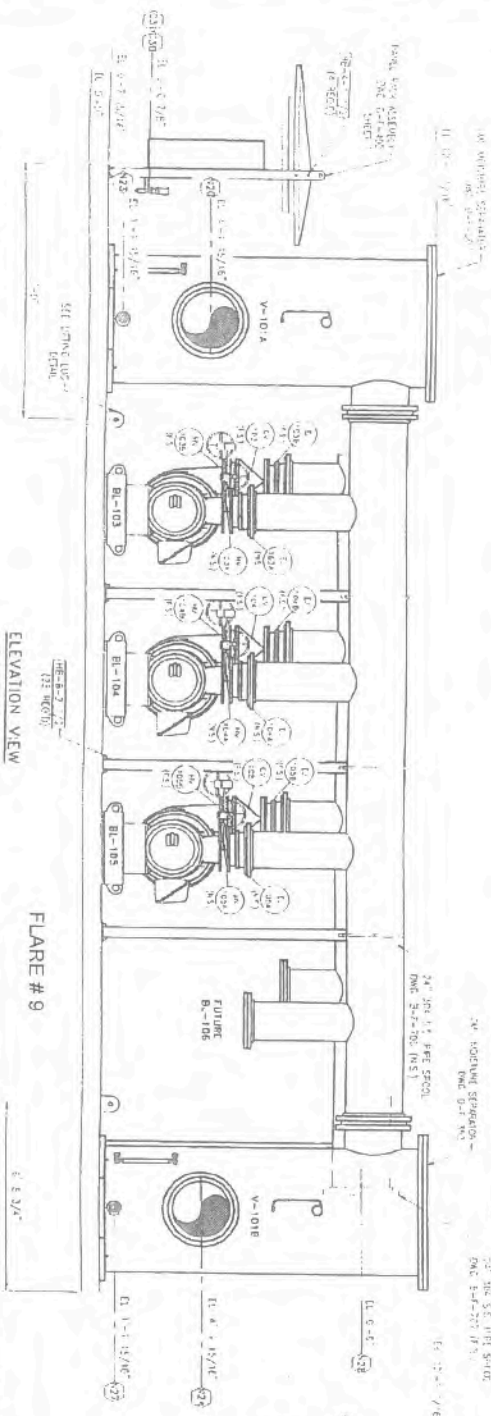
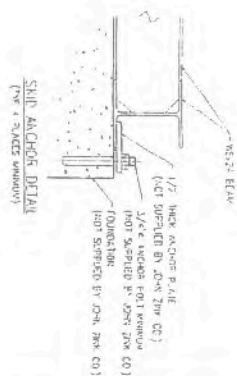
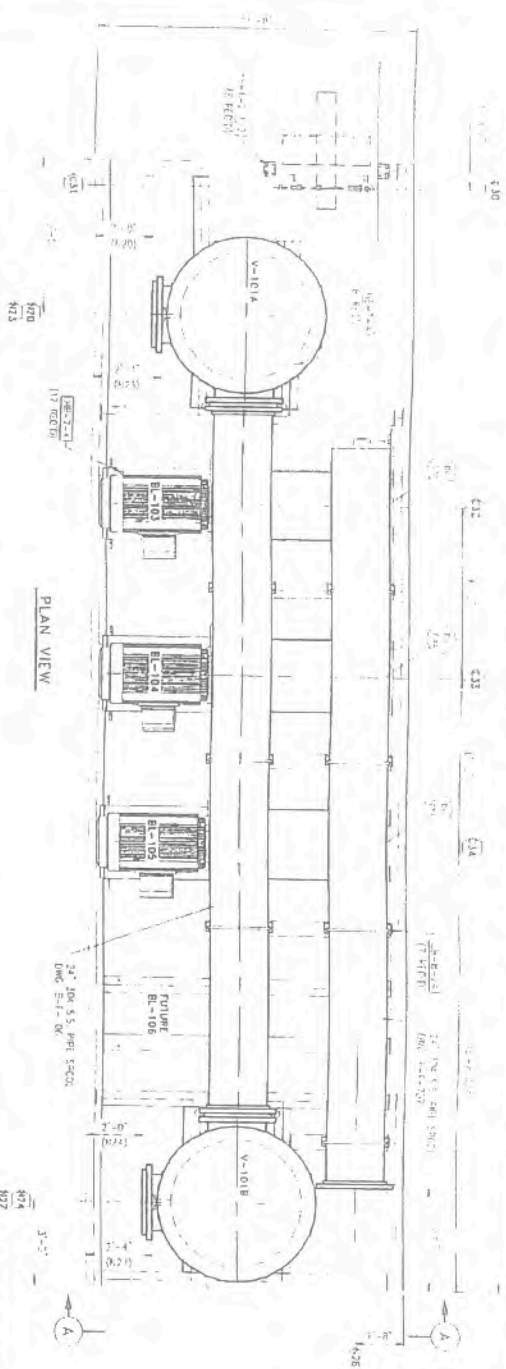
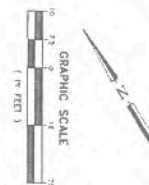


EXHIBIT VB

Flare Component Leak Testing

[illegible]

All Clin

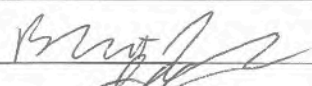


1. [tag]Hepburn's Goshawk; [tag]Fore 3 and 10; [tag]Red-bellied Goshawk; [tag]Five Stripes. Run tag 01/02/13 14:00:40 state:regul

NEXT MONTH 12-13-16

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <u>Robert Johns</u>					TEMPERATURE: <u>83°</u>				
DATE: <u>11-15-16</u>					WEATHER CONDITIONS: <u>Sunny 40/60</u>				
					INST & SERIAL #: <u>Gems 500 / G500530</u>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
213									
A - 13	1145		0.0	-0.06	3.0	15.8	81.2	2	
B - 29	1147		0.0	-0.05	0.1	19.9	80.0	2	
C - 45	1149		0.0	-0.37	0.0	20.6	79.4	3	
D - 61	1152		0.0	-0.42	0.1	20.6	79.4	4	
E - 77	1156		0.0	-20.91	0.0	20.6	79.4	4	
214									
A - 13	1135		0.0	+0.04	8.1	7.3	84.6	2	
B - 30	1137		0.0	+0.04	3.1	11.4	85.6	2	
C - 48	1139		0.0	+0.74	7.6	6.9	85.4	3	
215									
A - 13	1129		0.0	-0.01	7.2	3.1	89.6	2	
B - 30	1121		0.0	+0.01	8.2	7.9	83.9	2	
C - 47	1123		0.0	-0.06	0.1	20.4	79.6	3	
D - 64	1126		0.0	-0.04	0.2	20.1	79.7	4	
E - 81	1130		0.0	+0.01	0.1	20.6	79.4	4	
216									
A - 14	1103		0.0	+0.03	0.1	20.3	79.6	2	
B - 43	1105		0.0	-0.02	0.0	20.5	79.5	2	
C - 62	1107		0.0	+0.03	0.0	20.5	79.5	3	
D - 86	1110		0.0	+0.03	0.0	20.5	79.5	4	
E - 110	1114		0.0	+0.04	0.0	20.5	79.5	4	
217									
A - 13	1056		0.0	-0.03	3.8	16.6	79.6	2	
B - 30	1058		0.0	-0.01	2.9	17.6	79.5	2	
218									
7.5								2	Probe Removed Due to construction

RES SIGNATURE: 

LEA SIGNATURE: 

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns DATE: 11-15-10					TEMPERATURE: 83° WEATHER CONDITIONS: Sunny & Clear INST & SERIAL #: Green 500 / 00000				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
219									
A - 13	1041		0.0	1.0	0.3	19.8	79.9	2	
B - 64	1042		0.0	1.01	4.4	9.7	85.7	2	
C - 115	1044		0.0	1.03	0.1	20.3	79.7	3	
D - 166	1047		0.0	1.16	0.0	20.0	80.0	4	
E - 217	1051		0.0	1.0	1.0	18.3	80.7	4	
220									
A - 14	1025		0.0	1.04	1.1	18.8	80.1	2	
B - 40	1027		0.0	1.03	0.1	19.9	80.0	2	
C - 87	1029		0.0	1.01	1.9	19.9	80.0	3	
D - 124	1032		0.0	1.06	0.1	20.0	79.9	4	
E - 158	1036		0.0	1.05	0.1	20.0	79.9	4	
220B									
A - 14	1010		0.0	1.0	0.1	19.8	80.1	2	
B - 38	1012		0.0	1.02	0.3	19.5	80.2	2	
C - 62	1014		0.0	1.03	0.9	18.8	80.3	3	
D - 86	1017		0.0	1.01	2.1	16.9	81.0	4	
E - 110	1020		0.0	1.0	1.1	18.3	80.6	4	
221									
A - 13	0938		0.0	1.02	0.3	20.0	79.7	2	
B - 56	0940		0.0	1.10	0.1	20.2	79.7	2	
C - 99	0942		0.0	1.12	3.9	13.2	82.8	3	
D - 142	0945		0.0	1.08	1.2	16.7	82.1	4	
E - 185	0949		0.0	1.12	0.4	19.5	80.1	4	
222									
A - 13	0955		0.0	1.10	1.9	18.0	80.1	2	
B - 54.8	0957		0.0	1.09	0.1	20.0	80.0	2	
C - 96.5	0959		0.0	1.14	0.4	19.6	80.0	3	
D - 138.3	1002		0.0	1.11	0.1	19.8	80.0	4	
E - 180	1006		0.0	1.07	0.0	20.0	80.0	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <i>Robert Johns</i>					TEMPERATURE: <i>83°</i>				
DATE: <i>11-15-16</i>					WEATHER CONDITIONS: <i>Sunny 66/40</i>				
					INST & SERIAL #: <i>67500/6500530</i>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
223									
A - 13	<i>0922</i>		<i>0.0</i>	<i>+1.15</i>	<i>4.5</i>	<i>6.9</i>	<i>88.6</i>	<i>2</i>	
B - 37.5	<i>0924</i>		<i>0.0</i>	<i>+1.14</i>	<i>1.8</i>	<i>15.1</i>	<i>83.0</i>	<i>2</i>	
C - 62	<i>0926</i>		<i>0.0</i>	<i>+1.09</i>	<i>3.2</i>	<i>11.6</i>	<i>85.3</i>	<i>3</i>	
D - 86.5	<i>0929</i>		<i>0.0</i>	<i>+1.08</i>	<i>2.1</i>	<i>14.6</i>	<i>83.3</i>	<i>4</i>	
E - 111	<i>0933</i>		<i>0.0</i>	<i>+1.12</i>	<i>2.7</i>	<i>12.3</i>	<i>84.9</i>	<i>4</i>	
224									
A - 13	<i>0907</i>		<i>0.0</i>	<i>+1.06</i>	<i>0.0</i>	<i>19.8</i>	<i>80.2</i>	<i>2</i>	
B - 67.5	<i>0909</i>		<i>0.0</i>	<i>+1.13</i>	<i>0.0</i>	<i>19.8</i>	<i>80.2</i>	<i>2</i>	
C - 122	<i>0911</i>		<i>0.0</i>	<i>+1.05</i>	<i>0.0</i>	<i>19.9</i>	<i>80.1</i>	<i>3</i>	
D - 177.5	<i>0914</i>		<i>0.0</i>	<i>-12.25</i>	<i>0.0</i>	<i>19.9</i>	<i>80.0</i>	<i>4</i>	
E - 232	<i>0918</i>		<i>0.0</i>	<i>-8.74</i>	<i>0.0</i>	<i>20.0</i>	<i>79.9</i>	<i>4</i>	
225									
A - 13	<i>0852</i>		<i>0.0</i>	<i>-7.08</i>	<i>0.3</i>	<i>19.2</i>	<i>80.5</i>	<i>2</i>	
B - 72	<i>0854</i>		<i>0.0</i>	<i>-6.45</i>	<i>0.2</i>	<i>19.3</i>	<i>80.5</i>	<i>2</i>	
C - 131	<i>0856</i>		<i>0.0</i>	<i>-11.38</i>	<i>0.1</i>	<i>19.5</i>	<i>80.4</i>	<i>3</i>	
D - 190	<i>0859</i>		<i>0.0</i>	<i>-10.52</i>	<i>0.0</i>	<i>19.6</i>	<i>80.4</i>	<i>4</i>	
E - 244	<i>0902</i>		<i>0.0</i>	<i>-9.36</i>	<i>0.0</i>	<i>19.6</i>	<i>80.3</i>	<i>4</i>	
226									
A - 13	<i>0805</i>		<i>0.0</i>	<i>+1.03</i>	<i>0.1</i>	<i>20.0</i>	<i>80.0</i>	<i>2</i>	
B - 64	<i>0807</i>		<i>0.0</i>	<i>-6.91</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>2</i>	
C - 114	<i>0809</i>		<i>0.0</i>	<i>-11.34</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>3</i>	
D - 164	<i>0812</i>		<i>0.0</i>	<i>-12.44</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>4</i>	
E - 208	<i>0816</i>		<i>0.0</i>	<i>-11.90</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>4</i>	
227									
A - 13	<i>0820</i>		<i>0.0</i>	<i>+1.07</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>2</i>	
B - 48.7	<i>0822</i>		<i>0.0</i>	<i>+1.01</i>	<i>0.1</i>	<i>19.9</i>	<i>80.0</i>	<i>2</i>	
C - 84.4	<i>0824</i>		<i>0.0</i>	<i>-1.12</i>	<i>0.1</i>	<i>20.0</i>	<i>79.9</i>	<i>3</i>	
D - 114	<i>0827</i>		<i>0.0</i>	<i>-7.21</i>	<i>0.3</i>	<i>19.8</i>	<i>80.0</i>	<i>4</i>	
E - 115.7	<i>0831</i>		<i>0.0</i>	<i>-10.4</i>	<i>0.3</i>	<i>19.6</i>	<i>80.0</i>	<i>4</i>	

RES SIGNATURE: 

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**SUNSHINE CANYON LANDFILL – CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Jones					TEMPERATURE: 83°				
DATE: 11-15-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: Gem 500 / 6520530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
228									
A - 13	0836		0.0	+1.10	0.2	19.8	80.0	2	
B - 63	0838		0.0	+1.44	0.9	18.1	81.0	2	
C - 113	0840		0.0	+1.15	0.7	17.2	82.1	3	
D - 163	0843		0.0	-1.1	0.2	19.7	80.1	4	
E - 213	0847		0.0	-1.08	0.2	19.6	80.3	4	
229									
A - 13	0750		0.0	-1.50	0.4	18.9	80.4	2	
B - 48.7	0752		0.0	-14.92	0.1	20.2	79.8	2	
C - 84.4	0754		0.0	-16.11	0.1	20.3	79.7	3	
D - 114	0757		0.0	-17.48	0.1	20.2	79.7	4	
E - 155.7	0801		0.0	-25.61	0.1	20.2	79.8	4	
230									
A - 16								2	Removed Due to Construction
B - 33								2	
C - 50								3	
231									
A - 13								2	Removed Due to Construction
B - 26								2	
C - 39								3	
D - 51								4	
E - 66								4	
241									
A - 13	1201		0.0	-15.08	0.0	20.6	79.4	2	
B - 28	1203		0.0	-21.17	0.0	20.6	79.4	2	
C - 47	1205		0.0	-3.06	0.0	20.6	79.3	3	
D - 64	1208		0.0	-25.35	0.0	20.6	79.3	4	
E - 85	1212		0.0	-24.70	0.0	20.6	79.3	4	

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GAS MONITORING EQUIPMENT CALIBRATION

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12-15-16

**SUNSHINE CANYON – COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns						TEMPERATURE: 49°			
DATE: 11-17-16						WEATHER CONDITIONS: Sunny & Clear			
						INST & SERIAL #: Gen SW / G50230			
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
202									
A - 10								2	Removed Due to Construction
B - 25								2	
C - 38								3	
203									
A - 10	0650		0.0	.0	11.7	19.3	79.0	2	
B - 25	0652		0.0	-0.4	2.5	18.5	79.0	2	
C - 40	0654		0.0	-0.5	3.0	18.1	79.0	3	
206									
A - 10	0725		0.0	+0.2	9.7	11.0	79.3	2	
B - 25	0727		0.0	.0	14.1	8.0	77.9	2	
C - 38	0729		0.0	-0.5	17.8	7.9	74.3	3	
207									
A - 10	0708		0.0	-0.40	0.1	20.9	79.0	2	
B - 25	0710		0.0	+0.3	0.1	20.9	79.0	2	
C - 40	0712		0.0	-0.38	5.0	7.2	87.8	3	
208									
A - 9.1	0700		0.0	-0.4	0.6	20.4	79.0	2	
B - 25	0702		0.0	-0.5	6.4	15.6	78.1	2	
C - 40	0704		0.0	-0.8	10.3	11.1	78.6	3	
210									
A - 10	0830		0.0	-0.9	0.1	20.8	79.1	2	
B - 25	0832		0.0	-0.2	0.1	20.7	79.2	2	
C - 39	0834		0.0	+0.9	0.1	20.6	79.3	3	

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LEA SIGNATURE: [Signature]

**SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA**

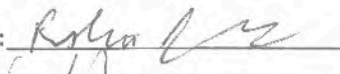
TECHNICIAN: Robert Johns					TEMPERATURE: 52°				
DATE: 11-17-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: GEM 5000 / G500S30				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
242									
C-42	0930		0.0	-0.1	4.0	11.4	84.5	3	
D-60	0932		0.0	-0.5	2.8	15.8	81.4	4	
E-78	0934		0.0	-0.2	7.6	5.1	87.3	4	
243									
A-11	1000		0.0	-0.3	6.1	8.7	85.2	2	
B-20	1002		0.0	-0.37	6.1	9.1	84.8	2	
C-33	1004		0.0	-0.1	3.0	15.2	81.8	3	
244									
A-11	0947		0.0	-0.4	13.1	7.5	79.5	2	
B-21	0949		0.0	-1.1	19.7	2.9	77.3	2	
C-36	0951		0.0	-1.10	15.2	9.1	75.8	3	
245									
A-11	1009		0.0	-0.4	8.4	12.4	79.2	2	
B-20	1011		0.0	-0.2	0.2	20.5	79.3	2	
C-35	1013		0.0	-0.1	6.7	15.5	77.9	3	
D-50	1014		0.0	-0.1	4.8	16.4	78.8	4	
E-64	1015		0.0	-0.2	10.1	20.6	79.3	4	
246									
A-9								2	Removed Due
B-16								2	to construction
205R									
A-11	0740		0.0	-0.4	10.7	11.5	77.8	2	
B-20	0742		0.2	-1.40	30.9	0.7	68.2	2	
C-33	0744		1.1	-0.83	40.2	0.0	58.6	3	
D-48	0747		2.0	-0.27	44.2	0.0	53.9	4	
E-62	0751		1.8	-0.29	43.9	0.0	54.2	4	

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**SUNSHINE CANYON – COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns					TEMPERATURE: 50°				
DATE: 11-17-16					WEATHER CONDITIONS: Sunny & Clear				
					INST & SERIAL #: 4mm S200/US42530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
239									
A-11	0840		0.0	-0.6	6.0	16.3	77.8	2	
B-20	0842		0.0	-0.2	0.1	20.7	79.1	2	
C-35	0844		0.0	-0.4	0.1	20.8	79.1	3	
D-50	0847		0.0	-0.4	0.1	20.8	79.1	4	
E-64	0851		0.0	-0.4	0.1	20.9	79.0	4	
240									
A-11	0900		0.0	-0.3	12.5	11.2	76.4	2	
B-20	0902		0.0	-1.6	0.2	20.8	79.0	2	
C-33	0904		0.0	-1.1	0.1	20.9	79.0	3	
D-49	0907		0.0	-1.04	0.1	21.0	78.9	4	
E-61	0911		0.6	-0.6	0.1	20.9	78.4	4	

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GAS MONITORING EQUIPMENT CALIBRATION

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NEXT MONTH 1-17-17

**SUNSHINE CANYON LANDFILL – CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns					TEMPERATURE: 52°				
DATE: 12-13-16					WEATHER CONDITIONS: Overcast / 60% humidity				
					INST & SERIAL #: Gm 5000 / 4500516				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
213									
A - 13	1209		0.0	-1.05	0.9	18.8	80.3	2	
B - 29	1211		0.0	-1.03	0.1	20.1	79.8	2	
C - 45	1213		0.0	-1.04	0.1	20.4	79.6	3	
D - 61	1216		0.0	-1.53	0.1	20.4	79.5	4	
E - 77	1220		0.0	-5.84	0.1	20.5	79.5	4	
214									
A - 13	1200		0.0	-1.0	6.8	5.4	87.8	2	
B - 30	1206		0.0	-1.02	9.2	5.8	84.9	2	
C - 48	1204		0.0	-1.10	4.5	13.3	82.2	3	
215									
A - 13	1140		0.0	+1.30	6.1	7.1	86.8	2	
B - 30	1142		0.0	+1.22	7.3	7.4	83.3	2	
C - 47	1144		0.0	+1.05	0.1	19.9	80.0	3	
D - 64	1147		0.0	+1.18	0.2	19.9	79.9	4	
E - 81	1151		0.0	+1.18	3.0	18.4	78.6	4	
216									
A - 14	1120		0.0	+1.02	0.2	20.2	79.6	2	
B - 43	1122		0.0	-1.15	0.6	19.9	79.5	2	
C - 62	1124		0.0	+1.03	0.1	20.4	79.6	3	
D - 86	1127		0.0	-1.01	0.1	20.3	79.6	4	
E - 110	1131		0.0	+1.05	0.1	20.3	79.6	4	
217									
A - 13	1110		0.0	-1.02	4.0	16.8	79.2	2	
B - 30	1112		0.0	-1.02	2.4	18.4	79.3	2	
218 R									
A7.5	1240		0.0	+1.02	25.9	5.9	68.3	2	
B-	1242		0.0	+1.03	25.0	1.0	64.0		
C-	1244		0.0	+1.05	24.9	9.9	60.3		

RES SIGNATURE: 

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**SUNSHINE CANYON LANDFILL – CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns DATE: 12-13-16					TEMPERATURE: 52° WEATHER CONDITIONS: Overcast/Easy INST & SERIAL #: Gem 5000/G500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
219									
A - 13	1050		0.0	.0	0.4	20.1	79.5	2	
B - 64	1052		0.0	-1.03	1.7	16.9	81.4	2	
C - 115	1054		0.0	-1.02	0.1	20.4	79.5	3	
D - 166	1057		0.0	.0	0.1	20.4	79.5	4	
E - 217	1101		0.0	.0	0.9	18.9	80.2	4	
220									
A - 14	1030		0.0	-1.03	1.3	19.6	79.1	2	
B - 40	1032		0.0	-1.05	0.4	20.2	79.4	2	
C - 87	1034		0.0	-1.01	0.2	20.5	79.3	3	
D - 124	1037		0.0	-1.07	0.3	20.3	79.4	4	
E - 158	1041		0.0	-1.11	0.1	20.4	79.4	4	
220B									
A - 14	1000		0.0	-1.03	1.7	19.1	79.2	2	
B - 38	1002		0.0	-1.03	0.1	20.7	79.2	2	
C - 62	1004		0.0	-1.13	4.4	13.9	81.7	3	
D - 86	1007		0.0	-1.04	4.2	14.7	81.2	4	
E - 110	1011		0.0	-1.05	2.0	16.5	81.5	4	
221									
A - 13	0910		0.0	-1.05	0.5	20.1	79.4	2	
B - 56	0912		0.0	-1.05	0.2	20.5	79.3	2	
C - 99	0914		0.0	-1.35	0.3	20.5	79.2	3	
D - 142	0917		0.0	-1.08	0.1	20.7	79.3	4	
E - 185	0921		0.0	-1.03	0.1	20.7	79.3	4	
222									
A - 13	0940		0.0	-1.02	1.8	19.0	79.3	2	
B - 54.8	0942		0.0	-1.04	0.1	20.2	79.7	2	
C - 96.5	0944		0.0	-1.05	0.1	20.6	79.3	3	
D - 138.3	0947		0.0	-1.03	0.1	20.6	79.3	4	
E - 180	0951		0.0	-1.04	0.1	20.7	79.3	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____

**SUNSHINE CANYON LANDFILL - CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <i>Robert Johns</i>					TEMPERATURE: <i>52°</i>				
DATE: <i>12-13-16</i>					WEATHER CONDITIONS: <i>overcast/Foggy</i>				
					INST & SERIAL #: <i>Germ 5000 / G-500530</i>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
223									
A - 13	<i>0830</i>		<i>0.0</i>	<i>-1.69</i>	<i>5.1</i>	<i>3.8</i>	<i>91.0</i>	<i>2</i>	
B - 37.5	<i>0832</i>		<i>0.0</i>	<i>+1.21</i>	<i>6.5</i>	<i>2.8</i>	<i>90.7</i>	<i>2</i>	
C - 62	<i>0834</i>		<i>0.0</i>	<i>-1.01</i>	<i>5.0</i>	<i>5.7</i>	<i>86.3</i>	<i>3</i>	
D - 86.5	<i>0837</i>		<i>0.0</i>	<i>+1.05</i>	<i>1.3</i>	<i>17.5</i>	<i>81.3</i>	<i>4</i>	
E - 111	<i>0841</i>		<i>0.0</i>	<i>-1.02</i>	<i>2.8</i>	<i>12.4</i>	<i>84.8</i>	<i>4</i>	
224									
A - 13	<i>0809</i>		<i>0.0</i>	<i>-1.07</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>2</i>	
B - 67.5	<i>0811</i>		<i>0.0</i>	<i>-1.09</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>2</i>	
C - 122	<i>0813</i>		<i>0.0</i>	<i>-1.03</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>3</i>	
D - 177.5	<i>0816</i>		<i>0.0</i>	<i>-13.06</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>4</i>	
E - 232	<i>0820</i>		<i>0.0</i>	<i>-9.61</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>4</i>	
225									
A - 13	<i>0750</i>		<i>0.0</i>	<i>-1.17</i>	<i>0.5</i>	<i>20.4</i>	<i>79.1</i>	<i>2</i>	
B - 72	<i>0752</i>		<i>0.0</i>	<i>-3.60</i>	<i>0.3</i>	<i>20.6</i>	<i>79.1</i>	<i>2</i>	
C - 131	<i>0754</i>		<i>0.0</i>	<i>-9.20</i>	<i>0.7</i>	<i>20.2</i>	<i>79.1</i>	<i>3</i>	
D - 190	<i>0757</i>		<i>0.0</i>	<i>-9.84</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>4</i>	
E - 244	<i>0801</i>		<i>0.0</i>	<i>-8.48</i>	<i>0.1</i>	<i>20.8</i>	<i>79.1</i>	<i>4</i>	
226									
A - 13	<i>0650</i>		<i>0.0</i>	<i>-1.02</i>	<i>0.1</i>	<i>20.2</i>	<i>79.7</i>	<i>2</i>	
B - 64	<i>0652</i>		<i>0.0</i>	<i>-13.23</i>	<i>0.1</i>	<i>20.2</i>	<i>79.6</i>	<i>2</i>	
C - 114	<i>0654</i>		<i>0.0</i>	<i>-11.20</i>	<i>0.1</i>	<i>20.3</i>	<i>79.6</i>	<i>3</i>	
D - 164	<i>0657</i>		<i>0.0</i>	<i>-12.86</i>	<i>0.1</i>	<i>20.4</i>	<i>79.5</i>	<i>4</i>	
E - 208	<i>0701</i>		<i>0.0</i>	<i>-12.47</i>	<i>0.2</i>	<i>20.8</i>	<i>79.0</i>	<i>4</i>	
227									
A - 13	<i>0705</i>		<i>0.0</i>	<i>-1.05</i>	<i>0.5</i>	<i>20.4</i>	<i>79.0</i>	<i>2</i>	
B - 48.7	<i>0707</i>		<i>0.0</i>	<i>-1.30</i>	<i>0.5</i>	<i>20.4</i>	<i>79.1</i>	<i>2</i>	
C - 84.4	<i>0709</i>		<i>0.0</i>	<i>-1.29</i>	<i>0.6</i>	<i>20.4</i>	<i>79.0</i>	<i>3</i>	
D - 114	<i>0712</i>		<i>0.0</i>	<i>-1.60</i>	<i>0.4</i>	<i>20.6</i>	<i>79.0</i>	<i>4</i>	
E - 115.7	<i>0716</i>		<i>0.0</i>	<i>-1.36</i>	<i>0.4</i>	<i>20.5</i>	<i>79.1</i>	<i>4</i>	

RES SIGNATURE: 

LEA SIGNATURE: 

**SUNSHINE CANYON LANDFILL – CITY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: <i>Robert Johns</i>					TEMPERATURE: <i>52°</i>				
DATE: <i>12-13-16</i>					WEATHER CONDITIONS: <i>Overcast / Foggy</i>				
					INST & SERIAL #: <i>Gem 5000 / G500536</i>				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME	COMMENTS
228									
A - 13	<i>0730</i>		<i>0.0</i>	<i>.0</i>	<i>0.1</i>	<i>20.9</i>	<i>79.1</i>	<i>2</i>	
B - 63	<i>0732</i>		<i>0.0</i>	<i>-42</i>	<i>0.1</i>	<i>20.9</i>	<i>79.0</i>	<i>2</i>	
C - 113	<i>0734</i>		<i>0.0</i>	<i>-23</i>	<i>0.2</i>	<i>20.4</i>	<i>79.0</i>	<i>3</i>	
D - 163	<i>0737</i>		<i>0.0</i>	<i>-47</i>	<i>0.3</i>	<i>20.7</i>	<i>79.0</i>	<i>4</i>	
E - 213	<i>0741</i>		<i>0.0</i>	<i>-60</i>	<i>0.3</i>	<i>20.7</i>	<i>79.0</i>	<i>4</i>	
229									
A - 13	<i>0630</i>		<i>0.0</i>	<i>-1.41</i>	<i>0.5</i>	<i>19.8</i>	<i>79.6</i>	<i>2</i>	
B - 48.7	<i>0632</i>		<i>0.0</i>	<i>-14.90</i>	<i>0.1</i>	<i>20.1</i>	<i>79.8</i>	<i>2</i>	
C - 84.4	<i>0634</i>		<i>0.0</i>	<i>-16.13</i>	<i>0.1</i>	<i>20.1</i>	<i>79.8</i>	<i>3</i>	
D - 114	<i>0637</i>		<i>0.0</i>	<i>-18.48</i>	<i>0.1</i>	<i>20.1</i>	<i>79.9</i>	<i>4</i>	
E - 155.7	<i>0641</i>		<i>0.0</i>	<i>-25.97</i>	<i>0.1</i>	<i>20.1</i>	<i>79.9</i>	<i>4</i>	
230									
A - 16								<i>2</i>	<i>Removed Due to Construction</i>
B - 33								<i>2</i>	
C - 50								<i>3</i>	
231									
A - 13								<i>2</i>	<i>Removed Due to Construction</i>
B - 26								<i>2</i>	
C - 39								<i>3</i>	
D - 51								<i>4</i>	
E - 66								<i>4</i>	
241									
A - 13	<i>1224</i>		<i>0.0</i>	<i>-14.56</i>	<i>0.1</i>	<i>20.5</i>	<i>79.5</i>	<i>2</i>	
B - 28	<i>1226</i>		<i>0.0</i>	<i>-18.52</i>	<i>0.1</i>	<i>20.5</i>	<i>79.4</i>	<i>2</i>	
C - 47	<i>1228</i>		<i>0.0</i>	<i>-2.59</i>	<i>0.1</i>	<i>20.5</i>	<i>79.4</i>	<i>3</i>	
D - 64	<i>1231</i>		<i>0.0</i>	<i>-22.49</i>	<i>0.1</i>	<i>20.5</i>	<i>79.4</i>	<i>4</i>	
E - 85	<i>1235</i>		<i>0.0</i>	<i>-19.73</i>	<i>0.1</i>	<i>20.5</i>	<i>79.4</i>	<i>4</i>	

RES SIGNATURE: *Robert Johns*

LEA SIGNATURE: *[Signature]*



GAS MONITORING EQUIPMENT CALIBRATION

[illegible]

SIGNATURE: Bruce

NEXT MONTH 1-19-17

SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: Robert Johns		TEMPERATURE: 50° WEATHER CONDITIONS: Overcast INST & SERIAL #: Gen 9000 / G500530							
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
202									Removed
A - 10								2	Due to Constantly
B - 25								2	
C - 38								3	
203									
A - 10	0650		0.0	+0.1	1.5	19.2	79.3	2	
B - 25	0653		0.0	+1.0	2.7	18.2	79.2	2	
C - 40	0656		0.0	-103	1.9	18.7	79.4	3	
206									
A - 10	0732		0.0	+0.1	6.4	14.0	79.6	2	
B - 25	0735		0.0	+0.1	10.1	12.3	77.7	2	
C - 38	0738		0.0	-10	16.0	9.0	75.0	3	
207									
A - 10	0720		0.0	-202	0.2	20.3	79.4	2	
B - 25	0723		0.0	-130	2.6	13.3	84.0	2	
C - 40	0724		0.0	+102	0.1	20.5	79.4	3	
208									
A - 9.1	0709		0.0	+0.2	2.0	18.4	79.5	2	
B - 25	0712		0.0	-0.1	2.9	13.1	79.0	2	
C - 40	0715		0.0	+0.3	7.5	13.2	79.5	3	
210									
A - 10	0800		0.0	-51	0.2	20.5	79.3	2	
B - 25	0803		0.0	-135	0.2	20.5	79.4	2	
C - 39	0806		0.0	+1.1	0.3	20.2	79.5	3	

RES SIGNATURE:

LEA SIGNATURE: _____

**SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Johns DATE: 12-15-16					TEMPERATURE: 50° WEATHER CONDITIONS: Overcast INST & SERIAL #: Grem 5200 / G500530				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	% CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
242									
C-42	0850		0.0	+1.03	3.1	13.1	83.8	3	
D-60	0853		0.1	-1.15	7.1	7.4	85.4	4	
E-78	0859		0.0	+1.06	5.6	7.2	87.2	4	
243									
A-11	0940		0.0	+1.19	5.1	9.6	85.4	2	
B-20	0942		0.0	-1.03	4.4	11.6	84.0	2	
C-33	0944		0.0	+1.30	1.6	11.4	87.0	3	
244									
A-11	0930		0.0	+1.01	18.0	0.1	81.9	2	
B-21	0932		0.1	+1.04	20.7	1.8	77.4	2	
C-36	0934		0.0	+1.10	9.2	13.3	77.5	3	
245									
A-11	0950		0.0	+1.03	9.7	9.3	80.9	2	
B-20	0952		0.0	+1.05	12.4	11.1	76.5	2	
C-35	0954		0.0	-1.52	7.4	14.1	78.6	3	
D-50	0957		0.0	+1.03	4.1	16.9	79.1	4	
E-64	1001		0.0	-1.0	0.1	20.4	79.4	4	
246									Remove
A-9								2	Due to construction
B-16								2	
205R									
A-11	0742		0.0	+1.07	10.8	10.7	78.5	2	
B-20	0745		0.2	1.0	30.8	0.3	68.7	2	
C-33	0747		1.2	-1.11	39.7	0.1	59.1	3	
D-48	0750		2.1	+1.09	44.3	0.0	53.6	4	
E-62	0754		1.2	-1.22	39.3	0.0	59.5	4	

RES SIGNATURE: 

LEA SIGNATURE: 

**SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA**

TECHNICIAN: Robert Khos					TEMPERATURE: 50°				
DATE: 12-15-16					WEATHER CONDITIONS: Overcast				
					INST & SERIAL #: Gem 5000 / G500550				
PROBE NUMBER	TIME	PPM CH ₄	%VOL CH ₄	PRES (+/-)	%CO ₂	%O ₂	%BAL	PURGE TIME (min)	COMMENTS
239									
A - 11	0815		0.0	1.04	5.3	16.4	78.4	2	
B - 20	0817		0.0	1.04	0.2	20.6	79.3	2	
C - 35	0819		0.0	1.03	0.1	20.6	79.3	3	
D - 50	0822		0.0	1.05	0.2	20.6	79.3	4	
E - 64	0826		0.0	1.01	0.1	20.7	79.3	4	
240									
A - 11	0830		0.0	1.04	14.3	8.2	77.6	2	
B - 20	0832		0.0	1.031	0.3	20.4	79.3	2	
C - 33	0834		0.0	1.01	0.1	20.5	79.3	3	
D - 49	0837		0.0	1.01	0.1	20.6	79.3	4	
E - 61	0841		0.2	1.03	0.1	20.6	79.1	4	

RES SIGNATURE: _____

LEA SIGNATURE: _____

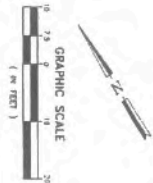
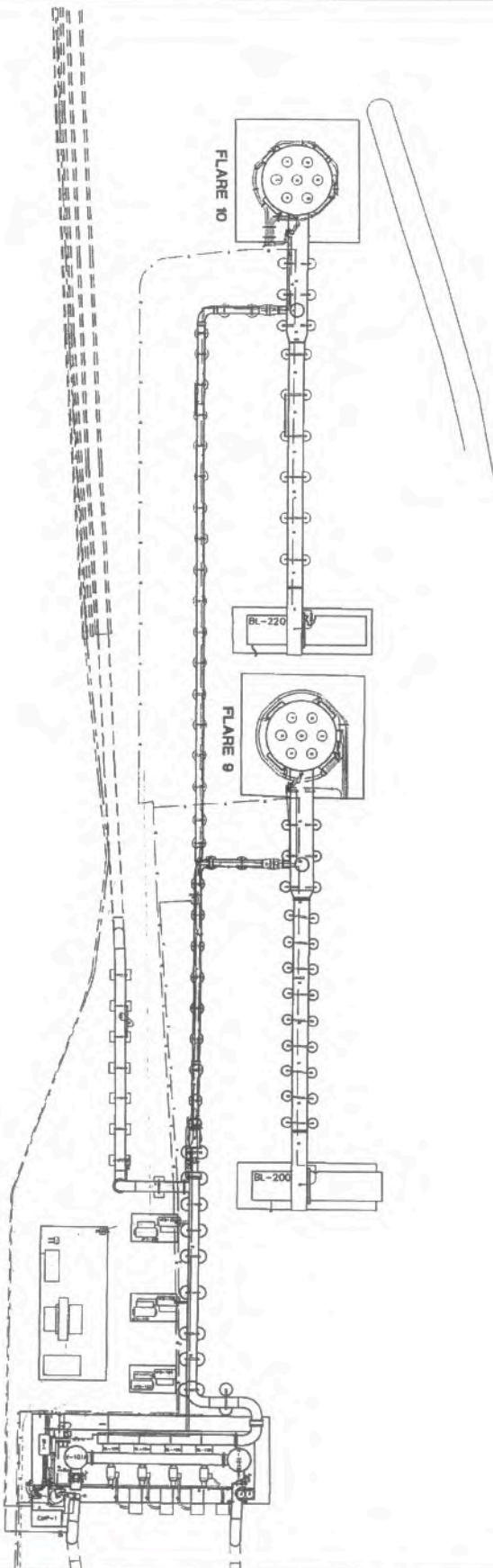
SUNSHINE CANYON - COUNTY
PERIMETER PROBE MONITORING DATA

[illegible]

RES SIGNATURE: [Signature]

LEA SIGNATURE: Y A

12-15-16 All Clear



RECORD DRAWING

DRAWING NO. 1 OF 1	DATE AUGUST 2013 BY 2013.0820 FILENAME SHEET NO.	SUNSHINE CANYON LANDFILL SYLMAR, CALIFORNIA	 REPUBLIC SERVICES, INC.	 TETRA TECH BAS 1360 Valley View Drive, Diamond Bar, CA 91765 TEL 909.860.7777 FAX 909.860.8057	DRN SNA	8/2013																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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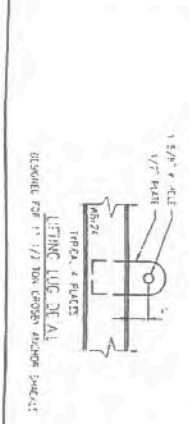
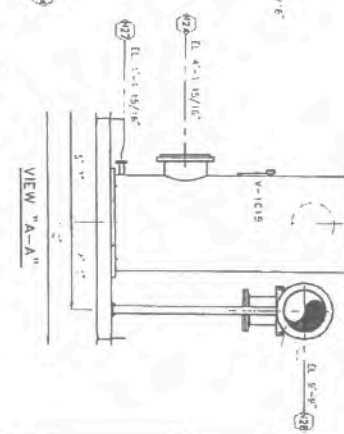
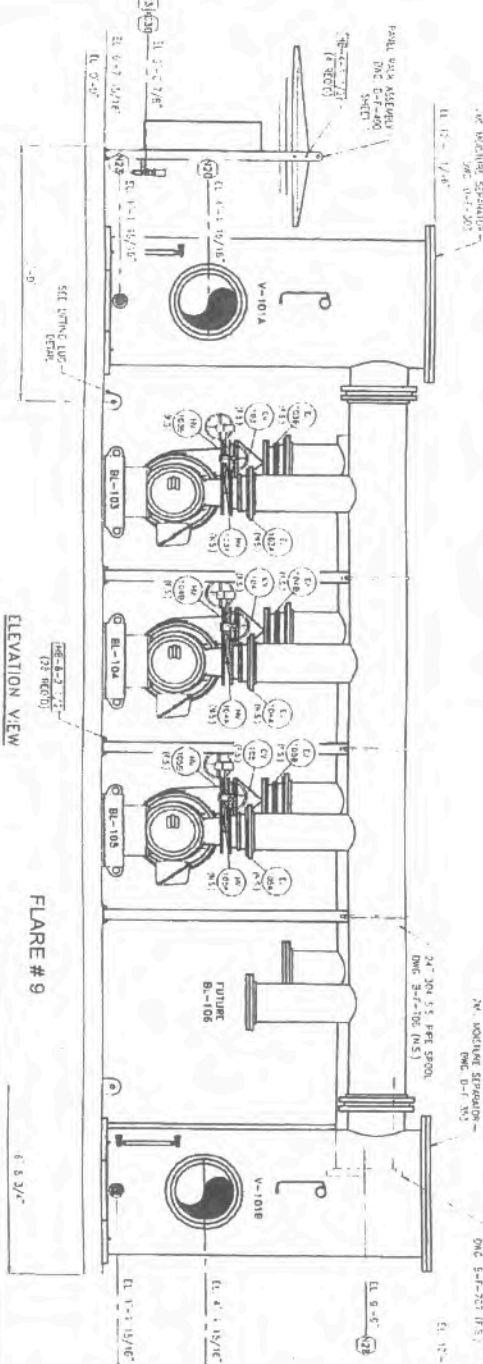
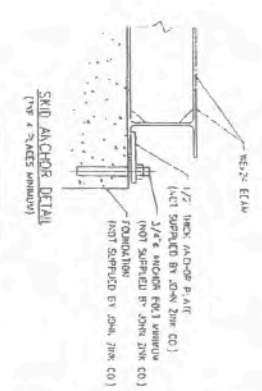
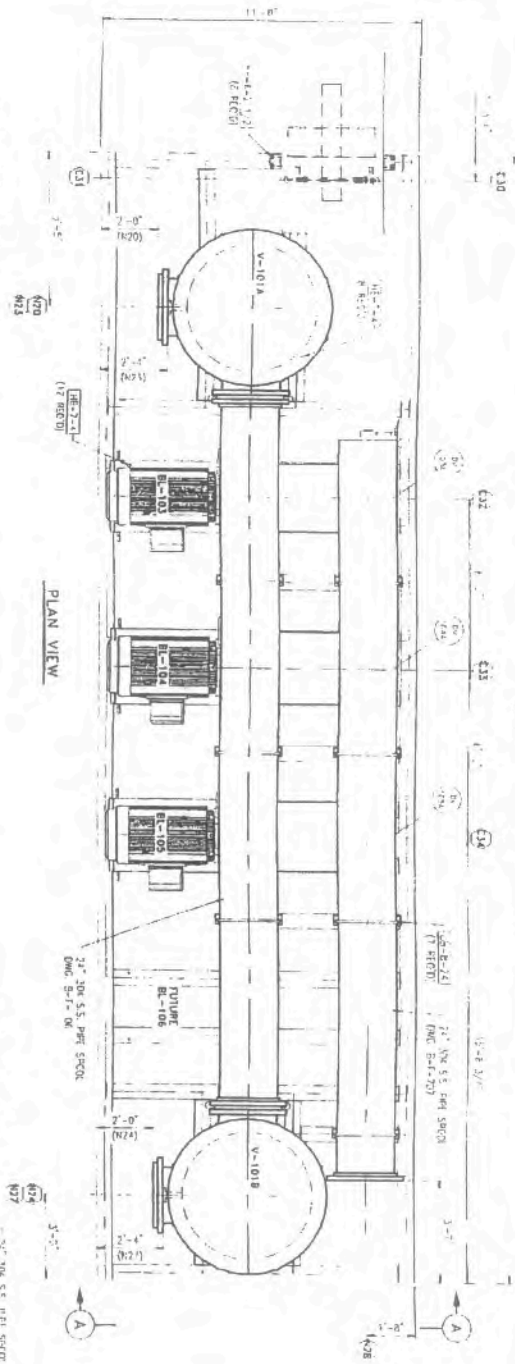


EXHIBIT VB Flare Component Leak Testing

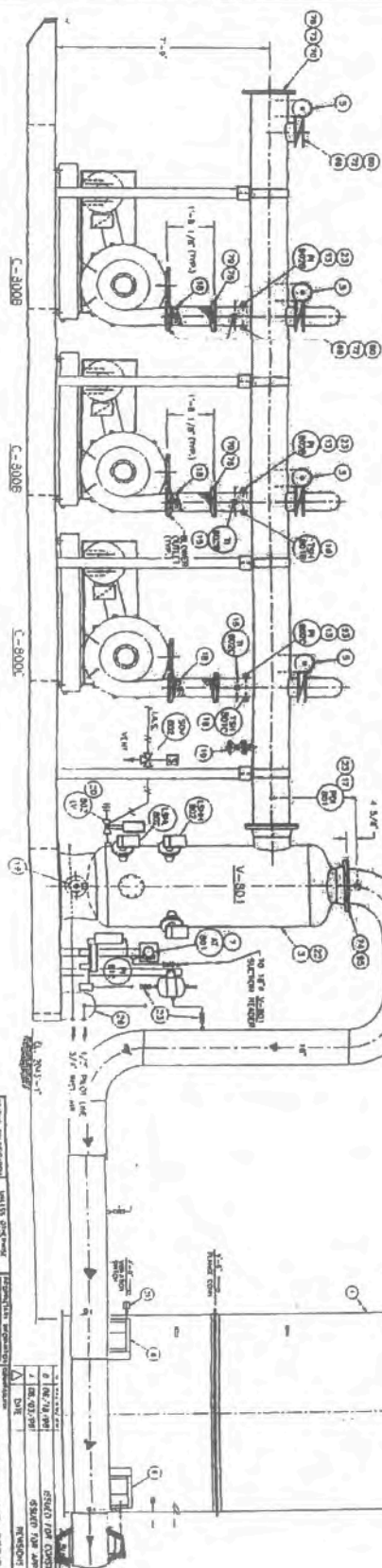
REVISIONS									
NO.	DESCRIPTION	DATE	BY	CHKD.	APP'D.	REV.	DATE	BY	CHKD.
1	ISSUED FOR CONSTRUCTION	12/15/16	1	12/15/16
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12000 W. 100th St., Suite 100
Overland Park, KS 66211
Tel: (913) 241-1111
Fax: (913) 241-1112
www.johnzink.com

BLINDERS AND ASSURANCE
12000 W. 100th St., Suite 100
Overland Park, KS 66211
Tel: (913) 241-1111
Fax: (913) 241-1112
www.johnzink.com

EXHIBIT VA

Flare Component Leak Testing



SECTION 8

[illegible]

L.T.F. MONITORING

[illegible]

RES SIGNATURE: 

Sushine Canyon Landfill Condensate Check

280 ppm

TREATED LEACHATE
AND CONDENSATE

305 ppm

Dec 13, 2016

GAS MONITORING EQUIPMENT CALIBRATION

DATE	UNIT	SERIAL #	CAL GAS
12-15-16	TRA 1000B	1030945322	500ppm CH ₄
12-15-16	Gem 5000	G500530	15% CH ₄

SIGNATURE: 

APPENDIX D

NPDES CERTIFICATION OF COMPLETION

SUNSHINE CANYON LANDFILL



A REPUBLIC SERVICES COMPANY

February 13, 2017

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,

Rob Sherman
General Manager
Sunshine Canyon Landfill